Holding children and young people for clinical procedures: moving towards an evidence-based practice.

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Abstract

Holding practices are employed to help a child or young person stay still during the administration of treatments, prevent treatment interference or to undertake an examination which can sometimes be invasive. The aim of this thesis was to explore holding practices from the perspective of nurses and healthcare professionals. This included identifying and examining holding techniques currently in use to help a child or young person stay still. An exploratory sequential mixed methods design was followed. Studies 1, 2 and 3 examined assumptions and practices of holding to develop theories about 'what is happening on the ground' following Grounded Theory methodology for practicing nurses and other allied health professionals (1), undergraduate nursing students, university lecturers and clinical mentors (2) and university lecturers from other institutions (3). A core category of 'indifference' emerged. Studies 4 and 5 explored technique preference to establish theories about what is known about the techniques in use. Descriptive statistics was used to analyse the data.

The practice of therapeutic holding is often covert and not considered to be part of the treatment per se, which has led to concealment and a reticence to discuss practices openly. Studies 1, 2 and 3 identified that there is variance in the experiences and practices of the participants. The prominent themes that emerged were a lack of clarity, lack of policy, lack of training, and that parents are often expected to hold their child. There appears to be a strong element of denial that there is a problem and little evidence that nationally this is seen as an issue. Studies 4 and 5 showed that healthcare staff 'prefer' techniques they are familiar with, in particular 'cuddling' and 'wrapping' of young children and found it more difficult to judge techniques for young people. It appears that therapeutic holding practices have moved from being viewed as 'uncontested' to 'indifferent'. These findings have serious implications for current practice and the future training of healthcare professionals.

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Definitions

The terms 'child' and 'young person' will be used throughout this research in line with current documentation. The United Kingdom adopts a chronological approach when defining a child. The Children's Act (Department of Health, DoH, 1989) defines a 'child' as a person under the age of 18.

Within nursing, the differences between an infant, child and young person are defined by anatomical changes. Resuscitation Council UK (2010) offers the following clarification that an infant is under the age of one, a child is from one year's old until puberty and a young person is from the age of puberty until they reach adulthood at the age of eighteen.

The General Medical Council website states that:

> "References to 'children' usually mean younger children who lack the maturity and understanding to make important decisions for themselves.
>
> Older or more experienced children who can make these decisions are referred to as 'young people'.
>
> At 16 it is legally presumed that young people have the ability to make decisions about their own care".

Chapter 1

1.0   Introduction to the study

> "It appears that restraint in children's wards is a widely used intervention, underpinned by unspoken assumptions, and is rarely documented in nursing notes. The fact that restraint remains under-reported makes it difficult to determine the reasons for and frequency of use in children's practice" (Coyne and Scott, 2014: 26).

On a routine basis, healthcare staff use holds in order to help a child or young person stay still to administer treatments, prevent treatment interference and to undertake examinations which can sometimes be invasive. This process helps to keep the child safe and ensures that they receive appropriate care. The child may become distressed during these occasions and display behaviours such as crying, thrashing around or possibly trying to hit out at the person applying the hold, or the healthcare professional trying to administer the treatment. These behaviours can hinder the healthcare professional's ability to perform the procedure safely and is known to increase experiences of pain and anxiety in the child/young person (Vannorsdall et al, 2004).

Physical interventions are often considered controversial and can be considered a taboo area (McDonnell, 2010). Most recently this has been identified as an important issue by the Royal College of Nursing in the UK:-

> "Many nurses do not receive specific training in techniques of restrictive physical intervention and therapeutic holding and as a result lack confidence in using these techniques. Greater emphasis needs to be placed on enabling nurses to acquire knowledge and skills through the provision of locally based training programmes" (Royal College of Nursing (RCN) 2010, *Restrictive physical intervention and therapeutic holding for children and young people; Guidance for Nursing Staff*: 5).

Sharif and Masoumi (2005) and Jeffery et al (2007) identified that there is a discrepancy with what is taught to child health nursing students in university to what they experience in the clinical area (a theory-practice gap). Valler-Jones and Shinnick (2005) and Shinnick–Page et al (2008) identified that there are a lack of standards for practice and education on the subject of holding children still for procedures and examinations, with

little research on the best practice for teaching student nurses holding techniques. Many of the holding techniques being used by healthcare staff have been developed over time by nurses; which raises the question of "what guidelines are nurses working to and who has designated these techniques safe and acceptable?" (Valler-Jones and Shinnick, 2005: 21). Selekman and Snyder (1995: 610), write that their analysis of 'restraint' practices in children's hospitals in the United States of America (USA) has identified that the practice is based upon "tradition and perceived concerns, rather than science". Since these publications there has been no research undertaken to address the theory-practice gap between what is taught within Higher Education Institutes (HEIs) and there has been no research undertaken to address the issue of ensuring the techniques being used to hold a child still for a procedure or examination are safe and acceptable. There is also a lack of empirical research which examines therapeutic holding techniques and thus there is a scarcity of reliable and credible tools available to evaluate techniques. The lack of research has also hindered the development of clear evidence based guidelines (Hull and Clarke, 2010). Given that it is an accepted assumption that the holding of children and young people "is part of daily practice in the provision of medical care of children" (Leroy and ten Hoopen 2012: 1), it is important that these gaps are addressed through empirical research.

Parents are being asked to hold their child and believe that this is because staff do not know what to do and are not sure whether they can legally hold the child (McGrath et al, 2002). It is difficult to find supporters for holding practices due to the many criticisms published about the process being abusive (Folkes, 2005), not beneficial (Mohr et al, 1998), the belief that the act of holding is more distressing than the procedure being recommended to the child (Collier and Patterson, 1997; Folkes, 2005) and "restraint is wrong and alternatives should be used" (Coyne and Scott, 2014: 23). This is compounded by the choice of terminology, for example when published literature refers to opinions about the use of restraint such as suggesting that the process of being held is not beneficial (Mohr et al, 1998), it is not known whether the secondary authors are referring to a physical intervention or a hold for a procedure because there is no transparency and a lack of clarity. This has led to a lack of discussion about holding situations, no reflection on how to improve the process, a lack of comparability and a lack of completeness within the data published. This reticence was very clear from the start of this thesis. There was a caginess to discuss this practice from both academic colleagues and practice colleagues. The literature review for this research identified that there have been numerous individual calls for change within the practice of therapeutic

holding, with no published action to change the situation (Seabra, 2009). Searching through the literature identified similar comments from authors about this reticence, for example Langley at al (2011) comment that, within intensive care units for children and young people, there has been no discussion about decision making for 'restraining' the child/young person. Allison and McHugh (2008) believe that the lack of discussion may be because Department Of Health (DOH) advice may be impractical to adhere to, which raises issues of competency. Robinson and Collier (1997) suggested that healthcare staff regard this issue as a difficult topic and that any research might be tantamount to suggesting poor practice and poor child care (a theme which continues to be printed;- Brenner, 2007; Jeffery, 2008; Brenner et al 2014; Coyne and Scott, 2014).

A simple representation of the entire research is highlighted within the abstract part of this thesis.

1.1 Background and context for this study

1.1.1 History and context of holding

The research on holding children for medical and clinical procedures is relatively sparse, with a lack of evidence of what healthcare staff 'actually do in practice' (Brennan, 1994). Immobilising children was not always viewed as a negative practice, in the 1800s it was common to swaddle all babies in bands of cloth (Fawcett, 2000). The belief was that unless the limbs were strapped firmly in place the baby's limbs would grow misshapen. Fawcett (2000) also noted that this practice would have slowed the baby's heart rate down and kept the baby quiet. Swaddling the baby is a practice still used today and "wrapping a baby" in a blanket is recommended as a therapeutic hold (RCN, 2010: 3).

Bruno Bettelheim, known for his work in treating and educating emotionally disturbed children, especially those with autism in America, advocated firm treatment for the children boarding at the Orthogenic School and was against the use of medication (Bettelheim, 1950). He believed that the child needed 'central persons' in their lives to nurture them and that children could form attachments with people through physical holding and restrictive treatment, although he later changed this opinion to one which advocated nurturing the child. Bettelheim's view that physical holding (physical restraint) was reassuring to the child, and that the nurse should continue to cuddle or hold the child firmly even if they were struggling or asking to be released was advocated by the

General Nursing Council (GNC) in their learning package for children's nurses (GNC, 1982).

Bowlby, (1953) was noted for his interest in the field of child development and his work on attachment theory. The implications of Bowlby's work relevant to this research are that his views influenced the professional training given to nurses and other healthcare staff. For example, Bowlby was the first to suggest that the mother was the central care giver, a safe haven and that it was essential for the child's mental health that they experience a warm, intimate and continuous relationship with their mother. Bowlby stated that children have a fear of strangers and should not be placed with people they do not know.

Muller et al (1986) interpreted Piaget's approaches to cognitive development within nursing (Piaget, 1896 - 1980):- that children under two can be best communicated with through their parents, that children under seven years old cannot see the relationship between medical procedures and cure (that most children under seven will think painful procedures are a punishment for being naughty), and that a "reassuring cuddle may be required even when not requested" (Muller et al, 1986: 107). Muller et al (1986) were the first authors to identify that many publications concentrated on the medical procedure and did not mention strategies to manage the frightened child or address their emotional needs.

1.1.2 History of the development of children and young people's nursing and therapeutic holding

It is difficult to source direct information about holding children prior to World War 2. It is possible that day to day practices such as holding a child for an examination or similar investigation was not viewed as an important issue. This is in contrast to a number of enlightened publications which focused on the removal of restraint for people with mental illness. In the Victorian period, people such as William Tuke of the York Retreat and Robert Gardiner-Hill were strong and influential advocates of humane treatment (Scott, 2011). Treating a child with humanity is also a theme advocated by the Polish child educationalist Janusz Korczak. Around the turn of the century until his death in Treblinka in 1942, he was an avid advocate for children's rights. He promoted an approach where a child is already a human being, not that a child will become a human being (Binczycka, 2010). There is an obvious connection to practices such as holding, within a humane

context. This early work became the precursor of the UN convention of the Rights of the Child.

In the UK, the Platt Report (Ministry of Health, 1959) outlined the non-medical needs of children, young people and their parents within healthcare and nursing, advocating that the child and mother should not be separated and that medical and nurse training should incorporate teaching about the emotional needs of children and young people.

In 1982, The General Nursing Council for England and Wales published the 'Aspects of Sick Children's Nursing: a learning package' (GNC, 1982) focusing on the effective aspects of children's nursing, such as attitudes, communication and relationships towards and with children. Two topics in particular are relevant to this research that of 'discipline' and 'aggression'. The GNC advocated that:-

> "Some children seem to make it difficult for the nurse to carry out procedures. A child who is fearful may become uncooperative; trying and impossible. He may want to kick, pull the nurse's uniform or bite. Sometimes the child needs physical restraint: anything from a close cuddle to a firm hold. The child often finds this very reassuring, even though he may struggle or ask to be released" (GNC 1982: section 12).

In 1984, the United Kingdom Central Council (UKCC) produced the first Code of Professional Conduct addressing responsibilities, accountability for practice and ethics regarding professional conduct. This year is viewed as significant by many children's nurses because it was also the year that established the children's and young people's field of practice (Duffin, 2009). This code set out the behavioural and ethical aspirations of nursing as a professional group. The current code was reviewed and updated in 2008 by the Nursing and Midwifery Council (NMC, 2008; 2015). It was not until 2001, with the introduction of the UKCC's 'Fitness for Practice and Purpose' consultation document that the gradual recognition of children's rights and the value of children's nursing was appreciated (Glasper and Charles-Edwards, 2002).

The introduction of nursing standards (UKCC, 1984) set out what a nurse should or should not do and the characteristics that are viewed as good practice in nursing care (moral reasoning). No standards were set to address therapeutic holding skills. It should be noted that until the 1980s ethical issues relating to the nursing care of children and young people was presumed to be in the domain of doctors and a small handful of nursing academics. The main ethical issues being discussed focused on life and death

issues, with few nurses considering the ethical implications of their practice (Brykczynska, 1989). A difficulty for children and young people's nursing is that published literature often highlighted the harm caused by using holding techniques (Folkes, 2005) which may have prevented discussion about holding. Langley et al (2011) advocate that, practitioners within intensive care units need to resurrect a common definition of 'good' around the decision to 'restrain' or not 'restrain' a patient against a more vigorous social ethic of care, is also relevant to children and young people's nursing.

1.1.3 History of terminology

When trying to understand the historical context underpinning therapeutic holding, terminology and language appear to drive the processes. It is possible that healthcare professionals within children's health services have adopted certain terms which they viewed as acceptable from other services and it seems that without any debate or discussion the word 'therapeutic' has simply became part of the language used. There have also been additional claims about this process:- that restraining a child where force is used or where the child does not consent, is abusive (Folkes, 2005) and contravenes children's rights under The Human Rights Act (1998).

A timeline has been created which illustrates the terminological confusion with the definitions and terminology published to describe the technique used to restrict a child's movement or immobilise a limb. Prior to 1981, when this timeline starts it appears that 'swaddling' and 'restraining' were accepted terms. The GNC (1982) used the term 'physical restraint'. This timeline sets the context for the research and is crucial to the studies that follow. *See table 1 on the next page.*

Table 1 Timeline detailing twenty eight different entries for terminology and definitions on 'holding'

Year	Author	Definition and terminology used
1981	Brunner and Suddarth	*Swaddling (mummy device)* securing a sheet or blanket to restrict movement. *Jacket device* – keeps the child in their wheelchair/highchair or cot. *Devices to limit movement of the extremities* – limits motion, the child may be secured to the cot frame. *Clove-hitch device* – restrains an extremity also uses the cot frame.
1991	Mayton cited in Collins (1999) and Folkes (2005)	Direct restriction through mechanical means or personal physical force of the limbs, head or body of a recipient *(restraint).*
1993	DoH	The positive application of force with the intention of over powering the child *(restraint).*
1995	Whaley and Wong	*Mummy restraint* used when an infant or child requires short term restraint for examination or treatment that involves the head and neck. *Arm and leg restraints* are used when one or more extremities must be restrained or limited in motion. *Elbow restraint* - fashioned from a variety of materials, prevents the child from reaching his or her head or face *(restraint).*
1996	Committee on Pediatric Emergency Medicine (American)	*Therapeutic holding* is the physical restraint of a child by at least two people to assist the child who has lost control of behaviour to regain control of strong emotions. These techniques should also be considered as options for use in the acute care setting.

Year	Author	Definition and terminology used
1998	Retsas cited by Demir (2007)	*Physical restraint* is used to control patient's movement by any device, material or equipment attached to or near their body, which cannot be controlled or easily removed by patients themselves and which deliberately prevents or is intended to prevent their free body movement to a position of choice and/or normal access to their body.
1999	RCN	The positive application of force with the intention of over powering the child applied without the child's consent *(restraint).*
1999	Kurfis Stephens et al	Techniques to comfort children during stressful procedures (*positions of comfort/comforting approaches*).
2000	Dorfman	*Physical restraint* are devices used to limit a person's mobility
2001	Van Norman and Palmer	*Restraint* is the use of physical or chemical means of controlling unwanted behaviour.
2002	Souders et al	Body hold techniques used to restrain the child gently *(restraint)*.
2002	Jeffery	The positive application of force with the intention of over powering the child. In practice, restraint is used to administer medication or carry out a procedure to which the child objects and is carried out in what is considered to be the child's best interest *(restraint).*
2002	McGrath et al	Holding a child down for medical treatment *(restraint).*
2003	Lambrenos & McArthur Also cited by Pearch (2005); Shinnick-Page et al (2008); Hull and Clarke (2010)	Positioning a child so that a medical procedure can be carried out in a safe and controlled manner, wherever possible with the consent of child and parent/carer *(clinical holding).*

Year	Author	Definition and terminology used
2003 and 2007	RCN	Immobilisation which may involve splinting, or using limited force. It may be a method of helping children, with their permission, to manage a painful procedure quickly or effectively *(holding still).*
2004	Hockenberry and Wong	In the text book titled Wong's Clinical Manual of Pediatric Nursing, Hockenberry and Wong discuss restraining methods and therapeutic hugging. *Restraining methods* were for the purpose of providing safety, maintaining a desired position, facilitated examination and aids in performing tests and therapeutic procedures. *Therapeutic hugging* provides a secure comfortable holding position that provides close physical comfort with the parent or other trusted caregiver.
2005	Hockenberry, et al	In 2005 (seventh edition) under restraint – car restraints, and children wearing casts, as well as restraining methods and therapeutic hugging were discussed.
2005	Ofoegbu and Playfor	*Physical restraint* to describe the methods used to prevent treatment interference- 'any manual method or physical or mechanical device, material or equipment attached or adjacent to a patient's body, that he or she cannot easily remove, that restricts freedom of movement or normal access to one's body.
2008	LLoyd et al	Where children refuse to allow a procedure to be performed and there is a justifiable clinical need *(restraint).*
2010	Jeffery	A hold that supports the child through a therapeutic intervention *(supportive holding).*

Year	Author	Definition and terminology used
2010	Royal College of Nursing	*Therapeutic holding* this means immobilisation, which may be by splinting or by using limited force. It may be a method of helping children, with their permission, to manage a painful procedure quickly or effectively. Therapeutic holding is distinguished from restrictive physical intervention by the degree of force required and the intervention. Alternative terms for therapeutic holding include '*supportive holding'* (Jeffery, 2008) and '*clinical holding'* (Lambrenos and McArthur, 2003).
2010	British Medical Association	*Use of restraint to provide treatment* - should only be used when it is necessary to give essential treatment or to prevent a child from significantly injuring himself or others. The effect should be to provide an overall benefit to the child and in some cases the harms associated with the use of restraint may outweigh the benefits expected from treatment. Restraint is an act of care and control, not punishment and should be administered with due respect.
2010	Homer and Bass	*Physical restraint* The authors completed a survey of anaesthesiology practice within Great Britain and Ireland. Questions asked included the use of :- *Partial physical restraint* – facemask against face, limb for IV access, hands to prevent treatment interference with facemask or IV. *Whole child restraint by parent* – a secure cuddle. *Whole child restraint by staff members*.

Year	Author	Definition and terminology used
2011	Darby and Cardwell	*Immobilisation* – supporting and holding the child's limbs gently but firmly (such as the application of plaster of Paris to a limb). *Therapeutic Holding* – keeping the child still by resisting his/her movements (for moderately uncomfortable or distressing procedures such as ear/nose examinations and removing foreign bodies). *Restraint* – holding the child still gently but firmly (for extremely uncomfortable or distressing procedures, such as lumbar punctures).
2012	Leroy and ten Hoopen	For medical procedures that require the patient to sit or lie still, young children often need help. By using a certain level of force, health professionals can achieve or support the necessary level of immobility *(therapeutic holding).* It is not uncommon for children to resist this because they experience the procedure as frightening and/or painful. If a necessary procedure threatens to go wrong as a result, the decision may be taken to restrain the child thereby physically forcing it to undergo the procedure. This method is known in literature as '*restrictive physical intervention*' or simply '*restraint*'.
2012	Wilson and Hockenberry	In 2012 (the eight edition of Wong's Clinical Manual of Pediatric Nursing) the wording has been changed to *restraining methods and therapeutic holding*. Therapeutic holding is the use of a secure, comfortable, temporary holding position that provides close physical contact with parents or care giver *for 30 minutes or less*. This edition (like six and seven) specifies that there are two types of restraint with children – medical surgical and behavioural.

Year	Author	Definition and terminology used
2012	The Faculty Of Dental Surgery	_Clinical holding_ the use of physical holds to assist or support a patient to receive clinical dental care or treatment in situations where their behaviour may limit the ability of the dental team to effectively deliver treatment, or where the patient's behaviour may present a safety risk to themselves, members of the dental team or other accompanying persons.
2014	Coyne and Scott	_Restraint_ the authors emphasise the use of this term to describe the practice of holding.
2014	Brenner, Treacy, Drennan and Fealy	_Restricting a child for a clinical procedure_ the authors suggest that current terms are open to interpretation and offer their own description which they suggest is non-judgemental of the practice.

The differences in interpretation and definitions on this subject have the potential to confuse the 'operationalisation of this concept in practice' (Brenner, 2007; Jeffery, 2010; Darby and Cardwell, 2011). Whilst specialist services have tried to move away from using the term 'restraint' to describe their practices, preferring to use more socially acceptable terms such as physical interventions (Cunningham et al, 2003; Harris et al, 2008). There is no evidence of any debate within children's services on the social validity of any of these terms, on the perceived negative connotations associated with the word 'restraint' and the possible advantages and disadvantages of using less emotive terminology.

In the last four years, three sources of literature have attempted to differentiate between situations which involve therapeutic holding and situations which involve restraint (Jeffery, 2010; Darby and Cardwell, 2011; Wilson and Hockenberry, 2012):-

"Three degrees of restraint. First degree restraint is recognised as a supportive hold and third degree as restraint. Second degree restraint falls in between the two". Jeffery also states that "there is no measurement as to what constitutes each degree of restraint other than the force used, a force that can only be measured by identifying risk" (Jeffery, 2010: 28).

"Immobilisation - supporting and holding the child's limb firmly but gently

Therapeutic holding - keeping the child still by resisting his or her movements

Restraint – holding the child still gently but firmly" (Darby and Cardwell, 2011: 19).

"Restraining methods were for the purpose of providing safety, maintaining a desired position, facilitating examination and aids in performing tests and therapeutic procedures

and

therapeutic holding is the use of a secure, comfortable, temporary holding position that provides close physical contact with parents or care giver for 30 minutes or less" (Wilson and Hockenberry, 2012: 222).

The American authors, Wilson and Hockenberry (2012) have introduced a specific time limit to situations which involve therapeutic holding. They do not state where this time limit came from, the evidence which underpins this suggestion, why it is thirty minutes and what happens if the child is still being held at thirty one minutes. Although the RCN (2010) appear to be certain that they have offered clearer explanations to define the differences between restrictive physical intervention and therapeutic holding, the suggestions offered by Jeffery (2010); Darby and Cardwell (2011) and Wilson and Hockenberry (2012), suggest that this has not happened:-

"Restrictive Physical Intervention: - Direct physical contact between persons where reasonable force is positively applied against resistance to either restrict movement or mobility or to disengage from harmful behaviour displayed by the individual.

Therapeutic Holding: - Immobilisation which may be by splinting, or by using limited force. It may be a method of helping children with their permission, to manage a painful procedure quickly or effectively. Therapeutic holding is distinguished from restrictive holding by the degree of force required and the intention" (RCN, 2010: 2).

There is no clear distinction of when the use of the word 'therapeutic' as part of the holding process was introduced. It appears first in the USA through the Emergency Medicine Practice Committee (1996) and later Hockenberry and Wong (2004) started using the term. This literature review could find no articles which discussed the use of this term within children's services. Within mental health and learning disability publications there is a belief such as the one put forward below by Johnson (1997), when looking at the experience of people with a mental health problem, who had been restrained that:-

"Restraint may be used only as a therapeutic measure to prevent a patient from causing harm to himself or physical abuse to others. Although the therapeutic concept is vague and ill defined, the practice of restraining patients is traditionally considered to be therapeutic if these devices are used with the intent to prevent a patient from harming him or herself or others" (Johnson, 1997: 192)

Therefore the terms and definitions used throughout this research are those documented by the Royal College of Nursing (RCN, 2010). The RCN (2010) suggest that the term 'restraint' has been replaced by the term 'Restrictive Physical Intervention' within the learning disability sector (Harris et al, 1996). The difficulty now is that within children and young people's nursing there appears to be a deluge of authors preferring to use this term 'restraint' to define the practice being considered in this research (Folkes, 2005; Pearch, 2005; Hull and Clarke, 2010; Darby and Cardwell, 2011; Coyne and Scott, 2014). Jeffery (2010) and Darby and Cardwell (2011) suggest that this preference may occur without a thorough understanding of the issues, custom and practice or because of professional 'self-interest'.

1.1.4 Taking 'custom and practice' into account

Practice traditions reflected by statements such as 'we have always done it this way' suggests that traditional practices are easier to implement and may require less thought than breaking with tradition (Martin, 2002). Importantly Martin stresses that the "nurse who breaks with tradition may be viewed negatively by colleagues and challenged for taking risks" with the patients' safety (Martin, 2002: 303). Wollin and Fairweather (2007) write that nurses working in clinical areas rely on the tradition of passing on their knowledge and skills orally. Only 7% of nurses working within HEIs publish (McVeigh et al, 2002) and it is documented that nurses have limited confidence and experience with publishing (Happell, 2008; Rickard, 2009; Richardson and Carrick-Sen, 2011).

Nurses, as professionals, are personally accountable for their actions and omissions in practice and must always be able to justify their actions (NMC, 2008). When holding the child or young person still for a clinical procedure or assisting in the process using therapeutic holding techniques, the nurse's view may be that they are "acting in the interest of the child" (Collins, 1999: 14). Nurses and healthcare professionals also have to consider if there is ethical justification in 'pressurising' a child or young person to receive treatment that may be to their benefit but will most likely be invasive, painful, perhaps frightening and/or stressful and that they know has risks and side effects

(McGrath et al, 2002; Tomlinson, 2004). A basic failure to challenge or improve questionable practice has undoubtedly existed within children's nursing for many years (Seabra, 2009). Sparks et al (2007: 446) published their opinion that "nurses need to be willing to try new methods that have found to be beneficial. Doing so involves risk and requires stepping out of a comfort zone". Jeffery (2008) warns that nursing children and young people remains under scrutiny, with reports that some eighteen year old previous patients are seeking legal advice for procedures which happened to them when they were children. Therefore nurses involved in therapeutic holding must demonstrate through their documentation that they made appropriate decisions based upon current policy and practice.

1.1.5 History of the identified theory-practice gap

The educational context has influenced the area of restraint. For example within education, the question of clinical skill acquisition within nurse training programmes has been debated frequently within academic and nursing journals (Borneuf and Haigh, 2009). Prior to 1960, nurse education took place outside of HEIs. It was the introduction of what is termed 'Project 2000' in the 1980s which led to a culture shift from 'practice led training' to 'theory led training' (MacLeod Clark et al, 1996). Several authors proclaim that 'Project 2000' as a nursing programme failed to equip nurses adequately with practical nursing skills (Farley and Hendrey, 1997; UKCC, 1999; Calman et al, 2002; Bradshaw and Merriman, 2008; Borneuf and Haigh, 2009) and as a result nurses lacked confidence with their clinical skills (Calman et al, 2002; Bradshaw and Merriman, 2008; Morrell and Ridgeway, 2014).

Since the publication of 'Fitness for Practice' (1999) most pre-registration nursing courses within HEIs moved away from task or traditional care and introduced enquiry based learning. Enquiry based learning focused on evidence based practice as a method of educating nursing students, which links theory to practice and places greater emphasis on skills (UKCC, 1999; Glasper, 2001; Borneuf and Haigh, 2009; Bray et al, 2010). Sharif and Masoumi (2005) and Jeffery et al (2007) suggests that the introduction of research and evidence based practice has led to a theory-practice gap; although Borneuf and Haigh (2009) state that there is little empirical evidence to support this claim. Despite the benchmarking process advocated by Ellis (2000) and Bland (2001) being received positively there was no further development of the best practice initiatives nationally and no development of national standards on therapeutic holding. The move within nursing to the culture of Higher Education led to a shift from teaching to research

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and an emphasis on publishing. Fradd (1992) and Glasper and Ireland (1997) write about the impact this culture of 'publish or perish' had on nurses feeling pressurised to demonstrate expertise in the field of scientific enquiry which led to a reordering of priorities and dilemmas about family centred care. Previously Fradd (1992) had published an article stating that little nursing research is undertaken by children's nurses.

McEwen (2002) states that many nursing academics believe that evidence based practice will fill the gap between research, theory and practice, whilst at the same time reducing the emphasis placed upon rituals and traditions. Penz and Bassendowski (2006) believe that many professionals from practice do not understand this concept and rely on rituals and traditions to underpin their practice. McCaughan et al (2002), Young (2003) and Penz and Bassendowski (2006) suggest that there is a cultural resistance in nursing where many nurses do not question whether 'common practice' is 'best practice', instead they are demonstrating apathy and inaction. Although there have been individual calls for change to the practice of therapeutic holding for example, Kurfis Stephens et al (1999); Collins (1999), Jeffery (2002); Pearch (2005); Valler-Jones and Shinnick (2005); Brenner (2007); Demir (2007); Hull and Clarke (2010); Darby and Cardwell (2011); Leroy and ten Hoopen (2012); Coyne and Scott (2014), there has been no action to change the situation. Comparisons between the adequacy of research and articles published referring to the progress within children's nursing show that "in 1967 student nurses at Great Ormond Street were told that all they required was a fountain pen, surgical scissors and a blue cardigan. Everything else would be provided" (Jolley, 2009: 6).

The introduction of ethical nursing practice which stressed that the nurse should demonstrate empathy with the child and should view the child as a 'responsibility of love' may have influenced nursing practices (UKCC, 1984 and Brycznska, 1989). Nurses may have interpreted their guidelines at the time as encouragement to view the child who objected to a procedure as being difficult and that the physical restraint given by nurses to hold them still for a procedure was reassuring to the child and should continue despite the child's protests (GNC, 1982). Some nurses may have felt uncomfortable with the conflict between their actions and moral reasoning principles (UKCC, 1984) which may explain why the holding of children for procedures (called restraint at the time) became viewed as "uncontested practice" (Collins, 1999: 14).

1.1.6 Attitudes towards restraint

Current published literature views anything that is used to restrict a person's movement as a type of restraint, for example; cloth, leather, metal or Velcro anklets and wristlets used to attach a person to his bed, arm splints, holding a patient, locking a patient in his or her room, or administering medication to sedate the person (Committee on Pediatric Emergency Medicine, 1997). In British and American history restraint continues to be viewed differently. American Quakers invented the straitjacket to help patients regain self-control through this device which bound the entire body from neck to ankles. In contrast, Conolly (1839) invented the padded seclusion room to control aggressive patients in the UK, without mechanically restraining them. In the United Kingdom (UK), mechanical restraint was viewed as the 'greatest evil' (Scott, 2011). Whilst in the United States of America (USA), the Great Depression and the first and second world wars left state-run mental hospitals overcrowded and understaffed, therefore restraint became a means of control, rather than a therapeutic tool. Deutsch (1948) wrote that in Detroit (USA) 'one out of every four patients was mechanically restrained during the day, rising to one out of every three patients at night'.

Restraint is described in professional healthcare literature as 'therapeutic' or 'protective' rather than 'punitive' (Brendtro, 2004). Hart and Howell (2004) suggested that direct physical contact may be necessary, but clear guidance is essential to safeguard both the child and the practitioner, and they question whether such clarity exists within the UK. Lindsay and Hosie (2000), offer their opinion that agencies have tended to be vague about what staff can do, whilst being more specific about what they cannot do. The term 'restraint' within UK and American history has now become a taboo word due to the maltreatment of children and adults within both histories. In the1980s children and young people living in residential homes in Staffordshire, England were subject to a punishment called 'pindown' which the Levy enquiry of 1991 condemned (Levy and Kahan, 1991). Lindsay and Hosie (2000) suggest that as a result of this maltreatment and abuse, for some people, any form of physical restraint is therefore seen as unethical. The Equip for Equality and National Disabilities Rights Network (2011) identified that the largest percentage of deaths occurred in general hospitals (26%). The deaths of nine children and adults (15%) reported in this enquiry were restrained to prevent them from tampering with medical devices or removal of dressings. This document identified that the 'jacket device' described by Bruner and Suddarth (1981), Hockenberry and Wong, (2004) and Hockenberry, Wilson and Winklestein (2005) was used to restrain 29% of children and adults. Wrist restraints, also termed a 'clove-hitch device' (the use of crepe bandages or

Tubegauz which was attached to the child's ankles and/or wrists and their cot or bed (described by Bruner and Suddarth, 1981 and Hockenberry and Wong, 2004) were used in 29% of the cases and a 'papoose board' described by Hockenberry, Wilson and Winklerstein (2005) as being very similar to a mummy restraint and by Wilson and Hockenberry (2012) as the most restrictive of the chest/body restraints being used to restrain children for procedures, was used for 5% of the children and adults identified in this study.

Most of the controversy within literature on restraint has occurred around the behavioural management of people, particularly with the elderly (Sullivan – Marx and Stumpf, 1996; Retsas, 1998; Qureshi, 2009; 2009a; Owen and Meyer, 2009), people who have a learning disability, also known as intellectual disability (for example, McDonnell et al, 1993; Harris et al, 1996; Cunningham et al, 2003; Allen, 2003; Martin et al, 2008; Deveau and McDonnell, 2009; Sturmey, 2009; Clarke and Elford, 2010; Equip for equality and National Disabilities Rights Network, 2011), within acute and clinical settings for adults (Martin, 2002 and Bray et al, 2004), within adult intensive care units (Bray et al, 2004; Benbenbishty et al, 2010; Langley et al, 2011) and within mental health services (Johnson, 1997; Koch et al, 2006). Frengley and Mion (1998) and Martin (2002) suggest the use of physical restraint within acute adult nursing is an 'unquestioned practice' which mirrors Collins opinion (1999) that restraining children is an 'uncontested practice – almost a non-issue' and Jeffery's opinion (2002) that it is an 'accepted practice'. There is also controversy around the behavioural management of children (Mayton, 1991; Allen, 2000; Mohr and Anderson, 2001; Kennedy and Mohr, 2001; Nunno et al, 2006). Brenner (2007), comments that little has been written on the incidence and rationale for the use of restraint in any area of children and young people's nursing. Allison and McHugh (2008) suggest that the issue of touching a person is being perceived as battery when they do not give consent, which demonstrates the fine line between the perceptions of professionals restraining or holding a child for reasons which they think are in the best interest of the child or young person, how the child/young person/parents could view and observe the same practice.

Sullivan-Marx and Stumpf (1996) and Owen and Meyer (2009) suggest that the term 'restraint' is associated with images of people being tied up, shackled, abused and that the continual use of the term 'restraint', including by the media, suggests that such practices are commonplace practice today. Research by Qureshi (2009) identified that the term 'restraint' was interchangeable with the term 'abuse' and as such staff may find it difficult to admit restraint may be taking place within the care homes in which they

work.

1.1.7 The legal context surrounding therapeutic holding

Children and young people are able to consent to treatment, provided they have an understanding of the consequences of their actions (DoH Children's Act, 1989; DoH Children's Act, 2004a). The issue is not so simple when the child or their parents decide that they do not want to have the procedure performed (Lloyd, 2005), or when there is a question of what consent is required, especially in an emergency (Buka, 2008). It is unclear whether the right to consent to treatment also includes the right to refuse treatment. The legal precedence is that in these circumstances if the refusal to consent is contrary to the principle of best interest, the decision to treat will be made by the court (Buka, 2008).

Children's nurses are taught that they should assess to see whether the child or young person is 'Gillick competent', deemed to have the competence to make a decision within a specific set of circumstances (Dimond, 2002). McGrath et al's (2002) longitudinal study highlighted that some parents involved in holding their children had doubts about the legality of holding their child against their will, felt a sense of unfairness and were frustrated by the lack of choice they and their child had over whether the procedure should be undertaken. Some parents stated that they believed that they were being asked to hold their children because they thought that the nurses could not do this legally.

When holding the child or young person still for procedures/examinations or assisting in the process, the nurse's view may be that they are "acting in the interest of the child" (Collins, 1999: 14). Jeffery (2002) suggests that a child who is clearly objecting such as by screaming or shouting, may not agree with this nurse's viewpoint, she suggests that nurses experience a 'catch 22 situation' – that if the child or parent refuses to consent to treatment and if the nurse fails to carry out the advocated procedure the nurse could also be in breach of their Professional Code (NMC, 2008; 2015) because their omission of the procedure could also be disadvantageous to the welfare of the child. Tomlinson (2004) suggests that in situations where a child or young person needs to be held for an invasive painful procedure as part of the disease trajectory for cancer, consent has most likely and most frequently been given by parents "as part of the process when they are accepting a suggested course of treatment that incorporates any associated procedures" (Tomlinson, 2004: 258). Nurses also have to consider if there is ethical justification in pressurising a child or young person to receive treatment that may be to their benefit but

will most likely be invasive, painful, perhaps frightening and/or stressful and that they know has risks and side effects (McGrath et al, 2002; Tomlinson, 2004). There are no published studies that look at the prevalence of therapeutic holding used by nurses for clinical procedures (Coyne and Scott, 2014).

Scotland has a devolved government which sets its own polices and guidelines addressing health issues for children and young people in the country. Scottish law is slightly different to English law, for example in Scotland, therapeutic holding is within the legal division of managing violence and aggression and a framework for good clinical practice has been identified.

Wales and Northern Ireland also have devolved governments which set their own polices and guidelines addressing health issues for children and young people in those countries, although the UK government still has overall powers in some areas.

There is concern that nurses may not be taking necessary steps to allow the child to exercise self-determination, in particular their right to autonomy (Tomlinson, 2004; Coyne, 2006), which could lead to accusations of abuse arising through the use of 'restraining methods' and failure to implement or document the decision making process (Jeffery, 2002; Flatman, 2002; Folkes, 2005; Jeffery, 2008). Since 2005, there has been an increase in emphasis on promoting the rights and interests of children with the implementation of the Children's National Service Frameworks (DoH, 2003) - a framework for care in the health service in England and Wales (Wales produced its own version in 2005 and Scotland developed it's "Delivering a Healthy Future") and with the introduction of The Children's Act, DOH 1989; 2004a. Every Child matters: Change for Children in Health Services (DoH 2004b) identifies five outcomes; two of which are pertinent to this research:- physical and mental health and emotional well-being and protection from harm and neglect.

Research on this subject documented since these key DoH initiatives were published suggest that this emphasis has yet to impact upon holding children and young people still for clinical procedures. Pearch (2005) writes that change of practice is needed to protect children from unnecessary harm and Folkes (2005) suggests that some clinical procedures could be viewed as inhumane. The Platt Report (Ministry of Health, 1959) identified that greater attention needs to be paid to the 'emotional and mental needs' of children in hospital, yet Flatman (2002), Pearch (2005), Folkes (2005), Brenner (2007) and Shinnick-Page et al (2008) write that there are still inadequacies in provision. Jeffery

(2002: 21) wrote that "some professionals argue that any chance of success no matter how small makes it worth enforcing treatment against the child's wishes".

There are minimal studies which briefly look at the ability and behaviour of the child/young person and whether this influences the decision to hold the child and the health professionals view on whether the child or young person is able to give consent (Robinson and Collier, 1997; Souders et al, 2002; Flatman, 2002; Charles-Edwards, 2003; Lambrenos and McArthur, 2003; Willock et al, 2004; Demir, 2007; Hull and Clarke, 2010). Many factors have been identified as important components which influence health professionals, for example; whether they view the child as having mental capacity (intelligence level; experience; maturity; emotional stability; age; earlier negative experience and shyness) (Proczkowska-Bjorklund et al, 2008). There are no studies which compare therapeutic holding rates between children and young people with a learning disability, and children and young people with mental health problems against children and young people who are deemed to have 'normal intelligence'. Proczkowska-Bjorklund et al (2008) in their study looking at compliance found that children and young people who gave more eye contact, or who verbally answered the anaesthetic nurse's initial questions got more information about the procedure.

1.1.8 Relevant legislation

Literature was reviewed in chronological order regarding progress on this subject and whether changes in policies have had an impact, such as:-

A. The Children's Act (1989); Children First Audit Commission (1993); The Children's Act (2004a); Every Child Matters (2004b);

B. The Code Standards of conduct, performance and ethics for nurses and midwives (NMC 2008); *this has now been revised to The Code, professional Standards of practice and behaviour for nurses and midwives (NMC, 2015)*

C. Education policies (for example, Project 2000; UKCC, 1999);

D. UN Convention On The Rights Of The Child (UNICEF, 1989, 2007) who twice recommended that children in the UK have the same protection as adults).

The Children's Act (DOH, 1989) was an attempt to introduce a consistent approach regarding caring for, bringing up and protecting children. The importance of parental responsibility was emphasised within the Act, as was the overriding purpose to promote and safeguard the welfare of children.

1.1.8.1 Professional view points on legislation

Doctors' Views on the legislation

The following court case, typifies views towards children and young people - L re Medical Treatment V Gillick Competency (1998). L was a young person who was badly burnt in a house fire. L refused to have blood products so was taken to court by her doctors to have this decision overturned. Her doctors had refused to tell her how seriously ill she was and how painful her death would be if she continued to object because they felt she was too young to be given such information. They deemed it preferable to go to court rather than give her detailed information and choice.

Nurses' views on the legislation

Robinson and Collier (1997) stated that whilst the nurses who took part in their study expressed no concern about holding a child still for a procedure, they were unsure about their legal position with an older child who did not give consent. Collins (1999: 15) stated the attitude of her colleagues was that "you had to be cruel to be kind" in therapeutic holding situations, which suggested that any fear, attempts by the child to refuse treatment was ignored and that there was no communication about the procedure. This view was later supported by Snyder (2004) who looked at the intervention strategies used by critical care nurses in paediatric intensive care units. Snyder noted in her research "how seldom nurses gave the child control over what was happening by offering to postpone the procedure for later, asking what limb or bodily location they preferred for device application or insertion or negotiating how the procedure should be performed" (Snyder, 2004: 39). Flatman warned colleagues that any attempt to restrain (Flatman's wording in this context was referring to 'therapeutic holding') the child "would be a direct violation of their rights and therefore a form of abuse" (Flatman 2002: 29). Charles-Edwards (2003) furthered this line of thought, in her case study about Paul an 11 year old boy who required sutures for a head wound. Paul was held for this procedure despite refusing to co-operate, trying to run out of the room, kicking and swearing throughout. Charles-Edwards states that physical power was used to enforce the treatment because the experts convinced Paul's father that this was a quicker and easier option. By 2008, Lloyd at al indicated through their research, that there is a shift in how therapeutic holding techniques are applied and that the algorithms, flowcharts and advice from previous articles had been incorporated into children's nursing.

1.1.9 Underpinning social and policy context

Our understanding of children and childhood has evolved over the last few decades, which may have had an impact on children's rights in hospital. Traditionally, childhood has been characterised as a period of dependency, immaturity, and incompetence. Children's position in society has therefore been subordinate and marginal (Mayall, 2002). Children tended to be viewed as human 'becomings' (adults) rather than human 'beings' (Lee, 2001). The social status of children has changed over time and is now supported by the 'Convention on the Rights of the Child' (UNICEF, 1989) which includes protection, provision, and participation in matters that affect them, and children's hospital wards are guided by regulations and standards (DOH, 2003; DOH 2004b). Until recently, children's voices have been neglected in research, and parents or professionals have spoken on behalf of children (Christensen and James, 2008). Despite healthcare professionals working within a context that places increasing emphasis on the rights and voices of the child as active participants, within this phenomenon of therapeutic holding, the child or young person is often dependent upon adults making decisions on their behalf.

1.1.9.1 The policy practice "double-bind" situation

The ethical argument in clinical settings for holding a child whilst undertaking a medical procedure or examination is that the procedure is not effective if the child is free to move. It is not uncommon for children to resist being held, which often leads to more force being applied. It is a rather simple utilitarian argument to argue that the child or young person must be held for the 'good' of the procedure exceeding the 'evil' of the hold. Utilitarian arguments are useful in many contexts, but it can be argued that they are not sufficient in situations where force is used; in that the more important the goal is, the more force can be used (Elven, 2014).

Within healthcare settings, basic rights of autonomy are routinely waived in a way that would never be accepted in other areas of society (Nussbaum, 2006). Nussbaum accepts this fact as a necessity, but argues that because respect for other people's autonomy underlies all human interaction, healthcare staff must always consider the arguments behind limiting person's right to autonomy in the situation at hand, in order to find the least intrusive intervention. Whilst this argument does not concentrate solely on children with disabilities, it is recognised that children with disabilities are more frequently held for procedures, for example, the child with cerebral palsy who needs help to remain

still, or the child with intellectual disabilities who is deemed unable to understand the significance and objective of the procedure (Selekman and Snyder, 1995; Robinson and Collier, 1997; Souders et al, 2002).

"A double-bind is two distinctly different sets of instructions given by the same source, such that to obey one set of instructions is to disobey the other. It is a classic no win situation. Damned if you do and damned if you don't" (Gibney, 2006: 48). The Royal College of Nursing current advice does appear to inadvertently create a double bind situation, by implying that therapeutic holding requires the consent of the child.

> "Therapeutic holding for a particular clinical procedure also requires nurses to:-
> Give careful consideration of whether the procedure is really necessary, and whether urgency in an emergency situation prohibits the exploration of alternatives.
> In all but the very youngest children, obtain the child's consent (Department of Health, 2001) or assent (expressed agreement) and for any situation which is not a real emergency seek the parent/carer's consent, or the consent of an independent advocate.
> Comfort the child or young person where it hasn't been possible to obtain their consent, and explain clearly to them why immobilisation is necessary" (RCN, 2010: 3).

> "Therapeutic holding …may be a method of helping children, with their permission…Practitioners should be aware that therapeutic holding if applied inappropriately and without the child's consent or assent can result in the child/young person feeling out of control, anxious and distressed" (RCN, 2010: 2).

The nature and context of treatment would appear to have a significant impact on healthcare professional's decision making. In life threatening situations, it appears to be accepted that to protect a non-co-operative child or young person there may be 'force' used on the child/young person without their consent to implement necessary procedures. However, there is professional opinion that procedures should not be undertaken if the child or young person does not give consent and that there should be a delay in treating the child whilst alternatives are sought (Jeffery, 2002; Tomlinson, 2004; Coyne, 2006; Brenner, 2007). Currently, there is no research on whether delaying holding the child or young person and, therefore, delaying treatment would adversely affect the child (Leroy and ten Hoopen (2012). Healthcare professionals therefore are often in a predicament in which their guidelines appear to offer contradictions, where two

possible choices are equally unacceptable or unpleasant. This is known as a 'double bind' situation (Bateson et al, 1956). Jeffery (2002) suggests that many nurses experience a 'catch 22 situation' – that if the child refuses to consent to treatment and if the nurse fails to carry out the advocated procedure, the nurse may be in breach of their Professional Code.

1.1.9.2 Examples of this 'double bind' situation

Children's voices

Children admitted to hospital are vulnerable because of their illness, their limitation of understanding and because they have so little control over what is happening to them. Healthcare professionals' attitudes, views, and knowledge of children may be crucial to how children experience their stay in the hospital and their care (Bricher, 2000; Ruberg, Korsvold and Gjengedal, 2015). Historically it is still assumed that healthcare professionals know how children think and feel about their treatment and care (Hallstrom and Elander, 2006). Ruberg, Korsvold and Gjengedal (2015) emphasise that giving children a voice is not the same as giving them responsibility for their own situation. Lambert et al (2008 and 2010) identified that children appreciated handing over responsibility to their parents at times and sharing decision-making with them. Children in both Lambert et al's studies wavered between being a 'passive bystander' and an 'active participant' in the communication process, depending on the situation. Children often want to be involved, and to participate in, and to contribute to shared decision-making. At other times, they preferred a passive and protected role. Coyne and Harder (2011) argue for using a situational approach in balancing the protection of shared decision-making with children. Adults may have a tendency to take a protective stand based on the general view of children as being incompetent. Although Hallstrom and Elander (2006) identify in their literature review that there are other equally as important issues at play; parents have a great need to control or supervise the care of their child, partly to ensure that everything goes right, partly to protect their child and partly to question care. With therapeutic holding the findings of Robinson and Collier (1997), Collins (1999) and Snyder (2004) support this view that the need for holding is based upon the child being deemed too young to understand the need to remain still or is deemed incapable of understanding this.

Best interest

It is accepted that for medical procedures and examinations that require the patient to sit or lie still, young children often need help. This study has identified that most healthcare

professionals and lecturing staff are happy to wrap the young child (a baby or infant) in a blanket to achieve the necessary level if immobility. Issues arise with older children and the child who resists being held, starts to struggle, possibly crying and telling the people doing the holding "no " or "stop".

Parents and healthcare professionals make decisions for children, often using the 'best interest' principle. Lewis and Lewis (1990) and Pithers (1994) make the point that parents take their child to the doctor, doctors and nurses provide information to the parents, and parents make the decisions. This means that a procedure, for which parents or legal guardians have given consent, is allowed to take place even if the child resists. Lansdown (1994) claims that the dilemma is that while the 'best interest' principle is inherently of benefit to the child, it has the potential to be used as a tool by adults to override the wishes and feelings of children. Robinson and Collier (1997) and Tomlinson (2004) identify that the justification for holding is often for the protection of the child. However Charles-Edwards (2003) raises the issue that this principle does not take into account the objecting child who does not want the procedure to be undertaken and the pressure parents may be under when informed that a specific examination or treatment will help their child.

Most of the literature that relates to the use of 'restraint' pertains to the use of restraint in the adult population, particularly the elderly, learning disability and mental health care sectors. In contrast, little has been written on the incidence and justification for the use of holding techniques in the area of child health nursing (Brenner, 2007). Many authors have raised awareness of the impact from holding children, but few have explored the phenomenon empirically. It is therefore not known how many children this phenomenon effects on a daily basis.

Children's bodies
The right of access to children's bodies is always in the hands of others. Leach (1994) suggests that children's bodies belong to the parent or to any adult with parental responsibility for the child and that adults take their right of access to children's bodies for granted. Cross (1992: 194) identified the importance of healthcare professionals developing relationships with children and seeking their understanding and cooperation, without which, she claims, procedures that "must be enforced become abusive." As one of the nurses in Cross's study pointed out, "You have to get used to doing things that hurt them and [to] forcing] them to do things." Collins (1999) identified the same attitude amongst her colleagues. This presents a dichotomy for healthcare staff who want to gain

a child's confidence, yet these actions are so much a 'taken for granted' part of the child healthcare setting that they are not always recognised from the perspective of rights and power (Bricher, 2000, Tomlinson, 2004).

Closely linked to the right of access to children's bodies is the role of touch in child health nursing practice. It is documented within nursing literature that 'hugs' can help the child cope with stressful medical procedures (McGrath and DeVeber, 1986; Kufis Stephens et al, 1999). Children's nurses' were viewed as frequently engaging in holding, hugging, cuddling, massaging and providing physical comfort to children and young people when undergoing painful procedures (Denyes et al, 1991). Forms of touch including 'hugging' and 'cuddling' are deemed by some professionals as 'assault' (Autton, 1989). Bricher (2000) writes that touching can be seen in the context of 'good' touching and 'bad' touching:-

> "There is bad touching, which restrains children or invades children's bodies. This was not spoken of as a dilemma by the nurses in the study, it was described as something that pediatric nurses do" (Bricher, 2000: 280).

'Pulling rank'

Charles-Edwards (2003) highlighted the unequal power relationships between children and adults, including parents and healthcare professionals. Based on the principle of 'in the child's best interest' this thinking has the potential to deny children an age appropriate right to be involved in health care decisions and may conflict with the tenets of the United Nations Convention on the Rights of the Child (1989). Adults are presumed competent to make health care decisions, children are often presumed to be incompetent without any confirmation as to whether the child or young person has the knowledge and ability to make the decision. Consent does not only apply to major procedures, but to all patient care activities, such as examination, cannulation, dental treatments, receiving an injection, receiving treatment for a burn. Bricher (2000) undertook a phenomenological study to explore the issues of power and vulnerability. One of the major themes that emerged in his study from the nurse's narratives related to the development of trusting relationships with children (Bricher, 2000). This trusting relationship, when achieved, was very satisfying for the nurses; but was also very distressing if they were unable to establish it with the child. Bricher (2000) suggested these trusting relationships had a hidden agenda for nurses. These relationships were often founded on an unequal basis in that if the child did not wish to proceed with a health care activity the adult could pull rank. Although the child was given the opportunity to go along with the nurse, refusal was not really an option. 'Pulling rank' raises issues

about power relationships between adults and children and about the term "in the child's best interest."

In summary, the phenomenon of holding the child/young person is fraught with difficulty; there are challenges and controversies regarding every aspect. Front line staff are more accountable for their actions and are expected to incorporate good practice recommendations from The Children Act (1989), the United Nations Convention on the Rights of the Child (UNCRC, 1989, 2007) The Children's Act (2004a) and Every Child Matters (2004b), The National Service Framework for Children, Young People and Maternity services (NSF) (DOH 2004c) and their own professional guidelines. For nurses this is 'The Code: Professional standards of practices and behaviour for nurses and midwives' to (NMC 2015) and for allied health professionals this is set by the Health and Care Professions Council (HCPC, 2012). Healthcare staff should acknowledge the voice of the child, but there is a vacuum of empirical research to guide them. The current situation offers conflicting messages, which implies that healthcare professionals will be wrong regardless of their response.

1.1.10 Risk and risk assessments relating to the selection of techniques

There has been little research directed to address the nature and cause of restraint related fatalities in children (Johnson, 2007). The focus of Johnson's article was the restraint of children within child and adolescent psychiatry, yet there are many relevant issues raised which should be considered within this research. Johnson wrote that once physical restraint has begun the risk to the child accumulates to include potential compromise of respiratory function. Johnson reviewed research from other sources to highlight the potential dangers. For example, the airway in a smaller child is likely to collapse with hyperextension or hyperflexion of the neck because the cartilaginous rings around the trachea are not fully developed (Soud and Rogers, 1998). This article also states that if the child is screaming there is a decrease in pressure in the trachea which can result in the airway collapsing. Johnson (2007) also considers the positioning of a child during the restraint and how this affects their respiratory function. Any prone positioned restraint or holding will place the child at risk from positional asphyxia because the child will always be breathing against the weight of their upper body (Brodesky et al, 2001; Cunningham et al, 2003; Belviso et al, 2003; Egi et al, 2004; Johnson, 2007).

The issue of the child struggling or being anxious is also documented with research from Rico et al (2005) who suggest that the anxious or struggling child, regardless of position, causes an adrenal catecholamine release, effecting heart rate. If the child hyperventilates this can decrease carbon dioxide and may temporarily affect the child's heart rate. The reader is made aware that children can maintain their normal vital signs, even when experiencing a distressing ordeal, for a much longer time than adults are able to do, however, when their reserves are exhausted the child's vital signs will decline, indicate asystole (also known as cardiac arrest), respiratory arrest and vascular collapse. Pulse oximetry, if used correctly and with caution, may be valuable to determine the percentage of oxygen circulating blood through the capillary bed. Children who have asthma or who are diagnosed as being obese need to be treated with even more care. Children and young people nurses also care for individuals with respiratory diseases which can alter the shape of the chest, such as asthma and cystic fibrosis.

Descriptive research by Demir (2007) on physical restraint used in paediatric settings reported that some children suffered from joint contracture, oedema and cyanosis from the arm/wrist restraints used on them, bruising and lacerations from the wrist/ankle restraints, food rejection, agitation and head banging onto the bedsides, aspiration and breathing difficulties. It is apparent from Demir's research that many nurses used mechanical means to restrain the child or young person in their care because of nurse shortages, and that although Demir is using the term 'physical restraint' he is actually referring to 'mechanical restraint' – the use of any device, material or equipment attached to or near the child's body to control movement or deliberately prevents any free body movement to a specific area. Mechanical restraints are devices used to prevent treatment interference and documented by Bruner and Suddarth (1981) and Whaley and Wong (1995).

With regards to therapeutic holding, the literature review establishes that many therapeutic holding techniques are developed over time by nurses who gain experience by observing others and that many of these techniques are not robust. As with physical interventions there is no documented evidence to suggest that these therapeutic techniques are safe to be used by trained or untrained professionals.

1.1.11 Limited force

Therapeutic holding/clinical holding are techniques which immobilise the child or young person to render them incapable of moving part of their body or the whole of their body and restraint could be viewed as being the forcible confinement or restriction of the child or young person. The main difference in interpretation is the inclusion of force in order to accomplish restriction or confinement (Hardy and Armitage, 2002). The RCN guidelines (2010), Jeffery, 2010 and Coyne and Scott (2014) concur, stating that the difference between therapeutic holding and restrictive physical intervention is the degree of force required and the intention. There is no clarification about how 'limited force' is measured or recognition that it is possible that the child who is being therapeutically held for a procedure may receive the same degree of force from nursing staff as the child being restrained by staff because of their behaviour under the term restrictive physical intervention. A comparison between the two situations has never been investigated.

During the therapeutic holding process the use of touch as a therapeutic tool can be subverted by nurses who are generally bigger and older than the child (McGrath et al, 2002). The amount of force used to hold a child is often used as a measurement to distinguish between a therapeutic hold and a restraining hold (Hardy and Armitage, 2002; RCN, 2010; Jeffery, 2010), between a technique viewed as supportive (Jeffery, 2010) and one that is viewed as abusive (Folkes, 2005). Force is a subjective measure, and published opinion papers suggest that the following are also taken into account: - whether there are marks left on the child/signs of redness/bruising (Jeffery, 2010), the child's distress levels (Jeffery, 2010), the child's pain levels, the number of people and gender required to complete the holding (McGrath et al, 2002; Hull and Clarke, 2010) and consent (Jeffery, 2010). Therefore it is questionable whether nurses using therapeutic holding could put forward a case to state that the degree of force required is different to the degree of force used in restrictive physical interventions because there is no measurement tool published to assist nurses in this judgement.

In summary, this chapter discussed the issue of therapeutic holding within a brief historical context. The many definitions used to identify this practice have been identified to demonstrate ambiguities in terminology, practice and techniques have led to a lack of cohesion and a lack of agreement amongst professionals. There appears to be confusion amongst nurses and professional groups as to whether there is a difference between therapeutic holding and restraint and whether the practice should continue. Practices are different between the UK, Europe, USA and Australia, yet these differences are not obvious within the advice in text books aimed at student nurses. The phenomenon of holding the child/young person is fraught with difficulties; there are challenges and controversies regarding every aspect of the process. Front line staff are more accountable for their actions and are expected to incorporate good practice recommendations from The Children Act (1989), the United Nations Convention on the Rights of the Child (UNCRC, 1989, 2007) The Children's Act (2004a) and Every Child Matters (2004b), The National Service Framework for Children, Young People and Maternity services (NSF) (DOH 2004c) and their own professional guidelines. The current situation offers conflicting messages, which implies that healthcare professional's actions could be wrong regardless - 'Damned if you do and damned if you don't' (Gibney, 2006; 48). Healthcare professionals therefore are often in a predicament in which their guidelines appear to offer contradictions, where two possible choices are equally unacceptable or unpleasant (to hold a child or young person who does not give their consent and is objecting to being held and/or the procedure or to delay treatment whilst an alternate approach is considered, whilst at the same time not knowing the impact of this delay on the health of the child); this is known as a 'double bind' situation (Bateson et al, 1956). It is possible that the reticence to discuss these unresolved issues, the unspoken assumptions and the lack of documentation might be the result of the internalisation of contradictory guidelines, communications and behaviours.

Chapter 2 details the literature review, which explains how the literature shaped and influenced this thesis. Issues of terminology, practice and techniques were explored further to identify what is known and not known about holding of children and young people for clinical procedures.

Chapter 2

The literature Review

2.0 The literature search

The previous chapter outlined a potential gap between what is taught against what is required for practice and that there has been no national evaluation of techniques used in practice and of the training practices delivered. This literature review explored the broader context of issues in which this research resided, identified through looking at the history of holding and gaining an insight into terminology.

The literature reviewed for this proposal was identified using library catalogues and computerised searches of the British Library ETHOS search; the Cumulative Index of Nursing and Allied Health Literature (CINAHL), ERIC, Evidence in Health and Social Care, Google Scholar, Medline, PsycINFO and PsycARTICLES, Science Direct; Swetswise and Summon (a resource discovery tool developed by Birmingham city University). Only literature published in English was reviewed. Keywords were identified based upon the author's experience and prior knowledge of this subject and included *therapeutic holding, therapeutic hugging, immobilisation, holding, invasive procedures, non-invasive procedures, restraint, physical restraint, acute restraint, child restraint, infant restraint, paediatric restraint* and *physical interventions.*

To help place all of the work published in the context of how it contributes to the understanding of therapeutic holding, to help locate this research as original work within existing literature and to help with the research design guidance, 'The Critical Appraisal Skills Programme' (CASP, 2010) was used and modified to include suggestions by Aveyard (2010); http://www.emeraldinsight.com; Ellis (2000) and Oxman (1994). This gave the review a structure. The literature identified a paucity of research on the phenomenon, therefore primary and secondary sources which met the inclusion criteria regardless of quality where included in this review. By modifying the CASP tool, synthesis and analysis was achieved to help make sense of what was happening.

Inclusion criteria

The research on holding children for medical and clinical procedures is relatively sparse, with a lack of evidence of what healthcare staff 'actually do in practices (Brennan, 1994). During the first stage of the thesis the three qualitative studies suggested that the literature review should evolve to include textbooks published for children's nurses and historical texts to identify the history underpinning the development of current thoughts surrounding therapeutic holding and the techniques being advocated for use. The literature review also focused on professional journals, in particular those which focused upon professional practice. To define scope, the literature review focused on any publication which discussed the care given to infants, children and young people in relation to the concept of clinical or medical procedures. This could be a journal article or text book. It had already been identified that there was a dearth of publications on the subject of holding, therefore there was no limit set to the date of publication, type of publication or type of study. The publications could be from the perspective of the professional, student, child, parent, holding procedure and/or how to position the child and include opinion, policy, or reviews as well as empirical research. Literature which discussed treatment interference or therapeutic holding of adults within intensive care nursing and literature which related to the anatomy and physiology of children and young people and the impact of stressful events upon their physical health were included.

Exclusion criteria

Literature which discussed restraint as a method of restrictive physical intervention used to stop someone from doing what they wanted to do: including discussions about lap belts to prevent someone from falling out of their wheelchair, car restraints, holding as a therapy, about the direct physical contact between persons where reasonable force is positively applied against resistance to either restrict movement or mobility or to disengage from harmful behaviour displayed by the individual, were excluded. Literature which discussed restraint or physical intervention to manage the behaviour of children and young people within learning disability or mental health services were also excluded.

Thirty-five articles were originally identified as being relevant to this research in 2008. Over the time of writing this thesis, ten further articles were published which were included in the literature search. Being familiar with the literature contributed towards theoretical sensitivity and helped formulate concepts (Corbin and Strauss, 2008). In 2012, 'hand searching' was undertaken, where first and second editions of nursing text

were reviewed within Birmingham City University library facilities. This process included looking at nursing texts no longer kept within library facilities as they are deemed no longer valid for nursing students. Four suitable texts were identified. All literature of relevance was reviewed, none were excluded. The literature search was refined to take into account emerging theory following data collection and analysis.

Overall, fifty sources of literature were identified for this research and classified into the following headings:-

Published literature reviews (n=4) Where the author identifies and reports on all available literature on the subject. The literature review is also a research methodology in its own right (Aveyard, 2010).

Research literature (n=12) Where the author uses observation, experience, experiments and measurement to collect new data. This research usually has a research question and details the methods, results of the research and includes a discussion and conclusion. As empirical studies the literature needs to include enough information to assure the reader that the research undertaken was in a rigorous and scientific manner (Aveyard, 2010).

Practice literature (n=31) Where the author is detailing their expert opinion with discussion, debate or reports of good practice in the authors' field of expertise.

Policy literature (n=3) Where the author offers advice on how to act in a set of circumstances.

In summary, of the four literature reviews relating specifically to the holding of children:- Allen (2000), Brenner (2007) and Leroy and ten Hoopen (2012) offered a negative portrayal of the literature and situations which involved the holding of children. For example Allen (2000:139) writes that "there is widespread concern and ethical debate about the use of these controversial, untested, and questionably effective interventions with such a vulnerable population". None of these reviews identified the nuances between holding a child/young person for procedures or for examinations. Piira et al (2005) identified their search strategy, coding strategy and the number of studies included/excluded.

Allen (2000), reviewed literature from Selekman and Snyder (1995) for a literature review which pertained to the seclusion and restraint of children in psychiatric care and failed to identify that Selekman and Snyder did not distinguish between the differences in application of restraint across their studies. Allen may have assumed that his literature review was representing the whole picture, but by failing to clarify the context and scope, his contribution to the phenomenon of holding children for clinical procedures has the potential to confuse the 'operationalisation of this concept in practice'. Allen's conclusion also bracketed the holding of children with the seclusion and restraint of children to manage behaviours:-

> "The question remains whether seclusion and restraint are safe, ethical, and effective interventions to be used with children when current mental health nursing philosophy advocates a move to a 'restraint free' environment of care" (Allen, 2000: 166).

Piira et al's (2005) contribution to an understanding of the effects of parental presence in the treatment room continues to be cited in journals and informs policy and practice. The most recent being Clinical Practice Guideline: Family Presence During Invasive Procedures and Resuscitation (revised 2012). This review contributed to this research in that it identified that parents were not routinely advised about what they could do to help or hold their child during the clinical procedure. It also identified problems in the body of literature, in particular that little consideration has been given to the issues pertaining to infants, children and young people and whether there is a difference. This finding is relevant to most articles published and reviewed within the literature review for this research.

In Brenner's literature review (2007) there is a suggestion that this is not a stringent review due to the terminology used and the lack of specification about the number of articles reviewed. Like Allen (2000), Brenner appears to have failed to distinguish between the different characteristics involved when 'restraining' a child within a mental health unit and 'restraining' a child within a general hospital for procedures/examinations. Brenner states that she only found three articles written that discuss the use of 'restraint' for clinical procedures, these are Selekman and Snyder (1995); Robinson and Collier (1997) and Graham and Hardy (2004). Although Brenner does not specify her inclusion/exclusion criteria, there are four other journal articles which discuss actual techniques for clinical procedures which are not mentioned in her literature review, these are Kurfis Stephens et al (1999); Caws and Pfund (1999); Souders et al (2002) and Ofoegbu and Playfor (2005). Brenner wrote that she wished to 'stimulate discussion on the topic of this extraordinarily stressful event in the lives of hospitalised children and their parents'; her writing appears to be biased due to the selection of articles discussed and a lack of a clear inclusion/exclusion criterion. The introduction to the chapter about 'restraint' used in paediatric settings implies this bias by stating that the use of 'restraint' is linked to convenience, staff shortages, tradition, uneducated staff and used as punishment. Brenner concludes by writing that the articles she reviewed were "encouraging the use of alternatives when managing the care of a child during a procedure" (Brenner, 2007: 35) yet the three articles which specifically looked at therapeutic holding, Selekman and Snyder (1995), Robinson and Collier (1997) and Graham and Hardy (2004) did not make such a recommendation.

Leroy and ten Hoopen (2012) in their literature review concentrate on the situation of when a child resists being held and attempt to offer clarity by looking at explanations for 'restraining' the child quoting Brenner (2007). The literature reviewed is not identified despite the authors stating that their paper identifies relevant scientific literature and available guidelines on this phenomenon. Looking at the reference list there appears to be a bias towards presenting therapeutic holding as stressful (Brenner, 2007) and abusive (Collins, 1999; Pearch, 2005; Folkes, 2005).

In summary, only four literature reviews could be identified: three with methodological flaws. Despite this, Brenner (2007: 29) appeared to be confident in the claims she made within her article that there is 'a lack of clarity on terminology which has confused the operationalism of this concept in practice'. In the next section, specific research studies are examined in detail.

<u>Discussion about research literature (n=12)</u>

Of the twelve studies reviewed in this section, one used observation to collect new data (Snyder, 2004) and one study met the criteria to be regarded as an experiment about a method/technique (Sparks at al, 2007). The remaining nine used measurement to collect data on the disposition participants held towards holding (restraint), using the following synonyms: - 'perceptions', 'attitudes' and 'views' (Robinson and Collier, 1997; McGrath et al, 2002; McGrath and Huff, 2003; Graham and Hardy, 2004; Ofeogbu and Playfor, 2005, Demir, 2007; Lloyd et al, 2008; Homer and Bass, 2010). Brenner et al (2014) used a topic guide to explore experiences, factors which influenced decisions and possible alternatives.

Snyder's (2004) article was well written and gives thorough details about the eighteen children who were observed in her study. It is also easy to identify the medical devices attached to the child and the subsequent need to prevent treatment interference. This research would be easy to replicate. It is an American study and no similar pieces of research have been undertaken with children in the UK.

Sparks at al (2007) is the only randomised control trial identified within this literature review. This study is well written and informative; yet many authors who document the use of therapeutic holds following this article have not alluded to this research, for example Jeffery (2008), Brenner and Noctor (2010) and Brenner (2011).

Selekman and Snyder (1995) appear to be the first authors who examined the application of holding/restraint across mental health and paediatric facilities. The authors concentrated their concern on children being placed in a 'vest device' to prevent treatment interference and the possibility of the child falling out of bed during the times when nurses were busy and the child's parents were not present. Many reviewers have critiqued this as a positive piece of research and it is often viewed as a seminal piece of work. Unfortunately by not distinguishing between the purpose and characteristics of the types of restraint being undertaken with the children and young person, this is the first study published which failed to take account of the difference between the application of restraint with a mental health setting to manage the child or young person's 'challenging behaviour' and the application of a therapeutic hold to help the child remain still for procedures or examinations. In this paper, the authors put great emphasis on alternatives to restraint use but did not define what the alternative method to restraint would be, despite recommending that nurses should question the information written within nursing text books and explore potential alternatives. This

study may have therefore paved the way for the interchangeable use of the term 'restraint' instead of a more appropriate term and the weaving of concerns about restraint into the practice of holding children for procedures.

This section has identified a gap in the research undertaken within the UK. Of the twelve articles within the research literature section only six were from a UK perspective and five were not recent studies;- Robinson and Collier (1997) nursing perspective, Graham and Hardy (2004) radiographers' perspective, Ofoegbu and Playfor (2005) nurses' perspective, Lloyd et al (2008) nurses perspective and Homer and Bass (2010) anaesthesiologist's perspective. In addition Snyder (2004) and Ofoegbu and Playfor (2005) wrote about treatment interference, not therapeutic holding techniques to hold a child still for clinical procedures.

In summary, the following articles examined techniques:- Snyder (2004), Sparks et al (2007) and Homer and Bass (2010). The following focused on treatments; - Selekman and Snyder (1995), Robinson and Collier (1997), McGrath at al (2002), McGrath and Huff (2003), Graham and Hardy (2004), Ofoegbu and Playfor (2005), Demir (2007) and Lloyd at al (2008). Brenner et al (2014) set out to describe the practice of 'restriction'. The best studies were written by Snyder (2004) and Sparks et al (2007). This summary identifies the flaws in these articles in relation to a lack of reference to appropriate literature and the methods used, for example; Selekman and Snyder (1995) did not explain the data collected to determine the factors that make a difference between all the facilities and did not differentiate between the nuances between the services provided to children within psychiatric services and acute services and also assumed that the treatments and techniques used were the same. Robinson and Collier (1997) did not provide a consistent documentation of the data analysed. In contrast, Snyder (2004) provided an extensive literature review, theoretical insight and an argument that presented and justified her theory.

<u>Discussion about practice literature </u>(n=31)
Six of the practice literature documents included within this section, are text books written to help guide nurses with their professional development. It is difficult to critique the written descriptions within these texts in a consistent manner, due to vast differences in the quality of written instruction and images presented to instruct the nurse (Bruner and Suddarth, 1981; Whaley and Wong, 1995; Hockenberry and Wong, 2004; Hockenberry et al, 2005; Jeffery, 2008; Wilson and Hockenberry 2012). Four articles which presented the authors opinion on techniques were also difficult to critique due to

differences in the quality of written instruction and quality of images used. These are Pretlow (1977), Kurfis Stephens et al (1999), Caws and Pfund (1999), Willock et al (2004) and Brown and Klein (2011).

In previous years within professional practice literature, there were the occasional documents detailing professional opinions on how to hold a child or young person. In Bruner and Suddarth (1981), a paediatric text book written for nurses to help with their professional development, the authors discuss protective measures to limit movements (which they also refer to as restraint) and the use of protective devices to assist with medical examinations and procedures. It is important to note the date of this publication: 1981, just as systematic approach to nursing care through nursing models were introduced in the UK. This textbook was also published before nurses were required to consider their responsibilities, be accountable for their practice and address ethical issues regarding their professional conduct (UKCC, 1984) and before the introduction of the UN Convention on the Rights of the Child (UNICEF, 1989).

Whaley and Wong's (1995), Children's Nursing, was published to meet student nurses needs and included contributions from thirty-seven specialists within the UK. This text book represents attitudes towards children at the time. The authors suggest that it is acceptable to develop ad hoc techniques:-

> "When a child must be restrained, the child and parents need a simple explanation. Alternative methods may be devised to replace the need for passive restraints. Holding children for periods is a pleasant alternative, as is restraining them in a highchair, where they can observe nearby activities" (Whaley and Wong, 1995: 112).

Kurfis Stephens at al (1999) are American clinicians who offered readers a model looking at techniques. Their professional opinion is that children prefer to be sitting up for procedures and it is being made to lie down in a supine position that created anxiety and distress in the child. The authors did not provide any evidence for their opinion and stated that they "challenged each other to develop sitting positions that promoted comfort for the child as well as sufficient immobilisation for success of the procedure" (Kurfis Stephens et al, 1999: 231). This was later supported by a randomised control trial which looked at the position of the child for intravenous cannulation and also found that parental holding and upright positioning appears to be successful in reducing the distress (Sparks et al, 2007).

Comparisons between the three 'Wong' nursing text books:- Hockenberry and Wong (2004), Hockenberry et al (2005) and Wilson and Hockenberry (2012) show that in 2004, six drawings were used to demonstrate 'therapeutic hugging' and types of 'mechanical restraints' were described, with one device (called a 'clove hitch device' broken down into the three stages; in the seventh edition (2005) fourteen photographs were used to demonstrate 'therapeutic hugging' and 'restraining' methods are described; in the eighth edition (2012) three photographs were used to demonstrate medical surgical restraints, one table was used to show how other medical surgical restraints range from less restrictive to more restrictive and no descriptions are included and there are only three drawings and one photograph of the therapeutic holding procedures. There is no explanation for the differences between the text books and the change of emphasis.

Jeffery (2008) is one of the contributors to the 'Clinical Skills in Child Health Practice' text book written by clinicians and academics for practitioners involved in delivering care to children and young people. This text was written to offer practical skill advice drawing from the latest evidence based practice. Jeffery (2008) was able to give an evidence base for the discussion on therapeutic holding (looking at definitions, consent, nurses responsibility, training, the use of policies), discussed the principles and requirements for safe practice for the techniques but was unable to give an evidence base for where the techniques came from and who devised them. The therapeutic holding techniques she advocated are presented using a photograph to help with the definition, identification of risk, action and justification. One of the techniques is for an intra muscular injection where the child is lying prone on a bed (page 57). Few professionals publishing their opinions on techniques appear to be reviewing and using opinions published by colleagues, for example with this technique Kurfis Stephens et al (1999) and Sparks et al (2007) suggest that the child prefers to be upright for such procedures. Jeffery does not make any references to this research within her chapter.

In 2010, Brenner and Noctor contributed to the 'Developing Practical Skills for Nursing Children and Young People' aimed at newly qualified nurses and pre-registration nursing students caring for children and young people in acute settings. Brenner and Noctor (2010: 19) addressed the complexities of holding, reminding readers that the child's ability to regulate emotion is a distinctive feature from toddlerhood onwards and that there is a "noticeable gap in research looking at the complexities of holding the older child and adolescent".

In 2011, Brown and Klein published an immobilisation technique which they have used in an American pediatric emergency hospital which they called the 'Superhero Cape Burrito'. Here, the authors suggest that a wrapped sheet (called 'swaddling' by Bruner and Suddarth, 1981; Jeffery, 2008 and the 'mummy restraint' by Whaley and Wong, 1995) can be ineffective in keeping the child from wriggling free. Brown and Klein (2011) adapted the swaddling technique which they call the 'Burrito' to involve the use of a pillowcase to better immobilise the child's arm's to enable minor procedures such as laceration repair and foreign body removal to take place. The authors document each stage of the procedure, use photographs to assist with the descriptions, identify safety issues and comment that parents seem to be satisfied with this technique.

A discussion on issues such as social acceptableness, current validity and preferences over terminology, are not useful comparison factors within this research in particular when looking at what techniques are deemed appropriate. This is not unique to this phenomena, with Martin et al (2008) identifying a similar problem in their research when evaluating the risks associated with physical intervention skills used within learning disability services (also known as intellectual disability). The description by Hockenberry, Wilson and Winklestein (2005) about the holding for a lumber puncture was the most consistent in terms of quality of instruction and use of images, followed by Bruner and Suddarth (1981) regarding the description of the use of the jacket device and Brown and Klein's (2011) description of the 'Superhero Cape Burrito'. As articles and text books published to describe and explain how to use the techniques, the remainder all had flaws in that the purpose of the technique was not always specified, instruction was not separated from conceptual information and if more than one person was involved the instructions were not clearly separated.

Dorfman (2000), Jeffery (2002), Tomlinson, (2004), Willock et al (2004), Valler-Jones and Shinnick (2005), Jeffery (2010), Hull and Clarke (2010) and Coyne and Scott (2014) offer their expert opinion as to what they perceive is good practice. The advice offered appears idealistic rather than evidence based. Throughout this section the use of terms for 'holding' and 'restraint' have not been operationally separated, therefore some of the issues reported may be from an emotional perspective and inaccurate. For example Coyne and Scott (2014) include comments from the paper written by Snyder (2004) on preventing treatment interference, this is not clarified by Coyne and Scott, who include Snyder's work in the heading 'Restraint for clinical procedures' (page 23). Authors also frequently add conditions to the use of therapeutic holding, for example, Jeffery (2010: 49) who insists that "holding can only be justified if practitioners have a good working

knowledge of legislation, policy and child development", Brenner and Noctor (2010: 19) "specific procedural safety requirements and specialist training needs to be adhered to when one is required to physically hold a child for treatment purposes" and Coyne and Scott (2014: 24) who write that healthcare staff must consider "all alternative methods of carrying out a procedure, unless it is a life-threatening situation where restraint may be necessary"; none of these views are supported by empirical research with no evidence to suggest that these conditions are best practice, yet the practice literature is abundant with stipulations which the healthcare professional is informed they must adhere to. It therefore appears that the practice literature is theory led, with little recognition of how the lack of coherent realistic practical advice is impacting upon the situation, which supports the assertion by Sharif and Masoumi (2005) and Jeffery et al (2007) of a theory-practice gap.

Within this section, there is repetition amongst authors using certain choices of phrases over the course of publications such as the term 'uncontested', which was first used by Collins in 1999 and repeated by Tomlinson (2004), Hull and Clarke (2010) and Leroy and ten Hoopen (2012). Collins (1999), Folkes (2005), Brenner et al (2007), Hull and Clarke (2010) and Coyne and Scott (2014) all write that there is 'paucity of research in this area' (often interchanged with the term 'dearth'). This thesis has identified fifty articles and text for review which met the inclusion criteria, this suggests that that there are not *insufficient* articles being published. There is a 'paucity' of empirical research examining techniques and research which presents a clear picture of what is happening with therapeutic holding in clinical practice and within HEIs. Instead there is an abundance of 'practice literature' detailing authors' opinion on what should be 'best practice' with therapeutic holding.

In summary, the following articles advocated an opinion about techniques: - Pretlow (1997), Bruner and Suddarth (1981), Whaley and Wong (1995), Kurfis Stephens at al (1999), Caws and Pfund (1999), Souders et al (2002), Willock et al (2004), Hockenberry and Wong (2004), Hockenberry et al (2005), Jeffery (2008), Brown and Klein (2011) and Wilson et al (2012). The following focused on treatments:- Collins (1999), Dorfman (2000), Bland (2001), Van Norman and Palmer (2001), Bland (2002), Jeffery (2002), Charles-Edwards (2003), Tomlinson (2004), Folkes (2005), Pearch (2005), Valler-Jones and Shinnick (2005), Brenner et al (2007), Shinnick-Page et al (2008), Jeffery (2010), Brenner and Noctor (2010), Hull and Clarke (2010), MacLean (2011) and Coyne and Scott (2014). The best practice literature paper was written by Johnson's (2007). His premise for his professional opinion was that restraint to manage the behaviour of the

child within youth treatment settings is meant to maintain the child's safety, he was also aware of a study conducted by Nunno et al (2006) which identified forty-five child or young people related deaths related to the use of restraint. Johnson's discussed and provided an evidence base to underpin the issues and appeared to be systematic in his approach. Within this practice literature there are tutorial texts and articles where the authors wish to raise awareness of issues. Petre and Rugg (2010) suggest that good papers can attract a lot of attention and can change the viewpoint of an entire field. Using this definition, the articles published cannot be viewed as 'good', given that as yet no change of practice appears to have taken place.

Discussion about policy literature (n=3)

Three policy literature documents offered advice on this phenomenon:- Lambrenos and McArthur (2003) and Darby and Cardwell (2011) aimed their publications at nurses and Allison and McHugh (2008) radiographers.

Lambrenos and McArthur (2003) wrote from the perspective of having experience of developing and initiating a policy. Allison and McHugh (2008) and Darby and Cardwell (2011) have based their policy advice on the results of literature reviews. The literature review for this thesis has questioned the accuracy and appropriateness of some of the literature, given that the issues surrounding the restraint of children within mental health units to manage their behaviour have been merged with literature and perspectives on holding a child to help them remain still for the administration of treatments, the prevention of treatment interference and the undertaking of examinations. Lambrenos and McArthur (2003) are cited heavily, which suggests that they are viewed as authors with authority and vision.

2.1 Key summary of findings

The issues identified through the literature search, appraisal of research literature, practice literature and policy literature helped identify if there were any pre-existing theories in this research area; the boundaries of what has been achieved and gaps in knowledge.

Current literature continues to suggest a lack of clarity on terminology which has confused the operationalism of this concept in practice (Brenner, 2007). Some authors prefer to use the term 'restraint' which Jeffery (2010) and Darby and Cardwell (2011) suggest is misinformed, although this is their professional opinion and not based upon empirical research. There appears to be no consistent definition or consistent term used to define the practice.

The RCN (2010), Jeffery (2010), Hull and Clarke (2010) and Coyne and Scott (2014) believe that the differences between a restrictive physical intervention and therapeutic holding is the degree of force and the intention, however this is a theoretical assertion. There has been no empirical research comparing 'restrictive physical intervention techniques' with 'therapeutic holding techniques', thus there is no evidence to support or disprove this belief.

Some professionals have published their opinion that therapeutic holding can only be used in situations where there is consent, these are Hardy and Armitage (2002); Lambrenos and McArthur (2003); Jeffery (2010); Hull and Clarke (2010); Darby and Cardwell (2011) and Leroy and ten Hoopen (2012). Professional opinion becomes less clear when the child or young person does not give their consent, cannot give their consent or withdraws their consent during a procedure, this includes the views of Van Norman and Palmer (2001); Jeffery (2002); McGrath et al (2002); Tomlinson (2004); Folkes (2005); Brenner (2007) and Shinnick-Page et al (2008). The RCN (2010) guidance for nurses is ambiguous in their advice for these situations.

The lack of differentiation between techniques used in mental health/acute settings and children's services, has led to few professionals talking about the same thing, the same issues and the same definitions, meaning a shared understanding or consensus on these issues has not yet developed.

Wilson and Hockenberry (2012) have introduced a time limit to their definition of therapeutic holding without specifying the evidence for this and without offering advice on what to do if the child is still being held when the time limit is about to expire. At present no other authors have picked up on this issue.

Two conflicting modes of thought have emerged: - Pruitt and Elliot (1990), Seabra (2009) and Darby and Cardwell (2011) suggest that that for some procedures the child is 'therapeutically held' (such as for an injection) and, for others' restrained' (such as with a lumbar puncture) due to beliefs about how painful the procedure could be. Jeffery (2010) and Leroy and ten Hoopen (2012) view therapeutic holding as being used when the child needs to be helped to sit or lie still, using a level of force to achieve this immobility. When the child resists, does not give consent, withdraws their consent but the decision has been taken that the procedure is necessary, healthcare staff use more force and this then becomes restraint. Neither perspective appears to be based upon empirical research.

Very few children's nurses appear to have questioned the practice of holding, their training on the subject, lack of training on the subject, or the competency of the person teaching them the techniques (Collins, 1999; Jeffery, 2002; Valler-Jones and Shinnick, 2005; Seabra, 2009; Garrard et al, 2010). The literature review for this research identified that there have been numerous individual calls for change within the practice of therapeutic holding, with no published action to change the situation (Seabra, 2009), no debate within children's services or HEIs and no published studies that look at the prevalence of therapeutic holding used by nurses, for clinical procedures.

Despite published concerns identifying that many children find being held for procedures abusive (Flatman, 2002; Jeffery, 2002; Folkes, 2005; Demir, 2007) there has been no empirical research on the subject.

The literature does not identify what tools were used to inform the decision making process regarding which techniques to use with the child or young person (Ellis, 2000; Bland, 2001; Valler-Jones and Shinnick, 2005; Ofoegbu and Playfor, 2005; Demir, 2007; Bray et al, 2010).

There has been no assessment of whether the child finds the procedure or the experience of being held more painful, yet this view underpins opinion papers (Brenner, 2007; Jeffery, 2010; Hull and Clarke, 2010; Darby and Cardwell, 2011; Leroy and ten

Hoopen, 2012).

There is little or no consistency in the training or content of training that staff and student nurses should receive (Valler-Jones and Shinnick, 2005; Darby and Cardwell, 2011). The literature did not specify whether the people doing the holding (in particular nursing staff, student nurses and parents) were given guidance on techniques (Muller et al, 1986; Pearch, 2005; Sparks et al, 2007; MacLean, 2011), where to place their hands on the child, or on how much force to use (McGrath et al, 2002; Hardy and Armitage, 2002; Pearch, 2005; RCN, 2010; Jeffery, 2010; Hull and Clarke, 2010). The literature which discusses guidance on how to hold a child or infant may be impractical (Allison and McHugh, 2008).

How much force used to hold a child is often used as a measurement to distinguish between a therapeutic hold and a restraining hold (Hardy and Armitage, 2002; RCN, 2010; Jeffery, 2010); between a technique viewed as supportive (Jeffery, 2010) and one that is viewed as abusive (Folkes, 2005). How much force used is a subjective measure, and published opinion papers suggest that the following are also taken into account: - whether there are marks left on the child/signs of redness/bruising (Jeffery, 2010), the child's distress levels (Jeffery, 2010), the child's pain levels, the number of people and gender required to complete the holding (McGrath et al, 2002 and Hull and Clarke, 2010) and consent (Jeffery, 2010). Therefore it is questionable whether nurses using therapeutic holding could put forward a case to state that the degree of force required is different to the degree of force used in restrictive physical interventions because there is no measurement tool published to assist nurses in this judgement.

Techniques currently available for staff to use have been developed by staff over time from predominantly a non-evidenced based perspective (Valler-Jones and Shinnick, 2005; Bray et al, 2010). Nurses and student nurses are holding children without being taught what to do (Muller et al, 1986; Robinson and Collier, 1997; Jeffery, 2002; Lambrenos and McArthur, 2003; Bray et al, 2004; Tomlinson, 2004; Snyder, 2004; Pearch, 2005; Folkes, 2005; Shinnick-Page et al, 2008; Jeffery, 2010; MacLean, 2011).

Techniques are no longer being documented within publications within the UK; in particular devices to keep the child in a chair or cot, devices to prevent a child from bending their elbows, devices attached to the child's ankles or wrists (Bruner and Suddart, 1981; Whaley and Wong, 1995). It is not known whether this is because these techniques are part of what is viewed as 'uncontested practice' (Collins, 1999) or

whether they are not used within clinical practice in the specialist area where this research took place. Most techniques have not been assessed as safe to use, and there are no reviews of the techniques in terms of best practice, for example risk, the force used or suitability.

To conclude, chapters 1 and 2 have identified that none of the literature reviewed has presented a clear picture of what is happening with therapeutic holding in clinical practice and within HEIs. This literature review identified three articles which examined holding techniques (Snyder, 2004; Sparks et al, 2007; Homer and Bass, 2010). Despite there being twelve practice papers published which gave a professional opinion about the holding techniques there is no agreement on standards for practice and education and there is clearly a lack of completeness within the data. Authors are also questioning the use of therapeutic holding techniques, speculating that the only difference between therapeutic holding techniques and the techniques identified to 'overpower' a child or young person, are the intention and use of force, which implies that the same techniques are being used by healthcare staff and parents. This thesis has identified that no empirical research has been undertaken to prove or disprove this theory.

The issues of what is happening 'on the ground' with regard to the practice of holding children/young people and what is known about the 'decision making for technique selection' undertaken by healthcare professionals will be explored in the next section in more detail. This information will add shape to this thesis.

2.2   Emerging issues from the literature

To document the key findings from the literature review on what is known about nurses' and other healthcare professionals' application of holding practices, what techniques are currently in use, the situation with regard to training and whether therapeutic holding continues to be viewed as uncontested practice, this chapter will elaborate on the themes of practice, technique and theory-practice gap that support this research. This approach is appropriate because it identifies what is known and not known about the phenomenon of holding, how authors and researchers have generally researched the phenomenon to date and what areas of interest have been focused on.

2.2.1 The impact of terminology upon practice

Terminology is a word given to mean the vocabulary of specialised words used that relate to a particular subject.

> "It is obvious that language use has powerful and specific effects on thought. That's what it is for, or at least that is one of the things it is for – to transfer ideas from one mind to another mind" (Gleitman and Papafragou, 2005: 634).

Throughout the literature review a range of definitions for therapeutic holding are used which include *restraint; physical restraint; immobilisation; holding; therapeutic hugging; acute restraint; child restraint; infant restraint; protective measures to limit movement; invasive procedures; non-invasive procedures; pinning children down* and *physical interventions*. Interpretation varied in most of the literature and there were some differences in the definitions given. The difficulty now is that within children and young people's nursing there appears to be a deluge of authors preferring to use this term 'restraint' to define the practice being considered in this research (Folkes, 2005; Pearch, 2005; Hull and Clarke, 2010; Darby and Cardwell, 2011; Coyne and Scott, 2014). Jeffery (2010) and Darby and Cardwell (2011) suggest that this preference may occur without a thorough understanding of the issues, custom and practice or because of professional 'self-interest'.

The confusion regarding terminology may mean that some nurses and professional groups are unsure if there is a difference between therapeutic holding and restraint. There has also been additional claims to the debate about this process:- that restraining a child where force is used or where the child does not consent, is abusive (Folkes, 2005) and contravenes children's rights under the Human Rights Act (1998). Leroy and ten Hoopen (2012) quote Scottish Intercollegiate Guidelines Network (2004) which stress that the use of restraint for procedures which are not life threatening is unacceptable, to add weight to their view that any procedural situation which the child or young person objects to, should not go ahead unless there is a medical justification for going against the child's wishes and "'overpowering the child's resistance'" (Leroy and ten Hoopen 2012: 2). This view is supported by Coyne and Scott (2014: 23) who quote the European Association for Children in Hospital (EACH) conference in Dublin, which took place in 2010, whose resolution is that "restraint should be avoided in all medical/nursing procedures, unless there are no alternatives in a life threatening situation".

2.2.2 The child's and young person's experience of holding practices

At one time it was written that "nurses often initiate painful and stressful procedures assuming that there is no impact or repercussion", and that this was particularly true of when nurses were using physical restraints (Snyder, 2004: 32). Collins (1999) reported that her colleagues felt that the therapeutic intervention was in the child's best interest and any anxiety and distress caused as a result is justified. Collier and Pattison (1997), Twycross (1998), McGrath et al (2002) and Snyder (2004) suggest that children find the experience of being restrained far more disturbing than the pain involved in the treatment or procedure that triggered the use of the holding technique. Staff can misjudge the older child's reaction to the painful procedure and underestimated the amount of distress they can experience before and during the painful procedures (Sclare and Waring, 1995). Lloyd (2005) confirmed this view, noting that the older child was more scared before the procedure probably because of their ability to anticipate what was about to occur, whereas younger children tended to be more scared during the procedure. Meltzer et al (2008) wrote that most children experience some degree of fear during their development. They identified that the most commonly reported fears were animals (11.6%), blood/injections (10.8%), the dark (6.3%), and fear of the doctor or dentist at 5%.

Lloyd (2005) suggested that in an emergency situation the child may cope with the procedures required because they cannot alter the situation, which for some children reduces their stress. Souders et al (2002), Tomlinson (2004), Jeffery (2010) and the RCN (2010) remind readers that a negative experience for a child or young person can have enduring effects on their psychological health, perhaps making the decision making process more difficult for future procedures, affecting the child - parent relationship and the child - professional relationship. Children's fear during procedural pain has also been investigated by Nilsson et al (2008), McMurtry et al (2011) and Nilsson and Renning (2012). These articles identified that for children in particular pain is primarily assessed on the observation of the child's behaviour and that for some children medical fears can increase with age. The authors of The FLACC (Face, Legs, Activity, Cry and Consolability scale) Behavioural scale for procedural pain assessment (Nilsson et al, 2008) were contacted to confirm that no studies have been undertaken as of yet that separate therapeutic holding pain from the pain of the procedure being undertaken.

The professional opinion of Brown and Klein (2011) is that the 'superhero cape burrito' method of procedural restraint is comfortable for the child as well as being effective. Kurfis Stephens et al (1999) and Sparks et al (2007) suggest that being held up right decreases distress in children. There is no documented evidence that healthcare professionals are aware of these studies in their application of techniques.

There have been no recent studies which examine the current situation or use current assessment tools to assess whether a child finds the procedure, or the experience of being held, more painful to enable accurate discussion to take place on the issue, yet despite the lack of evidence these views that therapeutic holding is distressing to the child and contravenes children's rights, underpin opinion papers being published (Brenner, 2007; Jeffery, 2010; Hull and Clarke, 2010; Darby and Cardwell, 2011; Leroy and ten Hoopen, 2012; Coyne and Scott, 2014). The issue of children being wary of strangers (Brady, 2009) and how they perceive nurses to be good, bad or trustworthy has implications on the child or young person's experience of being held. Brady suggests that some children link a painful procedure to the nurses not liking the child and to the nurse acting in a careless way. Children may view the holding process and the pain they experience through being held and the procedure as a punishment, which may add to the concern that some children become more fearful about procedures the older they get (Snyder, 2004; Lloyd, 2005).

2.2.3 The experience of parents in holding practices

The temperament of the parent has a major influence on how the child or young person reacts to an invasive procedure (Willock et al, 2004; Snyder, 2004). McGrath et al (2002) researched the feelings of parents when they were asked to become involved in the holding process for their children and found that it was the act of holding rather than the invasive procedures which they found the hardest to cope with, because these situations were unpleasant, aggressive and invasive to their child (also noted by Souders et al, 2002) and their child responded by resisting (crying, struggling, looking terrified). Souders et al (2002) found that parents were embarrassed by their child's reaction to the process, being involved caused physical and emotional stress to parents and for some, physical harm as they got kicked and punched during the process. Some parents also reported that they were concerned about taking their anger and frustrations out on their child at these times or they worried that their child was causing a problem for the nurses. Souders et al (2002) noted that many parents who did become involved reported a sense of rejection from their child, feelings of regret and a perception that they had no choice

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but to get involved. This thread is continued by Pearch (2005: 37) who wrote that asking the parent to hold their child "goes against the normal instinct of the parent" (to be the safe haven, as described by Bowlby 1907-1990). Piira et al (2005) found that although the parents' presence did not influence the child's distress, many parents felt that by being present they were helping their child and this gave them a sense of control, which they valued. McGrath et al (2002) question whether it is ethical to ask parents to become involved in the holding process when many nurses feel uncomfortable about the process. McGrath and Huff (2003) follow up this article with an exploration of the fathers' experiences.

The randomised control trial by Sparks et al (2007) documented the guidance given to parents on how to hold their child for a painful procedure and identified that parents reported satisfaction with their participation with the procedure and satisfaction with the healthcare staff's ability to provide pain management and emotional support to their child. Their study found that even though the child's distress score was less when held by their parents and when being held upright, the parents were happy with both the supine and upright positions being advocated. A literature review undertaken by Corlett and Twycross (2006) into negotiation of roles with parents came to the conclusion that there was little communication and negotiation with parents, that the negotiation process was not planned but occurred on an 'ad hoc' basis.

2.2.4 The experience of healthcare staff with holding practices

It is the responsibility of the nurse to help the child or young person manage the procedure; lessen any adverse effects and/or distress that the child or young person could experience and allow the child time to discuss their concerns (McGrath et al, 2002; Willock et al, 2004). Robinson and Collier (1997) state that some nurses are uncomfortable with holding, explaining that this is why they ask the child's parents to get involved, therefore removing themselves from any responsibility and guilt. Tomlinson (2004) and Lloyd et al (2008) recognised that there were few studies looking at the psychological effect upon staff involved in therapeutic holding. Leroy (2012) suggests that restraining and immobilising of children is a practice that occurs daily in many hospitals and therefore professionals have a 'casual' approach. Literature highlights that all too often the use of therapeutic holding skills are reactionary rather than planned (Collins, 1999; Graham and Hardy, 2004; Shinnick-Page et al, 2008).

Lloyd et al (2008) studied whether nurses experienced negative emotions as a consequence of using therapeutic holding skills. The findings indicated that nurses did experience negative emotions but that these emotions were short lived. Any feelings of frustration, anxiety or distress were also short lived mainly due to the supervision systems available to the nurses, such as debriefing. Lloyd et al (2008: 34) noted that many "nurses seem protected by the belief that the procedures were justified clinically and that any pain and discomfort caused to the child is ultimately for the child's benefit", findings also reported by Collins (1999). MacLean (2011) challenges this perspective writing that as a student nurse she gets upset at seeing children suffer, especially with the child who does not understand what is happening. It is not just nurses that find these situations stressful, Van Norman and Palmer (2001: 135) write that when physicians (in this case anaesthesiologists) face uncooperative patients "it can be a source of inconvenience, annoyance, frustration and at times anger for them". Van Norman and Palmer (2001) found that in most cases the anaesthesiologist responded to their uncooperative patient by coercion and physical restraint.

2.2.5 What is known about the techniques being used to hold children for procedures

Nurses and other healthcare professionals administer procedures that can cause the child or young person to experience distressing sensations (Snyder, 2004). There are a number of procedures that cause discomforting sensations and as such holding techniques may be required; these include:- venepuncture (Robinson and Collier, 1997; Collins, 1999; Meurnier-Sham and Ryan, 2003; Willock et al, 2004; Valler-Jones and Shinnick, 2005; Jeffery, 2008), immunisation and intramuscular injection (McGrath et al, 2002; Valler-Jones and Shinnick, 2005), intravenous line replacement, lumbar puncture (Robinson and Collier, 1997; Collins, 1999; McGrath et al, 2002; Meunier-Sham and Ryan, 2003; Valler-Jones and Shinnick, 2005; Jeffery, 2008) and urethral catheterisation (Meunier-Sham and Ryan, 2003). 'Chemical restraint' administered by anaesthesiologists may be perceived to be a safer alternative (Van Norman and Palmer, 2001; Jeffery, 2010). McGrath et al (2002) caution that children find the act of being put under using a general anaesthetic more upsetting than the thought of surgery. Bray et al (2004), Snyder (2004) and Folkes (2005) suggest that nurses also need training in how to prevent treatment interference to prevent the child or young person from removing/dislodging an artificial airway. Valler-Jones and Shinnick (2005) write that student nurses and nursing staff should also be taught how to hold children

for the administration of eye drops/ear drops or for throat/ear examinations and when administering oral medication (Jeffery, 2008).

2.2.6 Why are holding techniques not considered to be part of the treatment

The practice of therapeutic holding is often covert or ignored within articles published and nursing text books and is not considered to be part of the treatment per se. Homer and Bass (2010) identified that in the 310 surveys returned to them, most of the respondents avoided any hint of using 'physical restraint'. McGrath et al (2002) and Piira et al (2005) identify situations where parents are not routinely advised as to what they can do to help their child when they are present during medical procedures and quote parents believing this is because nurses do not know what to do. Snyder (2004) observed that nurses introduced measures without support from research, to provide them with guidelines as to when and how to act appropriately.

The lack of literature on this subject may be 'due to the fact that, until recently, the use of restraint was uncontested practice, almost a non issue' (Collins, 1999: 14). Robinson and Collier (1997: 13) reported that 'staff regarded the restraint of children a difficult topic to address and many expressed concerns that such research might be tantamount in suggesting poor practice and poor child care'. Collins (1999) also identified other themes which are repeated throughout the literature and which support the argument that the use of therapeutic holding techniques may be poor practice. If nurses use therapeutic holding techniques it is because they are not spending enough time with the child or have no effective knowledge of distraction/relaxation techniques and that nurses are unsure of their legal position when an older child refuses to consent. Children or young people may lack the capacity and ability to understand or cooperate with the specific procedure or examination due to their medical condition, medication or age. It should be recognised that the delivery of care in these situations can be problematical, and that safe understanding and knowledge will have a positive impact upon the outcome of procedures including those which are considered invasive. Yet HEIs and clinical practice do not appear to be training healthcare staff to carry out the procedure on a distressed child or young person.

The process of therapeutic holding appears to be variable, not just from how it is defined by lecturers, practitioners and within policy but to how children and young people are

held and the beliefs that appear to underpin practice. Hull and Clarke (2010) shared their professional opinion that the variety of terms used to describe this practice which they believe can create confusion (*see Table 1 which details a Timeline of twenty eight different entries for terminology and definitions on 'holding'*). The focus has appeared to centre on making a distinction between whether the process involves a restrictive physical intervention or therapeutic holding (Jeffery, 2010; Coyne and Scott, 2014), rather than having a detailed discussion about the actual techniques. This thesis speculates that the differences in terminology are part of the reason why holding techniques are not considered to be part of the treatment.

Within this thesis there is evidence from the studies which identify a lack of clarity, a lack of policy, a lack of training, and that parents are doing the holding. The actions described by participants to hold the child or young person were not accurately described and if pressed healthcare staff suggest that they are 'squeezing' or just 'holding tightly'. HEIs who contributed to this thesis depict a practice where there is no consistency in what is taught to student nurses, with few lecturers teaching the practical aspects of therapeutic holding. There also appears to be a strong element of denial that there is a problem and little evidence that nationally this is seen as an issue. Local and national policies such as the RCN guidance (2010) prefer to produce a single policy/guidance which discusses therapeutic holding within the context of physical intervention techniques, which may add to the confusion. Leroy and ten Hoopen (2012) suggest that because therapeutic holding/restraint is not a standard component of the medical procedure, the holding technique should be identified and recorded separately. As of yet there has been no published response or debate about this suggestion.

2.2.7 What techniques are deemed appropriate

It would appear that many therapeutic holding techniques are developed over time by nurses who gain experience by being involved in the practice in the first place (Valler-Jones and Shinnick, 2005). Martin (2002) has found that traditional practices are easier to implement and Wollin and Fairweather (2007) suggest that many skills are passed down to junior staff verbally. Nurses introduced measures to prevent treatment interference without support from research in providing guidelines as to when and how to act appropriately (Snyder, 2004). The literature available suggested that healthcare staff use different guidelines, if any, to inform their holding practice and that there is a 'casual' approach (Leroy, 2012) towards holding children with little consideration as to who has designated these techniques safe, effective and acceptable.

The impact of standards and moral reasoning being introduced into the nursing care of children and young people and the education of pre-registration nursing students may have impacted upon literature published to guide healthcare professionals, in particular nurses. In this section looking at the techniques, the salient points are that nursing practice moved away from task or traditional care and focused upon delivering care which is research and evidence based (Flynn and Sinclair, 2005). The introduction of evidence based practice may have prevented a detailed exploration of therapeutic holding skills as most nurses and educators lacked the skill to turn a practical skill into one that had an evidence base. In 1987, Mulrow published 'The Medical review Article; State and Science' which complained about the quality of fifty articles published in four leading medical journals between 1985 and 1986, her dissatisfaction was that these current reviews did not use scientific methods to identify, assess and synthesise information, instead most of the articles were subjective, scientifically unsound and inefficient. This gap may have also contributed to the lack of standardised practice usually found with evidenced based nursing care, which was promoted through the DOH and clinical governance agenda. The RCN (1996) suggested that evidence based practice included questioning the practice, finding the evidence to support practices, appraising the evidence and evaluating practice. The difficulty was and still is a scarcity of literature published for educationalists and practitioners to review in order to identify the best practice. Bray et al (2010) suggest that there is currently limited evidence to inform clinical skills training of children's nurses, therefore the current preposition is that many professionals view therapeutic holding as 'custom and practice', something which parents do and associate the holding with the actual medical procedure not as a separate action.

Whaley and Wong (1995) and Rushing (2009) recommended that nurses devise alternative methods to the type of restraints currently in use, which may have also contributed to ad hoc techniques being developed. The lack of documentation due to there being no evidence base underpinning the use of particular techniques, senior staff passing down their experiences to junior staff who are usually in awe of their seniority, junior staff may be lacking any knowledge of their own or have limited experience to challenge practice which they are told is "always done this way" (Valler-Jones & Shinnick, 2005: 21).

It is also possible that the debates that took place within other fields of nursing on restraint are relevant to this research:- that the actions and reactions of staff is associated with injury and harm (Spreat et al, 1986; Hill and Spreat, 1987; Harris et al,

1996; Deveau and McDonnell, 2009), that knowledge about the safety of physical intervention skills are limited (Leadbetter, 2002; McDonnell, 2007; McDonnell, 2008; Martin et al, 2008) and that this is an issue of social validity (Cunningham et al, 2002). Whilst there is no literature available which makes a comparison between the two healthcare services (learning disability and child health), it is possible that the subsequent articles, national conferences and political debates have led to healthcare staff within children and young people's services being aware of the issues being raised within learning disability services and wanting to ensure that their practices were not open to the same level of scrutiny by avoiding what may be viewed as an unpalatable aspect of the whole process (the actions involved in restricting the limb or restricting the child's body from moving having been viewed as abusive) (Tomlinson, 2004; Folkes, 2005; Demir, 2007; RCN, 2010), causing more harm than the medical procedure (Collier and Pattison, 1997; Twycross, 1998; McGrath et al, 2002; Snyder, 2004) and a process which is not acceptable to some professionals or parents (McGrath et al, 2002; Souders et al, 2002; Pearch, 2005). The restrictive actions are no longer mentioned and if pressed healthcare staff suggest that they are 'squeezing' or just 'holding tightly'. The holding of children has been rebranded as 'therapeutic holding' and the cuddling that parent's do (which suggests that this situation is acceptable morally). The terminology and the persistence by many authors to use the term 'restraint' instead of 'therapeutic holding' challenges this assertion because the use of restraint is associated with fatalities (Nunno et al, 2006) and abuse (RCN, 2013).

Whilst some techniques have stood the test of time, for example, 'swaddling' the baby or child to restrict arm and leg movement (mummy restraint) (Bruner and Suddart, 1981; Whaley and Wong, 1995; Hockenberry and Wong, 2004; Hockenberry, Wilson and Winklestein, 2005; Jeffery, 2008; Rushing, 2009), other techniques have disappeared from published documents within the UK; in particular devices to keep the child in a chair or cot, devices to prevent a child from bending their elbows, devices attached to the child's ankles or wrists (Bruner and Suddart,1981; Whaley and Wong, 1995). It is not known whether this is because these techniques are part of what is viewed as uncontested practice (Collins, 1999) or whether they are no longer used within clinical practice.

The effectiveness of holding techniques has not been scrutinised within literature, although research looking at comparing the child being held in a lying down position to an upright one have been documented in terms of satisfaction, comfort, stress reduction (Kurfis Stephens et al, 1999; Sparks et al, 2007). Some authors do not appear to be

making reference to this research, for example Jeffery (2008).

2.2.8 Training implications and the theory-practice gap

An informal survey of the clinical areas used by Birmingham City University for child field student placements, revealed that qualified nurses believed that student nurses should develop therapeutic holding skills during their first year of training (Valler-Jones and Shinnick, 2005). Student nurse evaluations following their first placement stated that they had been involved in holding children and that most felt uncomfortable with this practice because they had not received formal training. Pearch (2005) described her own encounters as a student nurse when she became aware that a) children were being 'forcibly held down' to allow procedures to be carried out, and, b) staff had not received any official training in this area. In contrast, when Pearch worked with children who had emotional and behavioural difficulties in a school before she started her nurse training, she felt that she had been trained to use appropriate techniques safely. Sharif and Masoumi (2005), in their qualitative study looking at nursing students' experiences of clinical practice, identified the discrepancy between theory and practice as a source of concern. In focus groups, the student nurses identified that they were faced with different clinical situations to the ones presented to them by their tutors.

2.2.9 Contents of training and the theory-practice gap

National reports and enquiries have highlighted a lack of systematic evidence and inconsistency in the quality and content of training (and skills of trainers) on this subject (Ellis, 2000; Bland, 2001; NIMHE, 2004). Although there are recognised training programmes on restrictive physical interventions and attempts to clarify standards relating to physical intervention skills used within learning disability services (Harris et al, 1996; BILD, 2001; 2006; 2010); there are few that specifically cover therapeutic holding skills (Valler-Jones and Shinnick, 2005; Shinnick-Page et al, 2008; Jeffery, 2010). Nurses have little or no formal training in therapeutic holding skills (Robinson and Collier, 1997; Lambrenos and McArthur, 2003; Tomlinson, 2004; Jeffery, 2010). There are a few recognised training programmes available, for example the CALM system; CH-3 Advanced Clinical Interventions who advertise that they offer training on clinical holding skills (CH-3 is part of a larger organisation – CPI (Crisis Prevention Institute) and Team TEACH.

2.2.10 Competency and the theory-practice gap

Competence can be defined as "the state of having the knowledge, judgement, skills, energy, experience and motivation required to respond adequately to the demands of ones professional responsibilities" (Roach, 1992 cited by RCN, 2005: 3). The literature is telling us that "child health services are often based on traditional custom and practice or professional self interest" (House of Commons Health Select Committee 1971: 1); reiterated in recent publications by Collins (1999), McGrath et al (2002), Hardy (2004), Pearch (2005) and Kean (2007). There are few articles in this literature review which looked at the competency of the trainer to teach staff the techniques being used to hold the child or young person (Jeffery, 2002). Seabra (2009) believed this is because there is an intrinsic failure to challenge or improve questionable practice which has existed within children's nursing for many years. Within children's nursing this issue has not been considered, perhaps because therapeutic holding has until recently been viewed as 'uncontested practice' (Collins, 1999; Pearch, 2005) and that carrying out the procedure was given more emphasis than how it was undertaken – a 'casual approach' (Leroy 2012). Jeffery (2002) suggests that if the nurse fails to complete the procedure the nurse could also be in breach of their Code (NMC, 2002; 2008) because their omission of the procedure could also be damaging to the welfare of the child.

2.3   Contextual factors influencing this research

The original research question was centred around the development and evaluation of a model of teaching holding techniques to student nurses within the Faculty. The author had published two articles on the subject (Valler-Jones and Shinnick, 2005; Page et al, 2008), which had identified the need for a training model. Through the process of starting to identify the problem and examining the literature that had been published which in some way reflected these issues, it became clear that there was a theory-practice gap with regards to holding practices, also suggested by Sharif and Masoumi (2005) and Jeffery et al (2007). Through discussions with colleagues from the child health field of nursing, academic colleagues and the Associate Director of Nursing Quality at the specialist Children's Hospital, it became apparent that there was little or no overview of the practicalities surrounding the use of the therapeutic holding techniques currently in use within both the University and clinical areas. It was uncertain as to whether this was a local or national issue. It was also difficult to establish the routine situations where nurses use them; and little appeared to be known about the views of children, their parents, nursing staff and student nurses on this subject.

It was felt that there was insufficient knowledge available to decide what should be included within the teaching programme and that the lack of research on the techniques would be a major stumbling block to designing a training programme, therefore raising questions about 'do-ability' (Thomas, 2013). Adopting this emerging 'action based' approach to the original training idea was considered to be too large a project. More fundamental questions needed to be asked in order to achieve this ultimate goal. This led to a revision of the original research question to questions which look at what was happening on the ground and what techniques healthcare practitioners were using because this was not known. The literature review clarified what other people have done about this problem and whether similar questions were asked.

2.4   Justification for this research

It is clear from the literature review that there are gaps in knowledge about the current practice used in clinical areas to hold children and young people for procedures, the rationale used by clinical staff to make decisions on what holds to use and when. This includes a lack of knowledge about the techniques' used by healthcare professionals, gaps in knowledge about the training, guidelines and other factors used to inform decisions and how this is manifested in undergraduate training.

In order to explore what is known about nurses' and other healthcare professionals' application of holding practices; the techniques currently in use; to provide current information about the basic assumptions healthcare practitioners have about the practice of holding children and young people, it was important to go out into practice and look at the experiences of healthcare practitioners through talking to them to gain an understanding of the current situation.

This thesis explores the phenomenon from the perspective of healthcare staff, not the child's. It is difficult to find champions who advocate the need for holding due to the many criticisms published about the process being abusive (Folkes, 2005), not beneficial (Mohr et al, 1998), the belief that the act of holding is more distressing than the procedure being recommended to the child (Collier and Patterson, 1997; Folkes, 2005) and "restraint is wrong and alternatives should be used" (Coyne and Scott, 2014: 23). An attempt at gaining for ethical approval for a study which also included the views of the child/young person who had been held was rejected for the reasons listed above. It is problematic to engage children in discussions about their healthcare without visual tools

(Ruberg, Korsvold, Gjengedal, 2015). The systematic review undertaken by Piira et al (2005) identified that in all the studies they reviewed where parents held their child, none of the parents were given guidance on how they could do this. There are no studies, which discuss how children are shown what techniques will be used to hold them still.

This research is significant because it is current, seeks to discover what is really happening with therapeutic holding within clinical practice and what is taught within HEIs. It then seeks to understand the current experiences of student nurses, nurse lecturers and healthcare professionals and intends to offer an explanation for these experiences. Student nurses and healthcare professionals need to work safely, competently, and with the confidence that education on therapeutic holding will lead to an improvement in practice. We should care about the results because student nurses and practitioners need to be educated in the theory and relevant practice of safe and appropriate therapeutic holding skills (Jeffery, 2010; RCN, 2010).

2.5   Research aim

The aim of this thesis is to explore holding practices from the perspective of nurses and healthcare professionals. This will include techniques currently in use to help a child or young person stay still during the administration of treatments, prevent treatment interference or to undertake an examination which can sometimes be invasive.

2.5.1 The development of two research questions

The review of the literature enabled a clearer understanding of the problem areas and identified clear gaps in the literature. These areas included: identified gaps in knowledge of holding techniques, the lack of clarity and consistency over terminology and there appears to be limited questioning of these practices by healthcare professionals. Training of staff in holding appears to be limited both in terms of hard data on the appropriate content and the impact of training on practice. Key research exploratory areas involve clarifying what is happening 'on the ground, to help investigate the rationale underpinning the use of these practices. In addition, studies which examine the impact of staff emotions and beliefs upon practice, and studies which examine the safety and effectiveness of techniques that are used by practitioners.

For the purposes of this thesis it was decided to focus on two key questions:

Question 1

"**What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?"**

Question 2

"What holding techniques are preferred by healthcare staff and why?"

2.6   Structure of this thesis

This thesis is organised into nine chapters. In chapter 1, the issue of therapeutic holding is discussed within a brief historical context. This chapter introduces readers to the concept that the introduction of research and evidence based practice may have led to a theory-practice gap. This is particularly relevant to therapeutic holding, which may have been viewed as a task or being part of traditional care.

Chapter 2 details the literature review, which explains how the literature shaped and influenced this thesis. Issues of terminology, practice and techniques were explored further to identify what is known and not known about holding of children and young people for clinical procedures.

Chapter 3 examines the research methodology employed and the rationale for this. This chapter details the research design, research approach and how this research fits together with the methods chosen and analysis. The ethical considerations before and during this research are also outlined.

Chapter 4 to 8 explore what is happening and speak to the people who have a perspective, using a two-stage approach. A mixed methodology was used that followed an exploratory sequential design, which places emphasis on practical approaches to the research problem:-

To answer the first research question: - "What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?" the first stage comprised of three interlinked exploratory investigations following a qualitative methodology:-

Chapter 4 (Study 1):- a service evaluation to identify policy and procedural factors and asked questions via an interview schedule (n=11). Healthcare practitioners were interviewed about their understanding, experiences and views on therapeutic holding skills. This was a 'pilot' study, which served as a 'dry run' to test whether participants were amenable to discussing the phenomenon and that the questions asked would provide data to enable the discovery of theory. The primary aim of this research was to obtain new knowledge on the subject of therapeutic holding through the exploration of views, experiences and understandings about terminology, how these effect belief systems and clinical practice and what systems are currently in place. The interviews with participants working at Birmingham Children's Hospital formed part of the service evaluation and informed the research element. Interviews took place between October 2011 and February 2012. [1]

Chapter 5 (Study 2):- examined assumptions about techniques, procedures and training with student nurses, nurse lecturers and clinical mentors (n=31). This Study investigated perceptions on the techniques, policy, procedure and training on therapeutic holding techniques used to hold children and young people still for clinical procedures. The primary aim was to explore the identified theory-practice gap in more detail. The interviews took place between April and May 2012 (nurse lecturers); June to December 2012 (student nurses); and July and August 2012 (clinical mentors).[2]

Chapter 6 (Study 3):- assumptions and practices of lecturers from other HEIs (n=9). Nurse lecturers from non Birmingham City University HEIs were sent an electronic questionnaire. This study looked at whether theory and the practical skills of holding are taught within other universities (n= 9) and explored the degree to which therapeutic holding was embedded within the curricula of other HEIs. The primary aim was to look at the discrepancy between what is taught in the classroom to what is applied in clinical practice in more detail. Data was collected between May and July 2012.

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[1] Page, A and McDonnell, A, A. (2013) Holding Children and young people: defining skills for good practice. British Journal of Nursing, 22(20), 1153-1158.
[2] Page, A and McDonnell, A, A., (2015) Holding Children and young people: identifying a theory practice gap. British Journal of Nursing (2015), 24(8), 378-382.

To answer the research question "What holding techniques are preferred by healthcare staff and why?" the second stage comprised of two further interlinked exploratory investigations following a quantitative methodology:-

Chapter 7 (Study 4):- explored the preferred holding techniques that nurse lecturers and healthcare staff use, observed others practising and also teaching to others (n=12). Data was collected by asking twelve participants (nurse lecturers and healthcare staff) to look at forty therapeutic holding techniques identified as being in use between October 2011 and March 2012. The emphasis of this study was to identify what they 'liked' and 'disliked' about the techniques in an attempt to construct a theoretical account of the situation. The interviews took place between July and December 2012.[3]

Chapter 8 (Study 5):- uses descriptive statistics to describe, explain and interpret the conditions, relationships and evident trends identified within a rating instrument (n=12). Nurse lecturers and healthcare practitioners were asked to review the forty therapeutic holding techniques discussed in Study 4, using a response scale rating measurement tool which rated their preference. The aim of this study was to use this structured questionnaire to discriminate between the therapeutic holding techniques. The interviews took place between July 2012 and December 2012.

The final chapter, chapter 9, attempts to draw together the theories and makes some suggestions that will help move therapeutic holding to a more evidenced based practice, with recommendations to address the theory-practice gap identified by Sharif and Masoumi (2005) and Jeffery et al (2007).

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[3] Presented at the RCN International Nursing Research conference Glasgow 2014.

Chapter 3

Methodology

3.0 Introduction

This chapter presents the development of the methodological framework used to investigate the issues around holding children and young people for procedures. Because of the complexity of the area, a number of studies were devised to explore the issues and answer the research questions: - "What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?" and "what holding techniques are preferred by healthcare staff and why?" These research questions were answered through two stages of research. The first stage consists of three interlinked exploratory qualitative investigations (Study 1, a 'pilot' study to examine policy and procedural factors, Study 2, examined assumptions, procedures and training and Study 3 explored assumptions and understandings of nurse lecturers from other HEIs). The second stage consists of two further interlinked exploratory quantitative investigations which explored preference through questions asked to participants through one to one interviews (Study 4) and through the use of a rating instrument adapted for the final study (Study 5). Thus, in total there were five distinct components to this study.

To develop this study design it was important to examine the studies investigated within the literature review and explore the methodological approaches undertaken by those studies.

3.1 Methodology

Having identified the two key questions, consideration was then given to the type of methodologies that could be employed. An examination of key studies from the literature review revealed that a range of methods have been adopted:-

Selekman and Snyder (1995) used questionnaires to explore nurses' perceptions of using restraint with children. This publication is pertinent to this thesis because it was the first article which did not distinguish between the practice of restraining a child (now called physical intervention) for their behaviour and restraining (therapeutic holding) a child to enable the administration of a treatment, prevent treatment interference and

allow an examination to take place. The authors examined nurse's perceptions of their reasons for using 'restraint' in paediatric hospitals, paediatric rehabilitation facilities, paediatric mental health units and a general hospital with a paediatric unit attached. The authors identified twenty three different types of restraint being used, including the use of physical devices and chemical restraint. Selekman and Snyder also reviewed eighteen hospital policies in their study. The authors used a non-probability convenience sample of 60 nurses working across the eight different units. Data analysis used percentages, measures of central tendency and ANOVA (Analysis of variance, using statistics to analyse the differences between group means and their associated procedures). Although the authors did not state why they used this methodology, they did write that they hoped nurses would continue to develop research based practice methods in practice. The overall validity of the research tool used in this study could be challenged as the questionnaire was developed using "rationales for use of restraints" which were obtained from paediatric textbook that has not been referenced by the authors (Selekman and Snyder, 1995: 461). The questionnaire contained 'closed ended questions' which may have limited or misled the data collected. The authors instructed the nurse participants to respond to questions regarding their practice with specific child age groups. Therefore, the authors appear to have made the assumption that all nurses who participated in the study cared for children aged between 12 months and 12 years; which may not have been the case. This may have influenced the data and resulted in inaccurate findings regarding the relationship between the age of the child and the alternative method to 'restraint' argued for. The accuracy of findings regarding nursing practices is also questionable because the response rate was reported as being low from some of the nurses working in specific units.

Snyder (2004) used a qualitative approach to explore observed behavioural reactions to technological treatment devices and to explore the parental and nursing interventions that may have influenced the child's behaviour. Snyder attempted to observe the children's behaviour under natural settings and took an ethological approach that included direct observations, interviews and reviewing health care records. Purposive sampling was used to identify 18 children aged between three years and six years old who were eligible to participate in the study. The children's parents and the nurses caring for them were also interviewed. Semi structured interviews were used with all participants. Thematic analysis was undertaken. Snyder states that she selected her methodology because it enabled her to systematically study the children's behaviour under natural conditions. This is the second article by the author where she emphasises

the need for empirical research on this phenomenon. Snyder (2004) reports that the actions taken by the majority of parents in her study were successful in preventing the need for 'restraint' but makes no reference to what the nurses actions were. The justification for this study is unclear as the background literature review is superficial and the literature referred to appears to be irrelevant to the phenomenon. It is significant that reference is continuously made throughout the paper to two research studies conducted by the author. The trustworthiness of the conclusion is questionable because Snyder does not specify the number of parents or nurses who were observed or included in the study.

Ofeogbu and Playfor (2005) in their survey (postal questionnaire) identified that there is variation in clinical practice with the use of 'restraints' within intensive care units and that the guidelines at the time do not deal with children. 28 paediatric intensive care units within the UK responded to this survey. The survey was addressed to named senior nurses or doctors who had responsibility to undertake audits within the unit. This information was available via the UK Paediatric Intensive Care Society. The postal questionnaire was brief (five questions which covered the use of 'physical restraint techniques', the use of splints and consent issues) and the authors do not specify where the questions were drawn from (for example literature or their own practice).

Sparks et al (2007) conducted a randomised control trial (RCT) that drew upon original research by Stephens et al (1999) exploring the view that the child sitting up in a 'position of comfort' is more effective. 118 children were randomly assigned to two groups (one group to receive their IV catheter in an upright position and one group to receive their IV catheter in a prone position). The children's parents completed a questionnaire to give demographic information. The procedure was videotaped. Both parents and nurses present during the procedure were asked to complete a satisfaction (semi structured) questionnaire following the procedure. Mean scores of distress and analysis of variance of means were used to analyse the data. The questions asked of the nurses were subjective. The authors did not identify whether they were based upon their own experience or from the literature, although the questions asked of the parents were based upon 'The Parent Perceptions of Speciality Care'.

Lloyd et al (2008) used Grounded Theory to explore the experiences of nurses working with children having invasive treatments. Data was collected from unstructured interviews with ten paediatric nurses. Nine nurses also took part in focus groups to explore managerial and clinical perspectives. Thematic analysis was used to generate theories. The study does not give details about the experiences and qualifications of the nurses who took part.

Brenner et al (2014) used a qualitative descriptive approach to describe children's nurses experiences of 'restricting' a child for a clinical procedure. Purposive sampling identified 20 nurses to take part in focus groups. A thematic network analysis framework was used to analyse the data from the focus groups. The authors introduced topics for discussion within the focus groups but did not specify for each topic where these topics came from (their own experience or literature). Augmentation theory includes debate and negotiation in order to reach mutually acceptable conclusions. The authors did not specify if they revisited participants from the three focus groups following analysis to ensure that the descriptions of understandings were acceptable.

In summary, a mixed range of methodologies have been adopted in the literature. Examining published studies can further understanding of the phenomenon and the merits of each approach (Creswell, 2007). A consideration of the merits of possible approaches to take which were identified by the literature review using the following hierarchy indicates the relative weight that can be attributed to study designs (*see table 1.1)* This offered a checklist which was used to identify the merits of each design against the possibilities available within this study.

Table 1.1

Levels of evidence for clinical application

Level 1 - formal, open, clinical randomised-controlled trials

Level 2 - case controlled trials (comparisons made but not randomised)

Level 3 - observational studies (including surveys and questionnaires)

Level 4 - anecdotal evidence (including independent user comments and reviews)

Level 5 - methodological verification and validation studies

Randomised control trial (RCT) was an approach taken by Sparks et al (2007). At the beginning of this thesis, the connections to the specialist children's service had not been formalised to enable a RCT to be considered. It was also not appropriate to identify a specific procedure (and thus therapeutic holding technique) to centre a study around. It would also be difficult to identify how many children should be assigned to each group and what the form of a control group should take. There was also awareness that to focus in on one specific procedure may not have given a clear picture of what was happening on the ground. A study that looked at the outcomes of therapeutic holding in terms of a group who had a successful outcome and a group who had an unsuccessful outcome was also dismissed due to the lack of knowledge about what was happening on the ground, ethical issues, the identified reticence to discuss this practice and the perceived difficulty in identifying causation. An RCT was also dismissed because, within this thesis the aim was to explore the phenomenon not explain it. Not enough was known about what was happening in the clinical setting to be able to identify groups to study and make comparisons which would hinder a successful application for ethical approval. Also at the initial stage of this thesis, it was not possible to formulate any theory to test. RCT's require a good understanding of the intervention itself, for example drug trials or in the case of therapeutic holding the effectiveness of upright positioning versus supine positioning. At the beginning of this thesis the content of an 'experimental' training course was unclear, making it impossible to answer a research question about the development and evaluation of a model of teaching. Robson (2011) and Gorard (2013) suggest that RCT's are inappropriate for dealing with complex issues and should not be the sole

methodology for small scale studies. It would not be ethical to continue teaching student nurses using the model documented by Valler-Jones and Shinnick (2005) knowing that the techniques taught did not stand up to scrutiny.

Case controlled trials/studies. At the beginning of this research, the connections with the specialist children's service to facilitate a longitudinal study were not established. It was also not possible to identify a specific medical intervention and group of children where holding would be predominantly used to make a proposal for utilising this design and achieving a successful ethical review. There are three main reasons for choosing a particular subject for a case study: this methodology could be selected because there is a lot known about the phenomenon and the goal is to understand a particular feature, this methodology could be chosen because it proves a particularly good example of something or because the case chosen is different to 'the norm' (Thomas, 2013) None of these features apply to the phenomenon of therapeutic holding. Gorard (2013) warns researchers in the social science field that case controlled studies without a treatment, clear allocation to groups and no consideration of time, the researcher is unable to make any claims to their research.

Observational studies. The majority of key articles identified within the literature review fall into this category of evidence (Selekman and Snyder, 1995; Snyder 2004; Ofeogbu and Playfor, 2005; Lloyd et al, 2008; Brenner et al, 2014). For this project, the aim was to gain current information about assumptions and practices, therefore direct observation of children and young people being held for procedures was not considered, as there were no clear ideas of what to observe, uncertainty as to whether the child/young person or their parents would consent to an outsider observing the therapeutic holding and medical procedure, uncertainty whether ethical approval could be granted when there were too many variables to consider and uncertainty whether healthcare staff would act 'normally' during the observation. This uncertainty would also introduce an element of subjectivity into the research (Gorard, 2013).This would be an intrusive method of data collection and one which may not have been effective given the uncertainties identified. Challenges to this form of observation considered in this thesis were the mechanics of completing the observations, strategies to prevent being overwhelmed with the amount of data that could be produced and being able to funnel the observations from a broad picture to a narrower one to allow theories to be formed (Creswell, 2007). Research involving children, people from non-English speaking backgrounds, involving children with physical

disabilities or a learning disability requires great attention to ethical considerations. It was not possible therefore to address basic ethical questions about how children could be safeguarded, how children and their parents should be involved in the research and what steps would be taken to prevent damaging the reputation of healthcare staff if the scenario of inappropriate or potentially abusive holding practices was observed.

A postal questionnaire was also dismissed due to doubts about participants answering questions honestly, concerns about achieving reasonable response rates and it would not be possible to check discrepancies in responses. An identified concern was that questionnaires needed to be standardised, so it would not be possible to explain any points in the questions that participants might misinterpret (Milne, 1999). Thomas (2013) cautions researchers to be aware of 'prestige bias', where responses are completed in order to make the respondent look good. This is particularly important in this thesis where there is already published opinion suggesting that participants did not respond because they do not want to be associated with abusive practices (Robinson and Collier, 1997; Folkes, 2005). This format is not recommended when the aim is to examine complex issues and opinions, or where the researcher wishes to collect data that is rich in depth and detail (Gorard, 2013). Given that the literature review identified a major concern that that few professionals are talking about the same thing, or the same issues; or have a shared understanding of the terminology.

The use of vignettes was also considered and dismissed, again because it was felt that not enough was known about the practice and the identified reticence may affect the ability to develop an accurate simulation of a real event for participants to comment upon. There is also evidence of cultural resistance in nursing where many nurses do not question whether the traditional practice is best practice, leading to apathy and inaction (McCaughan et al, 2002; Young, 2003; Penz and Bassendowski, 2006). It was not known whether within children's nursing, therapeutic holding is a taboo area, where healthcare staff and nurse lecturers were in denial about their practices or whether therapeutic holding, because it is a daily practice, is viewed as something that has to be done and therefore healthcare staff may be unaware of all the issues.

Q methodology was considered because it is a systematic study of subjectivity, the person's viewpoint, opinion, beliefs and attitude (Stephenson, 1935; 1955; van Exel and de Graaf, 2005; Robson, 2011) and dismissed, because at the beginning of this thesis it was not known which statements or opinions could be representative of a wide range of opinions about the phenomenon, and therefore could be asked of the participants for them to rank order (other than the two questions of which techniques do you like and which do you dislike).

Ethical and sampling considerations

With colleagues both in University and within the specialist service being reluctant to discuss therapeutic holding, for example, in team meetings, as part of teaching and through debriefings, it became clear that the choice of methodologies had to take account of this reticence. It was important that this research was conducted well and adhered to ethical principles. This was also taken into account when deciding which methodology should be followed. For example a quantitative RCT study raised the question of whether it would be justifiable to have a control group if there was a feeling that the experimental group would be getting something worthwhile. It had already been identified by Souders et al (2002) that some parents were embarrassed by their child's behaviour when being held and were worried about what the nurses thought (*see 3.2.3 The experience of parents in holding practices*), therefore there was a real concern that direct observation of holding practices would be wrong and be disrespectful to the child and their parents. The identified reticence within the nursing culture raised a concern that direct observation of holding practices may be harmful to the relationship between the healthcare team, the child and their parents because direct observation may draw attention to differences of opinion about practices at the time the holding occurred.

The decision about who should be sampled and the size of the sample was also a consideration. At the time of planning for this research, which involved having discussions with key staff from the specialist hospital, it was identified that there were no records kept which identified the therapeutic holding procedures in use, which healthcare staff used them and the frequency of holding practices. When it came to looking at the children being held, it was impossible to identify what a representative sample would look like and what they were a representative sample of. Creswell (2007: 40) writes that qualitative methodology "empowers individuals to share their stories, hear their voices

and minimise power relationships". This was important to this thesis and to the phenomenon as this empowerment could possibly counter act the issue of reticence.

The issue of reticence

Throughout this thesis there is historical evidence of cultural resistance in nursing where many nurses do not question whether the traditional practice is best practice, leading to apathy and inaction (McCaughan et al, 2002; Young, 2003; Penz and Bassendowski, 2006). Collins (1999) wrote that the processes underpinning the use of 'restraint' are 'uncontested'. Coyne and Scott (2014: 27) comment that 'physical restraint' "is a widely used intervention, underpinned by spoken assumptions and is rarely documented". Hull and Clarke (2010) discuss the professional ignorance that nurses have regarding this practice. Many authors have commented upon the 'dearth of research' in this area (Collins, 1999; Folkes, 2005; Brenner et al, 2007; Hull and Clarke, 2010; Coyne and Scott, 2014). A reticence identified prior to beginning this thesis through earlier publications has also been highlighted (Valler-Jones and Shinnick, 2005; Shinnick-Page et al, 2008). The literature review for this research identified that there have been numerous individual calls for change within the practice of therapeutic holding, with no published action to change the situation (Seabra, 2009) no debate within children's services or HEIs and no published studies that look at the prevalence of therapeutic holding used by nurses, for clinical procedures. There was a reluctance to discuss this practice from both academic colleagues and practice colleagues, supported by literature, with Robinson and Collier (1997) suggesting that healthcare staff regard this issue as a difficult topic and that any research might be tantamount to suggesting poor practice and poor child care (an opinion which continued within literature;- Brenner 2007; Jeffery, 2008; Brenner et al, 2014; Coyne and Scott, 2014). All these factors had to be considered within this thesis which sought to explore 'what is happening'. The literature review and discussions with colleagues identified that this was a complex problem that required a holistic approach. A methodology which explored the context of therapeutic holding in the clinical settings that described the phenomenon from the perspective of the participant, and involved a small scale number of participants was required; these considerations led towards a qualitative methodology.

The first research question, therefore directed the thesis towards a qualitative approach, where the aim was to explore participants' meanings and understandings. **"What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?"** This question led to the development of theories to describe what is happening on the ground with regard to the practice of holding children and young people from the perspective of healthcare staff.

The second research question and the second stage of this thesis:- "**what holding techniques are preferred by healthcare staff and why?",** allowed for data to be collected which provided current information on technique selection and allowed for theories to be formulated on why specific therapeutic holding techniques are used or ignored by healthcare staff. Once data had been collected for these two studies, it became apparent that there were emergent concerns about the quantity of data that needed to be analysed and that a quantitative approach might answer this research question more effectively (Morse and Neihaus, 2009).

3.1.0 Epistemology (theory and analysis of how the research should proceed)

There are three assumptions in research: epistemological, ontological and methodological. Epistemological refers to the ways to acquire the knowledge (Bryman, 2006). Research encompasses a range of different methods, different forms of knowledge and different criteria by which that knowledge is judged (Robson, 2011). There are also different assumptions in research about what is reality (the very nature of the world), to do with our assumptions about how the world is made up and the nature of things (ontology) and how it can be understood, based upon our beliefs about how one might discover knowledge about the world, which has led to many theoretical arguments (Denscome, 2010). Within any given research project, the choice of research design and methods is said to be largely influence by the researchers understanding of the nature of the world and how it should be studied (Robson, 2011). Therefore, how methodologies and methods relate to each other becomes an important part of the research process. Different methodological perspectives draw on different understandings. Flick (2009) argues that different methods do not simply provide varying kinds of information about the same object, but constitute the world in different ways. Instinctively, many

researchers argue that research should operate within the confines of a single epistemological paradigm (Guba, 1990; Guba and Lincoln, 1994; Crotty, 2009). The conventional approach to research relies on consistency and coherence, based upon a singular epistemological and ontological perspective depending upon how reality is conceptualised.

Research paradigms are viewed as important in shaping the choice of methods for data collection. Burke-Johnson and Onwuegbuzie (2004) define research paradigms as a set of beliefs, values and assumptions that researchers have in common in relation to the nature and conduct of research, including ontological and epistemological standpoints. Burke-Johnson and Onwuegbuzie (2004) and Brannen (2005) argue that there is a perception that qualitative and quantitative research are distinct, as they are said to be based upon different competing philosophical principles. This supports the views of Guba (1990), Guba and Lincoln (1994) and Crotty (2009) that research should operate within the confines of a single paradigm. The competing principles of quantitative and qualitative are said to be incompatible because they belong to different 'paradigms' and therefore underpinned by different philosophical assumptions (Brannen, 2005). This view led to 'paradigm wars' in the 1970's and 1980's and debates about the merits of qualitative research versus quantitative research (Burke-Johnson and Onwuegbuzie, 2004; Greene, 2007). The relationship between qualitative and quantitative approaches has historically been described as antagonistic (Bryman, 2008) and in competition for supremacy (Guba and Lincoln, 1994). Quantitative methods were seen to be the favoured choice of research with quantitative purists taking the epistemological stance of positivism (Bryman, 2008), using a formal writing style, using the impersonal passive voice and using technical terminology (Tashakkori and Teddlie, 2003). Qualitative researchers on the other hand are said to reject positivism and argue that constructivism, idealism, relativism, humanism and hermeneutics are superior. Qualitative research is argued to be value-bound, in that it is impossible to differentiate fully between causes and effects, is characterised by a move away from detached and passive writing styles towards a more detailed, rich and in depth description written on a more informal level (Burke-Johnson and Onwuegbuzie, 2004).

There are four commonly agreed worldviews (paradigms), which are post positivism (the world can be studied objectively i.e. through experimental testing), constructivism (each individual constructs their own reality so there are multiple interpretations),

transformative-emancipatory (where the experiences of people who have suffered discrimination are considered important, with interaction between the researcher and the participants viewed as essential) and pragmatism (an approach that evaluates theories or beliefs in terms of the success of their practical application) (Cresswell et al, 2004; Creswell, 2007; Hall 2012). Of these only transformative-emancipatory and pragmatism worldviews are seen to be comparable with mixed methods research, where the decision about methods is driven by practical demands and choosing the appropriate method to answer a particular research question based upon what will work best in practice (Creswell, 2003). Positivism and its successor post positivism are identified with quantitative research and constructivism is closely identified with qualitative research, making neither suitable for mixed methods research (Hall, 2012).

The pragmatic worldview stance is that the decisions about methods is driven by practical demands, choosing the appropriate method to answer a particular question based upon what will work best in practice (Creswell, 2003). The pragmatic approach allows selection of methods and instruments from both qualitative and quantitative research traditions which best answer the research questions, rather than on the basis of epistemological reasoning (Bryman, 2006; Hall 2012). Pragmatism is oriented 'toward solving practical problems in the "real world" (Feilzer, 2010: 8) rather than on assumptions about the nature of knowledge.

3.1.1 A pragmatic understanding of the area

The philosophical assumption underpinning this thesis is pragmatism. The term 'pragmatism' is taken from the Greek word meaning action, from which the words 'practice' and 'practical' originate (Maxwell, 2005). Pragmatism originated from the work of James (1898), Pierce (1906), Mead (1910) and Dewey (1910) and arises out of actions, situations and consequences (Creswell, 2009). Dewey (1910) stated that "there is no question of theory versus practice but rather of intelligent practice versus uninformed, stupid practice" and "effort had not been to practicalize (sic) intelligence but to intellectualize (sic) practice." (Eldridge 1998: 5). Whilst Creswell (2007) suggests that there are many forms of pragmatism, for this thesis the focus is on the process of clarifying and unpicking the meaning of thought/situations with respect to the practical consequences. As a process, pragmatism attempts to interpret theory by outlining its practical consequences. A central question to pragmatism is the problem being studied

and the questions asked about this problem:- the 'what' and 'how' and 'where' the researcher wants to go with this knowledge (Duane and Varcoe, 2005; Creswell, 2007). Corbin and Strauss (2008: 4) suggest that the pragmatic researcher must make assumptions within their research; - one is that the truth the researcher is uncovering is equivalent to 'for the time being this is what we know – but eventually it may be judged partly or even wholly wrong'.

Duane and Varcoe (2005) write that some nurses have a tendency to objectify theory, to separate it from everyday real practice, which can constrain the theory–development process. In contrast, nurses who shape their research through a pragmatic perspective of knowledge can help solve the issue of a theory-practice gap, 'knowledge leads to action, and action sets problems to be thought about, resolved and thus converted into new knowledge' (Strauss and Corbin, 2008: 5). Approaching this thesis with a pragmatic understanding enabled the studies to pay attention to the experience of others, investigate existing knowledge and the contextual elements that shape experience and practice (in other words to inquire into and question "what are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?" and "what holding techniques are preferred by healthcare staff and why?"). This research paradigm supports simultaneous use of qualitative and quantitative methods of inquiry. (Shaw et al, 2010).

3.1.2 Grounded Theory

Grounded theory is social research which enables the prediction and explanation of behaviour. It is an attempt to develop theories from an analysis of the patterns, themes, and common categories discovered within the research (Strauss and Corbin, 1990). It is an approach for developing theory that is 'grounded' in data which is systematically gathered and analysed (Strauss & Corbin, 1994). The aim of grounded theory is to generate or discover a theory (Glaser and Strauss, 1967). Grounded Theory was considered to be the best fit with the pragmatic approach adopted for this research. The remainder of this section will elaborate about why it was chosen as the methodology of choice for the first three studies of this thesis.

To answer the research question, the data collection method was predominantly interviewing which lends itself to Grounded Theory (Glaser and Strauss, 1967; Strauss and Corbin, 1998; Creswell, 2007). A conventional Grounded Theory (Pratt, 2012) was chosen to tell the participant stories from their perspective, develop theories and to ensure that the theories developed could not be accused of achieving 'thick description without being able to get to the point of what any of these data mean' (Sandelowski, 1998: 376). A conventional Grounded Theory gave structure and meant that concepts were followed up by going back to the data to confirm, clarify and expand categories; this is the first stage of Grounded Theory (Charmaz, 2006; Urquhart, 2007). The use of the conditional relationship guide (Scott and Howell, 2008) gave the thesis substantive theory generation. Grounded theory was also appropriate as the literature review identified a paucity of research in this area leading to a scarcity of theories available for exploration; therefore it was important to generate new theories that enabled reflexive and creative research (Carter and Little, 2007). The convention was that only the first stage of Grounded Theory was utilised, that of theory generation not theory discovery. In this thesis, the data collected from the five studies are compared and their similarities and differences built into theory (a method of generating ideas about patterns or groupings of data or of categories into which observations may be fitted) (Glaser and Strauss, 1967). This thesis did not test, refine theory or considered it in relation to other comparison groups, because of the limitations of sample groups and the limitations of time. Glaser and Strauss (1967) write that in the pure pursuit of theory generation, accurate evidence and verification are not that important, and suggest researchers often get caught up in these two areas and thus limit the possibilities and narrow their range of potential theory generation.

Grounded Theory was originally developed by two researchers Glaser and Strauss in 1967. The two researchers separated and continued to publish their views on Grounded Theory, with major and minor differences. Glaser (1992; 1998; 2001) believed that the researcher should have an empty mind, whilst Strauss advocated that the researcher can have a general idea of the phenomenon under study and permits the researcher to use structured questions which leads to a more forced emergence of the theory (Strauss and Corbin, 1990 and 1998). Strauss and Corbin (1990) state that Grounded Theory has four central criteria: - fit (that the theory fits the substantive data), understanding (that the theory be comprehensible), generability (that the theory is applicable in a variety of contexts) and control (that the theory should provide control with regard to the action taken towards the phenomenon being researched). Grounded theory offered

psychological security to this thesis through the elaborate set of procedures that can be followed using Grounded Theory as a method and as Dey (2010: 185) documents 'it offers practical advice about the "nuts and bolts of doing qualitative research - not least when to stop". Theoretical saturation means "stop when the ideas run out" '.

Glaser and Strauss (1967), Strauss and Corbin (1990; 1998) and Corbin and Strauss (2008) wrote that Grounded Theory is social research which enables the prediction and explanation of behaviour. Grounded Theory is also described as being a popular choice of methodology for researchers engaged in small scale projects (Corbin and Strauss, 2008; Denscombe, 2010). Therapeutic holding of children for clinical procedures is a term that is unique to children's nursing because of the issue of consent, the age of the child and the involvement of parents. Other professional groups and fields of nursing recognise the need to immobilise the part of the body, or limb, where the clinical procedure is to take place. At present this is referred to as specific forms of 'restraint', 'physical restraint', 'mechanical' or 'chemical restraint' in the document "Let's talk about restraint": Rights, risks and responsibility (RCN 2008: 3). A Grounded Theory approach is suitable to understand the experiences and perspective of participants, understand the context in which therapeutic holding has developed and contribute to empirical knowledge (Corbin and Strauss, 2008).

3.1.2.0 The approach underpinning Grounded Theory

Grounded Theory has its roots in pragmatism (Blumer 1969), which asserts that the value of any theory can only be calculated by how well it addresses real practical needs and how well it works in practice. Pragmatism is also considered to be the epistemology of a mixed method design (Corbin and Strauss, 2008; Creswell, 2009; Denscombe, 2010).

3.1.2.1 The rationale for using qualitative Grounded Theory design

The choice of Grounded Theory methodology for this thesis was driven by the research problem and the research questions, together with the consideration of the applicability and feasibility of the method in the context of the phenomena of interest. Grounded Theory is recommended when researchers wish to investigate practical activity, routine situations and the participant's point of view, and more importantly have no 'fixed' ideas

about what is happening (Strauss and Corbin, 1990; 2008; Charmez, 1983; 2006; Denscome, 2010; Thomas, 2013). A phenomenological approach was considered and rejected on the grounds that this thesis aims to generate theory that might help explain practice, with a view to conducting further quantitative research at a later date, when more is known about what is happening 'on the ground' with regard to the practice of holding children/young people and the techniques used by healthcare professionals. At this stage of the research, the emphasis was on the discovery of patterns not on the uniqueness of the individual participants.

The process of identifying the problem, recognising the author's perspective and developing the research questions, gave this phenomenon a specific shape. This also identified the issue as a topic for Grounded Theory research to develop new theories in an area where a lack of theoretical knowledge existed (Flick, 2009). Through exploration of the literature there appears to be a secrecy which has led to the practice of holding children and young people being concealed from inquiry and a reticence to discuss practices openly. The particular problems that have been identified are that there is a discrepancy with what is taught to child health nurses within HEIs to their experiences within the clinical areas. There is a lack of standards developed for practice and education on therapeutic holding. There is a paucity of research to determine best practice for teaching therapeutic holding techniques, with a lack of analysis of therapeutic holding techniques currently in use. There is evidence of cultural resistance in nursing where many nurses do not question whether the traditional practice is best practice, leading to apathy and inaction. There is a belief that parents are holding their children for procedures because healthcare staff do not know what to do. There is no agreement on terminology and there appears to be bias within publications stating that therapeutic holding is abusive, not beneficial and more distressing to the child/young person that the procedure. Therefore there was a need for qualitative data in an attempt to arrive at a holistic understanding of the situation (Polit and Hungler, 1999; Holloway and Wheeler 2002). This is because a qualitative approach can provide an exploratory framework that explains the social world in situations where there are no strong theoretical bases to inform the practice (Guba and Lincoln, 1994; Morse and Field, 1995; Denzin and Lincoln, 2005).

The critics of Grounded Theory suggest that it suffers from 'internal misalignment' (Bryant, 2009) that researchers have tended to 'adopt and adapt' (Denscombe, 2010)

and that it sets limits on prior knowledge (Bryant, 2009; Charmaz, 2006). Corbin answers critics by writing:-

"We don't necessarily want to reduce understanding of action/interaction/emotion to one explanation or theoretical scheme; however we do believe that concepts of various levels of abstraction form the basis of analysis…much of what has been written in recent years has given me invaluable insight, shown me the error of some of my past ways of doing and has made me wonder at times how I could have been so misinformed…but then that is the nature of knowledge…it does progress and change and so does methodology" (Corbin and Strauss 2008: 8 - 9).

Denscombe's (2010) opinion on Grounded Theory is that Glaser and Strauss had not intended their theory of entering the field without any 'fixed ideas' to be taken to the extreme of meaning that the researcher did not undertake a literature review on the subject. The importance is that the researcher treats existing knowledge and concepts as provisional, as a "tentative starting point" (Denscombe 2010: 111).

Studies 1, 2 and 3 of this research, followed the theoretical perspective of Grounded Theory (Glaser and Strauss, 1967), in that once an area of research has been identified, the researcher entered the field as soon as possible to gain an understanding of the subject being studied. Consequently the literature was not exhausted prior to the research, instead it was considered as part of a process of data collection, analysis and developing interpretation. Glaser and Strauss (1967: 253) state that:

"The core categories can emerge in the sociologist's mind from his reading, life experiences, research and scholarship; [furthermore] no sociologist can possibly erase from his mind all the theory he knows before he begins his research. Indeed the trick is to line up what one takes as theoretically possible or probable with what one is finding in the field".

Grounded Theory was also a methodology used by several of the studies identified in the literature review (McGrath et al, 2002; McGrath and Huff, 2003; Snyder, 2004; LLoyd et al, 2008).

Glaser and Strauss (1978) claimed that Grounded Theory could be applied to quantitative data as well as qualitative which appeared at first to give further credence to its use within this thesis. However it became apparent that as a sole methodology this approach would not demonstrate sufficient variety of data analysis techniques to fully

understand the phenomena. To provide a comprehensive picture of the therapeutic holding techniques in use regarding application in practice and identification of risk, a mixed methodology, that of an 'exploratory sequential mixed methods design' evolved.

3.1.3 The development of a mixed methodology

Grounded theory was thought to be the most appropriate methodology for the first part of this thesis, especially in answering the first research question about 'what is happening on the ground' and because it enabled an exploration of what was happening with holding practices from the practitioners interpretation. Through building theories and making sense of practices, it was then hoped to make comparisons with decision making and technique selection. It became apparent that as a sole methodology this approach would not demonstrate sufficient variety of data analysis techniques to fully understand the phenomena and answer the second question which focused on holding techniques robustly.

The second stage of this thesis explored the question about technique preference and introduced a mechanism to analyse techniques (a rating scale adapted from the published work by Martin et al (2008). For this thesis, participants in Study 1 had identified thirty-nine therapeutic holding techniques in use within the specialist service at the time of the research. A further technique was added to the pool because it was the only technique published recently (Brown and Klein, 2011). To fully understand the issue it was clear that it was important to look at the factors guiding participants' preferences for certain therapeutic holding techniques. Study 4 provided a preliminary 'pilot' approach in that this Study deliberately chose to look at preferences and a non-statistical approach was followed, giving the lowest level of interpretation to extend and build upon the results from the Grounded Theory studies and lead into Study 5.

Study 5 had produced a large amount of data and which led to concerns that a statistical analysis might make too many assumptions about the data. A descriptive approach was adopted as the study still reflected a pilot of an adapted questionnaire. To provide a comprehensive picture of the therapeutic holding techniques in use regarding application in practice, a mixed methodology, that of an 'exploratory sequential mixed methods design' developed, in which the author started by qualitatively exploring the phenomenon (Studies 1, 2 and 3), and then used quantitative methods in Studies 4 and 5 (Creswell et al, 2004; Mason, 2006; Creswell, 2007; 2009). This was beneficial in that it led to

corroboration between the qualitative and quantitative data and enabled triangulation to take place. This research design would better address the research questions posed – "what holding techniques are preferred by healthcare staff and why?" Health and health services are complex, requiring researchers to address a range of questions and issues including process and context as well as outcome (Poole et al, 1999). Researchers may be required to address a number of questions within a single study, with each method having specific weaknesses, therefore using a range allows one method to compensate for any weakness in another (Greene, Caracelli, and Graham, 1989). If findings converge despite the use of different methods then confidence in the findings is heightened (Creswell et al, 2004). Therefore the reasons for using a mixed methods approach could be to provide comprehensiveness by addressing a range of questions, to provide confidence in findings, to provide stronger inferences and a greater diversity of divergent views (Greene, Caracelli, and Graham, 1989; Tashakkori and Teddlie, 2003).

Key researchers in mixed methods research have defined a mixed method study as combining:-

> "qualitative and quantitative approaches into the research methodology of a single or multi-phased study" (Tashakkori and Teddlie, 2003: 18).

Mixed method designs have been defined as ones which include at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words); with integration between methods (Creswell, 2007). The purpose of using mixed methods within this study was to achieve:-

> Triangulation, in that a qualitative method and a quantitative method are used to study the same phenomenon and confirmation and corroboration is sought between the findings from each method (Greene, Caracelli, and Graham, 1989)

and

> To allow the issues to be addressed more widely, more completely and more comprehensively (Morse, 2003).

Criticism of mixed methods centres on the use of qualitative and quantitative approaches which belong to contrasting paradigms (Shaw et al, 2010; Glogowska, 2011), with quantitative research normally being linked to a 'positivist' world view and qualitative to an 'interpretivist' one (Creswell, 2007; Glogowska, 2011). Mixed methods have been taken up by social, educational and health fields (Creswell, 2007), and are becoming increasingly common in health services research (Glogowska, 2011). Although mixed methods is commonly used to describe the use of both qualitative and quantitative methods, some researchers use this term in studies which include different qualitative

methods only, such as focus groups and interviews and studies which involve different quantitative methods only, such as randomised controlled trial and a quantitative observational study (Morse 2003). As well as a lack of agreement on this term, there are some researchers who prefer to use the term 'multi-methods', 'multiple-methods' and 'multi-strategy research' (Bryman, 2006). Even though the term triangulation is a frequently cited purpose for using mixed methods, this can be problematic for the following reasons:-

1. There are other types of triangulation other than methodological triangulation, such as data triangulation and investigator triangulation (Denzin and Lincoln, 2005)

2. It can be misinterpreted as measuring validity. Bryman (2006) suggests that it is unlikely that two methods are taping into the same issues even when used to explore the same thing. Different methods have different strengths and weaknesses and might be expected to bring different understandings (Barbour, 1998).

3. It can be used to describe more than confirmation. Triangulation is a much used term in nursing research. Sandelowski (1998) considers the term to be misused to indicate completeness, where different methods highlight different aspects of a phenomenon, and suggests that the term be used to indicate a strategy for confirmation within a paradigm where it is seen as appropriate for one source of information to corroborate another.

4. It may limit the benefits derived from using a mixed methods approach. There is concern that a reliance on triangulation may lead researchers to focus on similarity and ignore differences (Greene, Caracelli, and Graham, 1989).

Within this thesis the definition and understanding of mixed methods as defined by Creswell (2003) and Bryman (2006) have been used where both qualitative and quantitative methods are used within the same study. Creswell (2003) definition specifies that quantitative and qualitative data collection and analysis are present in mixed method studies with the purpose being triangulation. In this study a method is qualitative and follows a Grounded Theory methodology (using an interview schedule) with analysis of text and a method is quantitative if the data collection is pre-determined and standardised, with analysis being statistical.

3.1.3.0 The approach underpinning mixed methods

Burke-Johnson and Onwuegbuzie (2004) take the view that mixed methods research should use a method and philosophy that attempts to fit together the insights provided by qualitative and quantitative research into a workable solution. They therefore advocate the pragmatic method based on the works by James (1898), Pierce (1906) and Mead (1910) and Dewey (1910). Pragmatism is also regarded as the philosophical partner of a mixed methods approach (Denscome, 2010; Shaw et al, 2010) and of Grounded Theory (Blumer, 1969). Guba and Lincoln (1994) have stated that they do not see any problems using mixed methodology as long as the researcher does not mix paradigms. The pragmatic approach is becoming increasingly popular where it is acknowledged that some research questions are better answered by a variety of methical approaches (Burke-Johnson and Onwuegbuzie, 2004).

Classic Grounded Theory methodology is not defined by one particular theoretical perspective (Corbin and Strauss, 2008; Pratt, 2012). Grounded Theory is an approach to research which assumes that all the principles of grounded theory have been followed from start to finish; epistemology and ontology were not considered within the original works (Glaser and Strauss, 1967) in which Glaser had a positivist background (following scientific principles and methodologies to produce evidence for a claim) and Strauss that of symbolic interactionism (based upon the assumption that the individual is constantly engaged in a process of interpretation through interaction with others) and pragmatism (studies that look at what happens in practice) (Neal, 2009; Flick, 2009). This means that this research sees the world from the same perspective or angle of the participants being studied (Flick, 2009). Pragmatism's commitments to inquiry through the lived world of experience of the participants and the role of the inquirer are critical to design of this study (Neal, 2009; Flick, 2009). Within this thesis, participants are viewed as active contributors in creating an understanding of what is happening on the ground with therapeutic holding practices. The aim was to produce quantity of data that could be analysed as soon as possible, rather than waiting for data collection to finish (Carter and Little, 2007).

Different approaches can be taken to combining qualitative and quantitative methods. The most appropriate approaches for this study where ones recommended by Creswell (2003) who proposed three general strategies, with several variations between them: sequential, concurrent and transformative. Sequential strategies expand the findings of one method with another. Concurrent strategies collect two types of data at the same

time and integrate them at the interpretative stage and transformative strategies apply a particular theoretical lens, where the research is value based, action–orientated and emancipatory.

In this study an exploratory sequential design was used, in that the study is mainly qualitative, with the qualitative method undertaken first. The quantitative study assists in interpretation, particularly generalisation. Integration takes place at the interpretation stage. Creswell classification (typology) considers timings of the methods, the dominance of each method, the stage of integration of methods, triangulation and the theoretical perspective of the research (Creswell, 2003; Robson, 2011).

3.1.3.1 Sequence of mixed methods

Studies 1, 2 and 3 used Grounded Theory, which is a general method and has an inductive methodology.

Studies 4 and 5 used quantitative methodology as a subsidiary strategy to check the data to ensure validity of the emerging theories, and to develop and test a tool of measurement to review therapeutic holding techniques.

Priority

> This research utilised a qualitative priority, where a greater emphasis was placed upon Grounded Theory and the quantitative methods were used in a secondary role   (Mason, 2006; Bryman, 2006).

Relationship

> Mixing methods achieved validity through confirmation (Greene, Caracelli, and Graham, 1989; Mason, 2006; Bryman, 2006; Glogowska, 2011) and allow the issues to be addressed more widely, more completely and more comprehensively (Morse, 2003).

Level of interaction

> The two stages of qualitative and quantitative research were kept independent of each other as distinct research questions, data collection and data analysis (Greene, 2007). These strands came together when drawing conclusions during the overall interpretation of the research.

The stages of the mixed methods were implemented sequentially in distinct phases, with Studies 1, 2 and 3 (Grounded Theory) being completed first and Studies 4 and 5 (statistics which enabled the estimation of probabilities in the phenomenon being studied) being completed second. The writing up of this research followed the same sequence.

Comparison and contrast

This approach of mixing methods to achieve validity through triangulation involved the traditional view that quantitative and qualitative research can be combined to triangulate findings in order that they may be mutually corroborated (Bryman, 2006).

3.1.3.2 The rationale for using mixed methods

Robson (2011: 171) warns that whilst mixed method designs endorse a pragmatic approach, this theoretical perspective has been criticised as often leading to "incoherent projects lacking a rationale and of dubious validity". In response this thesis has followed the core elements within Grounded Theory identified by Weed (2009) and the central criteria identified by Strauss and Corbin (1990) of 'fit, understanding, generability, and control'.

An exploratory sequential design benefits this research because of the lack of previous research in this area. This approach places emphasis on practical approaches to research problems and has facilitated confidence about the accuracy of the findings from study 5, through the use of different methods to investigate the techniques and decision making process (Denscome, 2010). This design allowed this research to explore the phenomenon of holding children to a breadth and depth which has added to knowledge and has enabled the testing of emerging theory from the qualitative studies. This mixed methodology and its pragmatic perspective enabled the production of a practical tool to address the problem of technique selection and achieving a consensus in decision making around the techniques.

3.2   Methods for Studies 1, 2 and 3

Sampling

Healthcare professionals from the Accident and Emergency Department, play specialists, phlebotomists, theatre staff, dental nurses, specialist nurses, nurse lecturers and student nurses who were likely to come into contact with children and who had some knowledge and/or experience of holding were purposively invited to take part in Study 1 and 2. Sampling stopped when saturation was achieved in the groups pertinent to each study.

In Studies 1 and 2, snowball sampling was used to identify potential participants who have the experiences and knowledge required to produce rich data. This approach worked well in an area where reticence to discuss the problem that had already been identified.

For Study 3, a convenience sample was used to identify participants from other HEIs who could complete the questionnaire sent via email.

Strauss and Corbin (1990), Charmez (2006) and Creswell (2007) recommend a sample size of between 20-30 participants in order to develop a well saturated theory, although Charmez (2006) suggests this number could be larger.

Types of Questionnaire (used in studies 1, 2 and 3)

Studies 1 and 2 used an interview schedule which the researcher administered through a face to face interview and which was audio taped. Study 3 involved a questionnaire sent via email. The questions related to eliciting the opinion of the participants and were all linked to either confirming information identified within the literature search or providing information where there were gaps in knowledge. Each participant in the four studies was asked the same question about, their knowledge: - what they understood therapeutic holding to be, what they understood restraint to be and what term they used to describe the process of holding a child or young person and application: - recording systems, how techniques are taught/learnt and whether there is consistency in application from all those involved. The researcher was concerned with demonstrating trustworthiness of the data being collected and in the accuracy of the transcribing, therefore additional measures were taken to demonstrate rigor. (*See tables 1.1.0 to 1.1.3).*

Table 1.1.0 The following questions were asked to participants in study 1

• Demographic information – what is your job title and role?	
• What do you understand by the term therapeutic holding?	See themes: History of Terminology and Training implications and theory practice gap.
• What do you understand by the term restraint?	See themes: History of Terminology and Training implications and theory practice gap.
• Why are there no national or best practice guidelines on therapeutic holding? (there is a prompt for this question if needed)	See themes: Taking custom and practice into account, Training implications and the theory practice gap and Contents of training.
What do you use instead?	See theme: relevant legislation.
How does it work?	
Are you happy with this system?	See theme: The impact of terminology upon practice and The experience of Healthcare staff with holding practices.
How many of you follow this system?	
• Do you record if a therapeutic holding technique is successful?	See theme: Contents of training and the theory practice gap.
• What do you do if a therapeutic holding technique is not working/causing harm?	See themes: The child and young person's experience of holding practices, The experience of parents in holding practices and The experience of healthcare staff with holding practices.
• Do you record this (if yes where)?	See theme: Contents of training and the theory practice gap within literature review.
• How do you know if a therapeutic holding technique is not working/causing harm?	See theme Training implications-contents of training within literature review.

• What therapeutic holding skills are used in your area? (can prompt)	See themes: Taking custom and practice into account, What is known about the techniques being used to hold children for procedures and What techniques are deemed appropriate.
• Who uses them?	
• Do you involve parents in this?	See theme: The experience of parents in holding practices.
• Who do you use them with? (ie age of child, cognitive ability of child)	See theme: The child and young person's experience of holding practices.
• How do you know that the therapeutic holding techniques are safe to use?	See theme: Risk and risk assessment relevant to the selection of techniques and Limited force.
• How do you know that everyone knows what to do during the hold?	See theme: Taking custom and practice into account, the experience of parents in holding practices and The experiences of healthcare staff with holding practices.
• What risk assessment do you use?	See theme: Risk and risk assessment relevant to the selection of techniques and Limited force.

Table 1.1.1   The following questions were asked to nurse mentors (study 2):-

➢ Demographic information — what is your name and job title, which ward area do you work on? ➢ Question to ensure that the participant *meets the inclusion criteria* – how long have you been a student nurse mentor*?*	
• What do you understand by the term therapeutic holding?	See themes: History of Terminology and Training implications and theory practice gap.
• What do you understand by the term restraint?	See themes: History of Terminology and Training implications and theory practice gap.
➢ Are you aware of any best practice guidelines or policies?	See themes: Taking custom and practice into account, Training implications and the theory practice gap, Contents of training and Relevant legislation.
➢ Are student nurses from Birmingham City University aware of what therapeutic holding skills are when they first start their clinical placement?	See themes: Taking custom and practice into account, Training implications and the theory practice gap and Contents of training.
➢ How do you ensure that the student nurse is aware of what technique to use for each clinical procedure, suitability issues, risk issues and appropriateness?	See themes: Taking custom and practice into account, Training implications and the theory practice gap, Contents of training, Risk and risk assessment relevant to the selection of techniques and Limited force.

➢ student nurses involved in the therapeutic holding of children?
 	
    ➢ Describe their involvement
 	
    ➢ How do they know what to do?
 	
    ➢ If they use any therapeutic skills on placement who teaches them this skill and when?
	See themes: Taking custom and practice into account, Training implications and the theory practice gap and Contents of training.

• What should student nurses be taught on therapeutic holding skills to prepare them for placement?	See theme: Risk and risk assessment relevant to the selection of techniques and Limited force.

Table 1.1.2   The following questions were asked to student nurses (study 2)

➢ Demographic information – what year of study at Birmingham City University are you in? ➢ Question to ensure that the participant meets the inclusion criteria – have you had a placement at Birmingham Children's Hospital?	
• What do you understand by the term therapeutic holding?	See themes: History of Terminology and Training implications and theory practice gap.
• What do you understand by the term restraint?	See themes: History of Terminology and Training implications and theory practice gap.
➢ What has been your experience of using therapeutic holding skills?	See theme: taking custom and practice into account, Training implications and the theory practice gap.
➢ Are you aware of any best practice guidelines or policies?	See themes: Taking custom and practice into account, Training implications and the theory practice gap, Contents of training and Relevant legislation.
What training have you had on the use of these skills?	See theme: Contents of training and the theory practice gap
➢ Where?	
➢ When?	
➢ How were you taught?	
• Was there any variations in training you've been given? (explain answer)	See theme: Contents of training and the theory practice gap.
• What should you be taught on therapeutic holding skills to prepare you for placement?	See theme: Contents of training and the theory practice gap.

Prompts

What are best practice guidelines:- systems (best practice) in place that effectively reviews therapeutic holding skills in terms of suitability, psychological impact, potential risk, effectiveness and appropriateness. What systems they saw nurses use on placement (if any), how this process works, who uses this system/who does not use it (and why they think this is so).

What should be taught on therapeutic holding educational programmes:- i.e. theory (what) ; practical therapeutic holding skills (which ones), any other skills (examples)

Experience:–positive and negative, explore themes from literature review – such as views on therapeutic holding (multi professional), psychological issues, how they felt as a student nurse (could they question this practice), how accepted was the practice (and who by).

Table 1.1.3 The following questions were asked to nurse lecturers at Birmingham City University (face to face)Study 2 and other Higher Education Institutes via email (study 3):-

➢ Demographic information – name, job title, HEI establishment ➢ Question to ensure that the participant meets the inclusion criteria – do you teach student nurses undertaking the child field of nursing?		
• What do you understand by the term therapeutic holding?		See themes: History of Terminology and Training implications and theory practice gap.
• What do you understand by the term restraint?		See themes: History of Terminology and Training implications and theory practice gap.

➢ What do you teach student nurses on this subject to prepare them for placement?
 	
   ➢ In what year of their study?
 	
   ➢ Who teaches on this?
 	
   ➢ Do you teach therapeutic holding techniques (if yes which ones)?
 	
   ➢ How do you ensure that they are safe,
		See themes: Taking custom and practice into account, Training implications and the theory practice gap, Contents of training, Risk and risk assessment relevant to the selection of techniques and Limited force.

effective and appropriate? ➢ Do you link this training to any policies (if yes which ones)?		
➢ What in your opinion should be key content to be taught to student nurses on this subject?		See themes: Taking custom and practice into account, Training implications and the theory practice gap, Contents of training, and Risk and risk assessment relevant to the selection of techniques.
➢ How necessary is therapeutic holding training?		See themes: Taking custom and practice into account, Training implications and the theory practice gap, Contents of training, and Risk and risk assessment relevant to the selection of techniques.
➢ Where should therapeutic holding be taught, as in in University or placement? ➢ Why do you think this ?		
➢ In your opinion how can Universities prepare students for placements where they may be using therapeutic holding techniques?		

Analysis

The iterative process, where each study led to an emergence of theoretical insights was continually analysed to see if those insights can make sense of other parts of data discovered in other phases, led to theoretical saturation, which is a core component of Grounded Theory (Corbin and Strauss, 2008; Weed, 2009). The manual process of analysis used throughout this research was subtle and more accurate, thus ensuring theoretical saturation, a finding supported by Glaser (1992).

The systematic stages of Grounded Theory outlined by Strauss and Corbin (1990) were followed:-

Developing an appropriate research question.

Data gathering (which can be qualitative, quantitative or both).

Data analysis	<u>Open coding</u> initial stage to develop categories. These are the authors' impressions and understanding of what is being expressed by the participants (the researcher-denoted concepts such as coding opinions, implied meaning, actions and impressions and categories based upon interpretations from the literature review) and by documenting in–vivo codes where the participants provide the concept through the use of a particular word or expression. This allows researchers to organise the data into manageable groups which are useful to this research (Corbin and Strauss, 2008),
	<u>Axial coding</u> next stage after open coding, looking to connect the categories in new ways and being able to understand/explain them (for example is code A related to code B?; does one cause the other?),
	<u>Selective coding</u> identifying closely related codes and making them into categories, using the words of the participants in the naming of categories, systematically relating it to other categories identified from the data collected from other participants and validating relationships. Categories are integrated together and a Grounded Theory (the story) is arrived at,
Analysis.	The purpose of analysis is to gain a better understanding of the phenomenon and generate concepts to explain (generate a theory). Once a central theme (core category) has emerged from the data, analysis will continue with the help of this central theme. This will also work towards providing a coherent description in which all the identified themes fit reality (Strauss and Corbin, 1990 and Corbin and Strauss, 2008). In Grounded Theory analysis is iterative, the sample size is driven by the emerging theory and data is collected until there is no more being learnt (data saturation) (Corbin and Strauss, 2008). Qualitative data analysis involves identifying themes, which are often abstract, fuzzy, constructs which researchers identify before, during, and after data collection (Ryan, 1999). There are no universal rules for analysing qualitative

data and there are variations on methods from open coding to qualitative analysis (Ryan, 1999). Strauss and Corbin (2008) write that analysis involves coding, looking at the data and taking it to a conceptual level. Corbin and Strauss (2008) remind researchers that this stage is not about paraphrasing, that coding involves interacting with the data; asking questions such as 'who, what, where, how and with what consequences' and probing the data. Nagel (1986), Emerson, Fretz and Shaw (1995) and Hegelund (2005) suggest a realist position with regard to objectivity – that researchers should acknowledge that to some extent the data are a hybrid of the researchers theories and 'our sense data', therefore different researchers' will obtain different data and these will in turn result in different theories. This position is true of the professional opinion papers published about therapeutic holding, that although the data may be the same, some professionals will ignore data which they deem insignificant, others will capture the same data and view it as extremely important, some professionals may miss data completely; it is the professional background of the author, their culture, their opinions which result in the different viewpoints published. Whilst it could be argued that this data is not objective, few would disagree that this approach increases objectivity (Hegelund, 2005). Hegelund (2005) writes that

"in these postmodern times, the notion of subjectivity is superfluous, because everything is already subjective." (Hegelund 2005: 661).

Presentation of data	This involved a written interpretation of the findings and illustration of points using quotes.
Validation of data	This involved sensitivity to the views of the participants, looking at the interactions between their views and the phenomenon to see how they relate to each other. The conclusions formed were compared with the conclusions from the empirical studies, theoretical literature, literature reviews, practice literature and policy literature identified (Strauss and Corbin, 1990).

Reflective diary and Memoing

For this research a reflective diary was kept on all supervision meetings and all interviews with participants, there were also over 300 separate memos completed. Most of these were documented using Word however towards the end of the research it was visually easier to use flip chart paper and 'post it' notes to help with sorting and writing. The memos ranged from a few lines to several paragraphs.

3.3   Methods for Studies 4 and 5

Selection of appropriate statistical tests are important for analysis of research data, and depends upon the type of data being tested and the aim of the research (Field 2013). The two Studies that made up the second stage of this research looked at ordinal, non-dichotomous, discreet data, where the categories were ordered logically and the spectrum of values measured opinion (Robson, 2011; Gorard, 2013).

Study 4 set out to explore preference by asking participants to identify therapeutic holding techniques that they liked and disliked from a pool of forty techniques. The results of this Study were compared to the results of Study 5.

The aim of Study 5 is to use a structured questionnaire (rating scale) to discriminate between therapeutic holding techniques; interpreting the conditions, relationships and evident trends within the seven categories for the therapeutic holding techniques identified within a rating scale using descriptive statistics. This contributed to the findings from Study 4 and allowed for generalisation about the techniques to be formed. This rating scale looking at preferences should lead to decision making about what healthcare staff are comfortable with and lead to an improvement in the holding experiences the child/young person has.

Sampling

The purposive sample was used for this stage of the research (n=12). Using the same participants in both Studies enabled comparison between the two studies to take place; therefore it was important to establish consistency with the selection of participants that are representative of the larger group of healthcare staff. This purposive sample was important to this research because the participants had knowledge about the use of therapeutic holding techniques and were willing to share their opinion. Kumar (1996) writes that this type of sampling is useful to develop something about which little is known.

Identification of techniques

The participants from Study 1 were asked to identify the therapeutic holding techniques which they use or teach to parents. 39 techniques were identified that were used within the service. One additional method was identified and included in this study because it is the only 'new' technique published since Kurfis Stephens et al (1999); this was the 'Superhero Cape Burrito' by Brown and Klein, (2011). At this stage of the research there was recognition that the research should not narrow the focus of what techniques to examine. These techniques were photographed using manikins/colleagues to simulate the appropriate age of the infant, child or young person. Care was taken with the photographic material, in relation to the angle, resolution and clarity of images to ensure consistency in presentation to the participants and reduce bias. These therapeutic holding techniques were also the subject of analysis in Study 4 and 5.

The professionals' who identified the 39 techniques confirmed that the photographs were an accurate representation of the techniques they use in their specific area. There were no changes made. All 40 of the therapeutic images were put onto colour A4 paper with the following information;-

- Photograph of therapeutic hold (or if relevant photographs of hold from different positions)

- Description regarding purpose

- Description regarding characteristics of hold

- Comments regarding risk factors were left blank.

The therapeutic images were presented to each participant in a random order in both studies (i.e. a different random order for each participant). This was done to avoid any systematic bias occurring, for example due to participant 'questionnaire fatigue'. Each participant was asked to rate the forty therapeutic holding techniques' photographs (item) using a separate scale per technique. They were all seen individually.

Data and analysis (Study 4)

Both parametric and non parametric statistics were considered as analytic tools. There was concern that too many assumptions could be made of this preliminary data set therefore a ' minimalist' approach was adopted where primarily descriptive statistics were used in order to answer the research question 'What are healthcare professionals' perceptions of therapeutic holding techniques?. Comments were analysed using Grounded Theory to gain a better understanding of the phenomenon and to identify emerging theories (Glaser and Strauss, 1967). The questions asked to help organise the data into codes and categories followed those suggested by Glaser (1978):- 'What is this data a study of', 'what category or property of a category, or of what part of emerging theory does this data indicate' and 'what is actually happening in the data'.

Quantitative analysis was used to separate the information from the participants into component parts (likes, dislikes) and link the data to each technique. Data from all participants across the forty techniques was scrutinised and then recast into ordinal measurement displaying categories the perspective of three separate professional groups (non nurses, nurses and 'experts'). This stage involved developing a grid to highlight the frequency of similarities and differences within and between the three groups. This was a simple statistical analysis where the desire was not to statistically manipulate any results but to shed light on what the data is trying to say (Robson, 2011). At this stage this was an important consideration given that so little was known about the application of therapeutic holding techniques and the lack of literature available for guidance it simply describes what the data shows. There was a large pool of data produced in this second stage of the research and it was important not to narrow this data down, therefore by opting for descriptive statistics the data was simplified in a sensible way to allow for exploration. A further consideration was the lack of empirical research about techniques which emphasised the need for this Study to make few assumptions about the data.

The rating scale (Study 5)

The literature review established that there was a lack of empirical research on therapeutic holding techniques. This is similar to the findings of Martin et al (2008). Their response was to develop their own risk assessment tool as a pilot project to review five physical intervention skills to determine whether such a tool could define an evidence base about techniques. The original risk assessment tool contained thirty nine questions, within four categories of safety, trainability, client risk factors and effectiveness. The emphasis of this tool was to assess the risk of the five selected physical intervention techniques; addressing escorting individuals, physical restraint and physical disengagement techniques. This tool assessed 'risk' of the selected five physical intervention techniques and inter-rater agreement of the questions within the tool, identifying questions which were most and least helpful. The authors identified within their study that it held a high degree of face validity amongst panel members and web study participants, and an acceptable level of inter-rater reliability in the panel study (Martin et al, 2008). This research and tool was the foundation for this phase of the research because is still the only tool of its kind that has been published.

Scale development (Study 5)

Although at the planning stage of this research it was not known how many therapeutic holding techniques were in use in the specialist service, it was important to reduce the size of the original scale and introduce relevant questions for children and young people. Two people (the researcher and her supervisor who was a co-author of the original tool) examined the original questionnaire prior to this study (in 2010) and determined the relevance of the questions for the present study. Only items which both judges agreed were not relevant to this study were excluded (n=19). This reduced the questionnaire from thirty nine questions to twenty. Five additional questions relating to the therapeutic holding of children and young people were added: these are question 7 relating to medical fear, question 11 on consent, question 15 looking at tactile defensiveness, question 16 examining the child's ability to balance, and, question 17 visual impairment (*See Appendix 8*). The original questionnaire contained four categories and the expansion of these categories to seven (physical safety, psychological safety, trainability, child/young person risk factors, technical robustness, effectiveness and social validity)

was an attempt to ensure clarity and draw out participants preferences about techniques. Definitions for all seven categories were included within the tool (*See Appendix 8*).

This preliminary rating scale was retitled the 'Children's Holding Assessment Tool – CHAT for assessing the therapeutic holding techniques used within Birmingham Children's Hospital, 2012' and piloted with four people. They were the researcher's principal supervisor, the deputy associate director of nursing at a local children's hospital and two lecturers with a children's nursing qualification. They were given one technique to review using this simplified tool. Revisions included ensuring that all questions would elicit a score and worded the same way to ensure that the Juster Probability score was consistent.

Example of the Juster Probability Score;-

Indicator	Likelihood
10 Certain, practically certain	99 in 100
9 Almost sure	9 in 10
8 Very probable	8 in 10
7 Probable	7 in 10
6 Good possibility	6 in 10
5 Fairly good possibility	5 in 10
4 Fair possibility	4 in 10
3 Some possibility	3 in 10
2 Slight possibility	2 in 10
1 Very slight possibility	1 in 10
0 No chance, almost no chance	1 in 100

Dichotomous questions (yes/no answers) are scored 0 or 1.

Each question is answered on the same eleven point scale with answers expressed as a probabilistic response (0 = no chance (high optimism) ➡ 10 = certain (low optimism). This is known as the Juster Probability Scale (Juster, 1966), which is a form of measurement that involves the construction of an instrument that associates qualitative theories with quantitative metric units. Statistics within social research enable the estimation of probabilities in the phenomenon being studied. A Likert scale is "based upon the assumption that each item on the scale has equal 'attitudinal value', 'importance' or 'weight' in terms of reflecting an attitude towards the issue in question (Kumar, 1996: 129). It has the added advantage of being easy to develop (Robson, 2011). The Juster Probability Scale (Juster, 1966) is a form of measurement that involves answering each question using the same eleven point scale with answers expressed as a probabilistic response. This probabilistic response takes the form of numbers, which can represent different forms of measurement, for this research it represented the average probability negative or positive judgements about each technique considered (Denscombe, 2010).

The adapted children's holding assessment rating scale explored the techniques in terms of familiarity and risk, and measured the participants optimism about the techniques in terms of the higher the score awarded the less optimistic the participant was about the technique, thus it was viewed that they judged the technique negatively. A low rating score was interpreted as the participant viewing the technique positively.

This method was used as a simple means of exploring these categories in terms of familiarity and preference. Within this study, the participants made a judgement that the lower the score for the technique, the less risk it posed to the child and/or holding guardian (it was possible to score 0) and therefore their judgement was interpreted as more positive and having a positive level of optimism about the technique. The higher the score for the technique, the more risk it posed to the child and holding guardian and therefore was interpreted as having a low level of optimism about the technique and a negative judgement (maximum score 250) *It should be noted that the questions made it clear whether the risk was to the child, the holding guardian or both*. This meant that there were a possible 1000 judgements that each participant could make on the forty therapeutic holding techniques (items). The entire scale is a measure of the appropriateness of each therapeutic holding technique because each of the twenty five questions were unidirectional in structure (they were all phrased the same way).

Statistical analysis (Study 5)

To answer the research question and test the hypothesis, this study made comparisons with the data collected from the 12 participants who used the rating scale to judge each of the forty therapeutic holding techniques. This involved analysing the conditions, relationships and evident trends within the seven categories identified within the rating scale. Descriptive statistics include examining distribution through identifying the average (arithmetic mean) – a measure of central tendency which identified a single figure which best represents the level of distribution. Standard deviation was used to detect the extent to which the data values in a set of scores are clustered or wide spread (Robson, 2011) and range of scores (Pallant, 2010). Given the variability of therapeutic holding techniques it was also decided to conduct a modal analysis.

A) Cronbach's Alpha was used (Cronbach, 1951) to explore the reliability of the Juster probability scale of measurement titled 'Children's Holding assessment Tool' (CHAT) (*See Appendix 8*). Cronbach's alpha test (also known as 'Scale reliability coefficient' or just 'reliability coefficient' looks at the internal consistency of a survey, by analysing the answers against some underlying factor that the survey is meant to 'measure' (Cronbach, 1951). The coefficient is a number between 0 and 1 and it was originally developed to measure the internal reliability of psychometric tests. The higher the value of alpha, the higher the level of reliability we can claim. The test is not robust against missing data (Pallant, 2010). A reliability coefficient of 0.70 or higher is considered 'acceptable' in most social science research situations' and "typically an alpha value of 0.80 or higher is taken as a good indication of reliability" (Ruane, 2005: 70).

Number of items 40 techniques X 25 questions separated into seven categories between 1000 and 1400 pieces of data per participant (there are 12 participants and the categories are not exclusive).

Response scale used. 11 point scale with answers expressed as a probabilistic response (0= low number/positive judgement ➡ 10 = high number/negative judgement).

History of use. This scale is modified from the work published by Martin et al (2008) which evaluated the risks associated with physical intervention techniques used with people who have a learning disability.

Reliability. All the questions were phrased the same way to ensure that a high score equalled a low rating of optimism for that technique.

Cronbach's alpha, is the most frequently used index of internal reliability for a set of questions (Pallant, 2010; Polit and Beck, 2010).

B) An explanation and description of the conditions, relationships and evident trends within the seven categories identified within the rating scale (CHAT) was undertaken through the identification of the mean and standard deviation for all forty therapeutic holding techniques (n=40).

B1) The top and bottom techniques from this group of forty techniques were then analysed in more detail by looking at the specific ranking awarded to these techniques within each of the seven categories within the rating scale, using SPSS to identify the frequency of data. Techniques identified were those which were ranked in the top five or

those which were ranked in the bottom five of the each of the questions that made up the category.

B2) The seven category summed scores for top ten techniques and bottom ten techniques were displayed in order to shed light on the relationship between these categories and to test the hypothesis (n=20).

B3) This study also looked at the mode value of the techniques in an effort to track techniques of interest and to allow for further discussion about preference. Therefore, n=12.

B4) An independent sample T test was utilised in the analysis of the top ten and bottom ten techniques identified by mean and standard deviation, in an effort to track techniques of interest and to allow for further discussion (therefore n was increased to 20). This allowed for comparisons in which the data for each technique by category was evaluated.

C) To compare between the findings between Study 4 (where participants' gave their preference for therapeutic holding techniques based upon 'like' and 'dislike') and the findings of Study 5, two new groupings were created and compared using an independent sample T test and using SPSS. This would ascertain whether this tool of measurement would assist healthcare professionals in their decision making about selecting techniques.

C1) Analysis of the two new groups identified above through exploration of the seven categories summed scores was undertaken in order to shed light on the relationship between these categories and to test the hypothesis.

Version 21 SPSS software for statistical analysis (IBM Corporation, 2012) was used to explore the conditions, relationships and evident trends between the forty techniques. The data was imported from Excel into this software.

3.4   Ethical considerations

Nurses are guided by professional duty, professional regulations and rules determined by law, ethics, public and organisational expectations within their Nursing and Midwifery Council's Code of Professional Practice, (NMC, 2008; 2015). In addition, it is important to be aware of the important ethical principles of non-maleficence and beneficence. "Non-maleficence is a moral obligation not to intentionally cause harm; it is closely related to the medical principle;-'Primum non nocere: Above all (or first) do no harm" (Beauchamp and Childress, 2001: 189). Whilst beneficence refers to the "moral obligation to act for the benefits of others, to remove or prevent harm and to weigh in balance the potential good against the potential harm of a given course of action" (Beauchamp and Childress, 2001: 189). The two other principles that healthcare research should adhere to are respect for autonomy and justice (Tod et al, 2009). Nurses are guided by these principles whatever sphere they are working in. The following good practice suggestions were followed throughout this research:-

Respecting the population of interest

The challenge with this research was to identify participants within the targeting population who were not reticent about talking about the subject. The author used presentations as a means to generate interest and a response (to student nurses and to healthcare staff working at the targeted hospital through a 'grand round' presentation and to nurse lecturers within their department meetings). This ensured that the subject was clearly defined and that participants were aware of what was required and why, to help inform them of what they were agreeing to. Time was spent within the presentations discussing the time required, how the data would be collected and analysed. Nurse lecturers from other HEIs were approached via email which explained the main aspects of the research. The email expressed a hope that they will take part on the research and that they would be contacted at a later date to ask if they would participate. The time taken to conduct the five studies with each participant was of concern. Although participants were happy to answer the questions and review the techniques this process could be time consuming. The author did not know at the start of the research how long interviews would take. Study 4 and Study 5 in particular took longer to complete then envisaged. Participants were encouraged to take breaks and the author supplied refreshments.

The interviews took place at the participant's place of work or study and at a time convenient to them. Participants were informed that an interview could be

rescheduled or cancelled at any time.

Respect for autonomy

Allowing time for student nurses, nurse mentors and nurse lecturers to consider whether they wish to be part of the research. Participants were informed of the research through brief presentations and email. Emails were sent out requesting volunteers after the presentations. A gap of at least two working days was left between contact from a volunteer and an email to set up a meeting. It is important that mentors from practice, nurse lecturers and students believe that they were not being coerced into being part of the research. This was ensured through the presentation and documentation, stressing that volunteers were free to decline to participate in the research without fear of repercussions (Comer, 2009). Participant information sheets, emphasising the voluntary nature of consent were distributed by email. This ensured that all participants had standard core information which had an accurate summary of the contribution required of each participant and stressed that participants could withdraw from the research at any time.

Awareness of the issues of conducting research on Birmingham City University student nurses, who, because they are generally young, healthy and intellectual are not perceived as being vulnerable (Comer, 2009).

Only student nurses undertaking the child field of nursing were selected for this research because the issue of holding children for procedures relates predominately to their area of nursing. This group of students were informed that participation or non-participation in this research would not affect their course or their grades, introduce additional work, or affect opportunities for placement. No personal questions were asked. None of the students selected were known personally to the researcher. Only demographic data relating to this research was collected.

Maintaining confidentiality.

Through the information sheet, participants were informed about where their details would be kept and that information would be password protected. All information was stored on password protected USB sticks. Manual information such as consent forms and author notes were kept in a locked drawer separate from the interview data and could not be identified to the data collected during the interview. All manual information was also kept separate from any digitally recorded material. All data was stored in a secure environment for the duration of the research in accordance with the Data Protection Act (1998) and will be destroyed five years

after the study has been completed.

Non – maleficence

Participants may assume that the researcher is in a position to help them, for example if they are unhappy about any therapeutic holding practices that they have witnessed or been involved in. Drury, Francis & Chapman (2007) believe that the participants having an opportunity to talk about their experiences may be helpful. Documents and the presentation to participants stressed that this research was not about identifying poor practice and stressed that confidentiality would be maintained (McConnell-Henry et al, 2010).

Obtaining access via 'gatekeepers'

The author approached key managers at Birmingham Children's Hospital and key personnel within the Research and Development department to discuss the research, the parameters and impact and obtain permissions. Emails and meetings were used to keep the 'gatekeepers' up to date with progress and timescales. For Study 2, a colleague who has a joint contract with the hospital and university approached healthcare staff working in the Hospital and explained in detail the research. The author then visited the hospital four days later, which gave possible participants time to consider the research and their participation. When the author met with these participants the process of explaining the research and gaining consent was followed.

Justice

To ensure that there was no role conflict, student support services at Birmingham City University were approached to provide support or debriefing to participants if the need arose (McConnell-Henry et al, 2010). Psychology services at Birmingham Children's Hospital were also informed of the research and procedures were in place for staff to access support if required.

The ethics of recording data

Informed consent was obtained from the participants prior to the semi structured interview. An explanation was given as to why the interview was being tape recorded, the way in which the recordings would be used, how the recordings would be stored and how confidentiality would be maintained. The digital tape recorder was placed within easy reach of the participants and they were told that they could pause the recording at any time. Participants were also informed that they could have the opportunity to play back their interview at the end of the interview.

An application to the Faculty Research Ethics Committee for ethical review was made. A favourable ethical opinion was given in December 2011. Adherence to the NRES guidelines regarding interviewing hospital staff was also followed (UK research Integrity Office, 2009). *See appendix 2*

Quality Assurance

The Centre for Health and Social Care Research, Birmingham City University has internal procedures to review this research. Quality will also be maintained through guidance and supervision with the supervisors of this research.

3.5   In summary

In summary, this chapter has outlined the methodology and has given a rationale for selecting an exploratory sequential mixed methods approach. It has critically examined the utility of a mixed methods approach and critically explored the advantages and disadvantages of this research method. The epistemology which governed and guided the paradigm in which this research takes place was considered. Ethical issues pertaining to the research have also been explored and summarised.

To answer the first research question "**What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?"** the first stage of this exploratory sequential methods approach comprised of three interlinked exploratory investigations to explore assumptions and therapeutic holding practices using qualitative methods (studies 1, 2 and 3). Study 1, a service evaluation (a 'pilot' study in that this study served as a 'dry run' to gain reassurance that participants were willing to discuss this issue and that the questions asked were appropriate). Study 2 explores assumptions and practices using an interview schedule, and study 3 is an exploration of assumptions and practices within HEIs using an electronic questionnaire.

To answer the second research question **"What holding techniques are preferred by healthcare staff and why?"** the second stage of this thesis comprises of two further interlinked exploratory investigations which explore holding technique preference using quantitative methods (studies 4 and 5) and through a rating instrument adapted for Study 5. This rating scale appears to be the first of its kind used to evaluate the quality and effectiveness of the judgements made by participants about therapeutic holding techniques and was adapted from the measurement tool published to assess physical intervention skills (Martin et al, 2008).

These interlinked studies provide current information through a snapshot of what is happening 'on the ground' with regard to the practice of holding children/young people and what is known about the 'decision making and technique selection' undertaken by healthcare professionals.

Chapter 4.0 Study 1

What are the current practices, understandings and views of nurses and allied professionals on holding children and young people for clinical procedures?[4]

Introduction

Chapter 1 and 2 established a lack of data which suggests that there is a paucity of evidence in what healthcare staff do in practice when faced with a child or young person who finds it difficult to sit still during the administration of a treatment or the undertaking of an examination. This study explored healthcare staff's views and experiences of using therapeutic holding for clinical procedures, their understanding of the terminology used in practice, how this understanding affected their belief systems and clinical practice, and what systems are in place that effectively reviewed therapeutic holding skills in terms of suitability, adherence to policy, risk, effectiveness and appropriateness.

Background

The literature review for this thesis established the current situation and identified that there is a gap in research undertaken in the UK on therapeutic holding. Practice and policy literature in particular is theory led with little recognition or research being taken with clinical areas to identify what is actually happening in practice.

The Study

The aim of this qualitative study was to evaluate current practice and understand nurses and allied professionals' views of using therapeutic holding/restraint for clinical procedures. This was a 'pilot' study, which enabled access to the specialist service for further studies to take place and allowed for preliminary analysis of the questions being asked of the participants to ensure that they were adequate to draw out the data required. As a 'pilot' study, this enabled a 'dry run' of the research to take place to test whether participants were amenable to discussing the phenomenon and that the questions asked would provide data to enable the discovery of theory.

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[4]This Study was published in the British Journal of Nursing: - Page, A. and McDonnell, A. A., (2013) Holding children and young people: defining skills for good practice. British Journal of Nursing, 22(20), 1153-1158.

Design

This study followed the theoretical perspective of Grounded Theory (Glaser and Strauss, 1967), in that once an area of research has been identified, the researcher entered the field as soon as possible to gain an understanding of the subject being studied. Consequently the literature was not exhausted prior to the research, instead it was considered as part of a process of data collection, analysis, and developing interpretation. Glaser and Strauss (1967: 253) state that:-

> "The core categories can emerge in the sociologist's mind from his reading, life experiences, research and scholarship; [furthermore] no sociologist can possibly erase from his mind all the theory he knows before he begins his research. Indeed the trick is to line up what one takes as theoretically possible or probable with what one is finding in the field".

Glaser and Strauss (1967); Strauss and Corbin (1990; 1998) and Corbin and Strauss (2008) wrote that Grounded Theory is social research which enables the prediction and explanation of behaviour. Grounded Theory is also described as being a popular choice of methodology for researchers engaged in small scale projects (Corbin and Strauss, 2008 and Denscombe, 2010). A Grounded Theory approach is suitable to understand the experiences and perspective of participants, understand the context in which therapeutic holding has developed and contribute to empirical knowledge (Corbin and Strauss, 2008).

Participants

A specialist children's service agreed to participate in this study. This service is a leading paediatric teaching centre, with a reputation for international research and development. The facilities include a 22 bedded paediatric intensive care unit, 280 inpatient and day-case beds, 38 speciality departments including an emergency department, nine theatres and dentistry.

This was a purposive sample of healthcare professionals who were deemed by the specialist service to be most knowledgeable about the therapeutic holding techniques being used, which therapeutic holding techniques are used for each clinical procedure, have knowledge about the suitability of the techniques for the various ages and sizes of the children and young people being held and know whether they have been systematically reviewed in terms of being safe, effective and appropriate for children and young people. Nurses and allied healthcare professionals selected by the Associate

Director of Nursing for this specialist service were representative of the following services which used therapeutic holding:- outpatients; phlebotomy; emergency services; clinical nursing, and play therapy. They received an email invitation to take part in this study (n=5). These key participants identified 6 other colleagues to be approached via email to interview including dental nurses, nurses and a medical consultant. This type of purposive sampling can also be referred to as snowball sampling (Robson, 2011).

The demographics of the participants (n=11) who took part in this study are included in the results section. They represented some of the specialities and supporting departments within Birmingham Children's Hospital where the holding of children for assessment and medical procedures take place. *See table 1.1.4 for this information.*

Table 1.1.4 Demographics of participants

Health Professional	Identifying code	Year Qualified	Year started work in this service
Play specialist	KI.1	2001	2001
Phlebotomist	KI.2	1980	1992
Clinical lead nurse	KI.3	1996	2007
Junior sister	KI.5	1978 (SRN) 1980 (RSCN)	1979
Junior Sister	KI.9	2003	2008
Staff Nurse	KI.10	2009	2009
On site Practitioner	KI.4	2002	2002
Medical Consultant	KI.11	1993	2003
Lead Nurse	KI.6	1985 (RGN) 1989 (RSCN)	1987
Senior Dental nurse	KI.7	1997	2002
Senior Dental nurse	KI.8	2003	2009

The mean for the length of time in post since qualifying is 18 years. The mean for the length of time that the professional has worked at the hospital is 14 years. The phlebotomist and junior sister have been qualified the longest, with the staff nurse being the most recently qualified.

Procedure

Data was collected through semi-structured interviews with the participants (*See chapter 3.2)*. These interviews took place between October 2011 and February 2012. An interview schedule included the main research questions and prompts. The interviews were digitally recorded and lasted between 35 and 90 minutes. All three allied professionals use therapeutic holding techniques within their work and were able to offer their professional opinion and experience when answering the questions therefore their recordings were 90 minutes (phlebotomist); 56 minutes (medical consultant) and 41 minutes (play specialist). Not all of the nurses interviewed use therapeutic holding techniques in their practice therefore their interviews lasted between 35 and 45 minutes. The interviews took place at the participants' places of work.

The semi-structured interview questions were presented to each participant in the same order, and participants were able to develop ideas and speak more widely on the issues raised. Prompts were included within the interview if required to encourage the participants to reveal their knowledge. Empathy and confidence were developed by talking to the participants beforehand about the research. Inconsistencies in the information were explored through paraphrasing and playing 'devil's advocate' to ensure that the information was interpreted correctly. This ensured that answers could be reliably aggregated and that comparisons could be made with confidence. This method of data collection was appropriate because enough is known about the phenomenon to develop questions about the topic in advance but not enough to anticipate the answers.

The data from these key participants determined the research questions developed for the other studies which were timetabled to follow on from this study. A reflective journal was kept about any important points from the interviews, any contradictions, consistencies and emerging common themes.

Data analysis

There were 19 questions developed, looking at knowledge and application regarding therapeutic holding. Each transcript was read several times which identified that the 19 questions could be broken down into 11 categories to allow for substantive statements to be identified (some of the questions were grouped together to allow comparisons and some questions remained on their own) and colour coded (Gillham, 2005).

There are debates about the relative merits of manual versus computer based coding methods (Basit, 2003). A brief pilot using NVivo 10 (QSR, 2012) qualitative data analysis computer software was conducted and although the manual system was more time consuming, it was used in this Study as it would provide a more comprehensive and detailed approach for this thesis. This method also allowed an interpretation of the whole picture instead of small chunks of data. The physicality of viewing data on flip chart paper, with post it notes, colour coded memos and the physicality of rewriting phrases and data, allowed for easier reading and a clearer vision of patterns and relationships between the data which led to data being retrieved more easily.

Three stages of coding process were used to find conceptual categories within the data, identify relationships between the categories and account for these relationships through finding core categories (Strauss and Corbin, 1990). All full transcriptions were analysed text line by line to identify key points or phrases which summarised the participants' accounts of their experience and perceptions of therapeutic holding and restraint. The codes arising out of each transcript were constantly compared against codes within the same transcript and with those from the other transcripts. In the second stage, axial coding was used to find the relationships that connected the categories. The third stage involved comments (also known as memos) which were written immediately after data collection to document impressions and the researchers' reflections. These memos and reflections were referred back to at a later date. This process was modified as ideas developed, memory was refreshed and the data was compared (Denscombe, 2010). During the third stage, selective coding took place. This is the same coding procedure but applied to a limited set of categories identified during the axial coding – the categories which identify relationships. This process enabled this research to develop theories to explain what is happening within the practice of holding children.

Verification of Study 1

The following steps were taken to ensure that the interview schedule given to the participants was consistent in terms of the questions being asked and the accuracy of the transcription. Work colleagues of the author were asked to review the interview transcriptions in terms of: - *did the overall schedule cover all points and demonstrate transparency* ? and *was the interview transcribed accurately*? Colleagues were given a copy of the transcript and a DVD with the appropriate transcription to listen to. Both sections were broken down to identify accuracy and consistency for each question. This meets the basic level of objectivity as described by Hegelund (2005) that the research must correspond to the piece of reality it attempts to describe.

Verification of schedule by colleagues

5 transcripts were chosen at random and reviewed by colleagues from Birmingham City University looking at accuracy of the questions being asked and the integrity of the written transcription.

Table 1.1.5.

Key participant	Reviewer	Response to 'did the overall schedule cover all points and demonstrate transparency'	Response to did the author accurately transcribe the interview
KI. 4	Verifier 1	Yes completely	100% accuracy
KI.1	Verifier 2	Yes completely	100% accuracy
KI.6	Verifier 3	Yes completely	In Response to Question about Therapeutic Holding author generally recorded what participant said. 98.69% accuracy
KI.3	Verifier 4	Yes completely	100% accuracy
KI.5	Verifier 5	One question not asked as had already established that the question was not relevant Yes completely	One question not asked as had already established that the question was not relevant therefore no transcription for this question 100% accuracy

This gives an overall verification measure of 100% for documenting whether the author asked all the questions set to each participant. An overall verification measure of 99.74% was achieved for the transcriptions of the interviews with the participants.

Addressing integrity with the semi-structured interview

Whilst undertaking the service evaluation with the first participant, it was noted that there was the possibility that an impression of agreement to what the participant said was being made for example responding to answers with the word "great" (Davis, 2011). Therefore during subsequent interviews an attempt was made to refrain from what could be viewed as positive verbal prompts by using murmurs and nodding to prompt the participants to continue talking.

An acceptable standard for establishing trustworthiness in qualitative research includes validity. Green and Thorogood (2004) suggest that this likelihood increases when there is prolonged engagement by the researcher to gain an in depth rapport. The short duration of interview may be seen as providing limited engagement, the author spent time meeting with key stakeholders within the service for two years before the interviews commenced (and therefore was mentioned in management meetings and minutes) and also gave a talk on the subject of therapeutic holding through the monthly 'Grand Rounds', a teaching tool where the author presented information on this subject and undertook a question and answer session six months before the interviews began. This helped develop familiarity and a rapport.

4.1 Results and discussion: Study 1

Open Coding Study 1

The open coding resulted in a matrix of conceptual categories for Study 1, which helped developing an understanding of the data. *See Table 1.1.6* detailed below:-

Table 1.1.6

Conceptual category	Example	Frequency
Therapeutic holding is safe Therapeutic holding is beneficial	"It's the way that we hold a child or young person through a procedure in a safe way". "It's holding a child or a young person in such a way that minimises the threat to them, minimises the danger to the practitioner of something going wrong". "Making sure that the child is kept safe and held safely".	Safe way (18)
Describing what takes place	"It's kind of a lot of cuddling of the children". "I think we're just holding them safely like you'd cuddle a baby you hold them comfortably you wrap them up you hold them in a manner that you're like cuddling them".	Cuddling (33)
Inconsistency	"So we have lots of books telling us how to do different things but nobody's really validated it....so I think there are lots of people out there doing their own thing probably". "There's lots of different practices going on not everybody as they say to use a cliché not everybody is singing from the same hymn sheet". "I think it's a bit of a grey area everybody does things differently". "I think because it's such a grey area I don't think that there can be a black or a white so I don't think that there can be a like this is the way you do and this is appropriate for every situation".	Grey area (2) Don't know (1) No evidence (3) Conflict (2) Not everyone taught same thing (3) Different in emergencies (1) Watch and see what everyone else does and copy them (5) Just happens (not discussed) 5 No one gives this practice a second thought (4)

Conceptual category	Example	Frequency
Application	"It's holding a child or a young person in such a way". "Keeping their arm very still". "So I'm holding and probably squeezing". "Just holding their hands with their consent". "Hold their hands to prevent them flying up to their mouths". "Hold them quite firmly…..hold their hand still to stop them from pulling away".	Keeping arm still (9) Holding and Squeezing (6) Holding firmly (11) Holding (91)

Appendix 3 demonstrates the process of identification of the categories which appeared frequently in the data to represent the views and perceptions of the key participants interviewed when they were asked to discuss their understanding and experiences of therapeutic holding and restraint. In Grounded Theory tools are essential to enable the researcher to visualise conceptual relationships and develop theory (Strauss and Corbin, 1990).

Scott and Howell (2008) discussed two tools which enabled the development of the relationships within Grounded Theory (the conditional relationship and the reflective coding matrix). Scott and Howell (2008: 2) recommend that researchers use these tools 'as bridges during the constant comparative process as the researcher is moving between open coding and axial coding and later to selective coding' to assist in the process of engaging relationship questions in constant comparison. In this phase of the research the conditional relationship guide was followed to develop and understand the relationships that emerged and also to describe how the consequences of each category are understood.

Appendix 4 demonstrates a conditional relationship guide (Scott and Howell, 2008) to demonstrate Strauss and Corbin's questions of who, when, how and with what consequence (Strauss and Corbin, 1998).

Constant comparison is the key to Grounded Theory, and the two tools developed by Scott and Howell (2008) added clarity to this process and ensured that a core category was identified.

To answer the question of 'What are the current practices, understandings and views of nurses and allied professionals on holding children/young people for clinical procedures?', three themes were identified in Study 1 which strongly linked to the details described by the participants and which would explain what is happening in an ordered and sequential way. The three themes are:-

- use of language;
- 'technicalities' of the holding techniques are not being addressed;
- doing things 'the right way'.

In this phase of the research, the central theme or core category that encompasses all the themes that emerged from the data was 'the impact of there being no consistency over the term used to define holding practices or describe what the practice involves' (Hoda et al, 2011).

Participants were asked which clinical procedures used in the hospital require therapeutic holding. Responses were:-

- blood tests, cannulation and venepuncture (mentioned by all participants)
- suturing/gluing of wounds (4 participants)
- medical examination (2 participants)
- naso gastric tube insertion (2 participants)
- lumbar punctures (2 participants)
- dental examination (2 participants)
- dental treatment (2 participants)
- cleaning wounds/cleaning burns (2 participants)
- catheterisation (1 participant)
- preparation for theatre (1 participant)
- tracheostomy care/PN central line administration (parenteral nutrition) plus administration of medication via this route (1 participant).
- removal of foreign body (1 participant)

In this study, the participant and their profession is identified *in table 1.1.4*. Participants are identified using the code KI.

Theme: Use of language

Throughout the study, the participants used a range of definitions for therapeutic holding which included the term restraint, which is consistent with Brenner (2007) who suggests that the ambiguity of the definitions in use has the potential to confuse the operationalisation of this concept in practice although there are no studies published which prove this theory.

Therapeutic holding is gentle and consentual

An emerging theme was that the participants' beliefs about therapeutic holding and restraint have impacted negatively upon the practice. Values guide the principles of care, while certain assumptions and beliefs are involved in directing care on a more day-to-day basis. Throughout each interview the language used by each participant appeared to be an extension of their belief about the term. When interviewing the participants for this study there was a belief expressed by ten of the eleven participants that therapeutic holding is a gentle process:-

> KI.1   " It's the way that we hold a child or a young person through a procedure in a safe way…which is seen as comfortable...it's offering them comfort, love and safe holding"

There is also a belief that if the child or young person consents (to the procedure) or is compliant then the force used with therapeutic holding is minimal:-

> KI.7   "Holding with a patient's consent…just holding their hands with their consent".

> KI.8   "You are holding them but you are not going against any consent".

Participants KI.7, KI.8 and KI.11 were the only participants who mentioned consent as being an intrinsic part of this process. The difficulty with this belief occurs when the child/young person and possibly their parents do not view what they have consented to as being kind, safe, the act of cuddling, or being offered love and comfort.

Restraint is forceful

A belief expressed by eight of the eleven participants was that restraint is forceful:-

> KI.4   "I think restraint does not sound as nice … so similar to therapeutic holding but a lot more forceful"

The number of staff required for the procedure was described as being an indicator to differentiate between therapeutic holding and restraint:-

> KI.2   "To me restraint would be having a second person having to hold them".

Seven participants responded that if the child or young person is being held for a procedure against their will (they have not given consent) then their actions would be

viewed as restraint.

> KI.1   *"When we hold a child in a position against their will…we force them into a position…we hold them into a position where there is some kicking fighting or they are resistant against being held like that".*

The belief that restraint is more forceful and requires more people to hold the child still is one that is published in some professional opinion papers (RCN, 2003; Graham and Hardy, 2004; Jeffery, 2010; Hull and Clarke, 2010).

There was a lack of documentation of successful holding procedures outcomes, when the child struggles or becomes distressed, or when the procedure is unsuccessful. After carrying out the coding processes this appears to be a direct consequence of the participants' belief about restraint:-

> KI.6   *"No we wouldn't record that we have therapeutic success no… I wouldn't think anybody would write due to therapeutic holding not working and I know I wouldn't even have thought of that up to now".*

Paradoxical views about holding and restraint

The views of the participants suggest that they have paradoxical view of the situation where holding is required. Ten of the participants had opposing views on therapeutic holding and restraint and when interviewed became confused about their beliefs. Most participants' responses indicated a positive attitude to the principle of holding when it is a gentle process and a negative attitude when the child struggles/becomes distressed and needs more force to hold them. The difficulty with this belief occurs when the child/young person and possibly their parents have not been consulted or when the holding technique requires more than just wrapping an infant in a blanket.

Theme: 'technicalities' of the holding techniques are not being addressed
Bad habits

The participants' judgements around the practice of therapeutic holding appeared to be based upon experience (three participants), custom and practice (three participants) and '*common sense*' (four participants). The participants also recognised that this may include picking up bad habits:-

> KI.3   *"I think everybody puts their own play on it".*
>
> KI.5   *"There's lots of different practices going on not everybody as they say to use a cliché not everybody is singing from the same hymn sheet".*
>
> KI.7   *"I think it's a bit of a grey area everybody does things differently".*
>
> KI.9   *"I think because it's such a grey area I don't think that there can be a*

black or a white so I don't think that there can be a like this is the way you do and this is appropriate for every situation".

Kl.10 "I have never questioned it before…you accept that your band 6 and 7's know their stuff and you accept what they are telling you and you trust your doctors you trust all your senior staff".

The result is that the techniques being used by the healthcare practitioners appear to be frail, not risk assessed and do not meet any of the recommendations by BILD (2010).

Validation of techniques

The following quotes are significant, because two participants have made an assumption that the RCN guidelines (2010), has validated all therapeutic holding techniques as being safe or that the NMC would also be able to offer reassurance (the comment assuming that the RCN has stated that therapeutic holding techniques are safe came from one of the allied professionals in this study).

Q "HOW DO YOU KNOW THAT THE THERAPEUTIC HOLDING TECHNIQUES OR THE HELPFUL HOLDING TECHNIQUES ARE SAFE TO USE?

Kl.2 "Probably because the RCN say they are"

One participant suggests that despite the techniques not being validated and the possibility of healthcare staff all "doing their own thing", they still do not challenge their practice:-

Kl.3 "So we have lots of books telling us how to do different things but nobody's really validated it...so I think there are lots of people out there doing their own thing probably…realistically I don't suppose there's any evidence out there that tells us it is safe so it just comes down to your own common sense and knowing that if you hold too hard you're going to hurt them"

One view was that the techniques were safe to use because someone unknown must have already risk assessed or tried and tested the techniques:-

Kl.2 "you know one assumes that since that technique is out there that somebody or other has already assessed the risks of what you're do … so we know they're safe because they're tried and tested".

Safety

From theme one it has been identified that the participants' belief system about therapeutic holding is an intrinsic aspect of this practice. This includes looking at the safety features. Only one participant was unsure (participant 4), the remainder suggested that they make subjective assessments of the situation.

Q   "HOW WOULD YOU RECOGNISE IF A THERAPEUTIC HOLDING TECHNIQUE WAS CAUSING HARM?"

KI.3   "I think a lot of that comes down to experience again....but you can usually tell if what you are doing is hurting the child more than you think it should be because you already have an expectation of what level of discomfort that child should be experiencing as a result of what you are doing I suppose"

KI.5   "The child's distressed the family's distressed"

KI.7   "You can observe the face you know and that the limbs that we're not cutting any circulation off".

Custom and practice

'Experience', 'custom and practice', and what key participants have 'observed' in practice were common themes expressed by six participants on how they applied their knowledge about any risks or safety issues which could be associated with the application of therapeutic holding techniques:-

KI.11   "Experience and anecdotal practice of people who have been doing this sort of thing for a long time and I guess you trust the idea that your motives are legitimate… that you're advocating for your patient despite putting them through something which they are not compliant with".

Participant 11 explained that there is a discussion process about the need to hold that takes place with the child and their family. It is apparent that there is discussion about the need to hold but that there has been no critical analysis or questioning about this practice.

Theme: doing things the right way

Quality features underpin current practice, influence decision making and future practice, to offer a clear picture of what is happening within this specialist service with therapeutic holding. Using the WHO (2006) definitions of quality, the issues of 'accessible, acceptable and equitable' are discussed within this theme looking at whether participants are applying therapeutic holding in the right way.

The role of parents

This study looked at the role of parents and identified that in most cases it is the parents who are directed to hold:-

KI.5   "If you can get the parents to hold the child you would…you would because I think it's sort of who what toddlers going to want to go to want a stranger

holding them…if their mums cuddling them it's much more comforting to them than a nurse they don't know".

Six participants during the interview suggested that therapeutic holding is what is taught or directed for the parents to do. The reasons cited for this were because they as staff are strangers to the child/young person (3 participants), because the child/young person had not given consent (2 participants), or because an extra pair of hands was needed (2 participants). This thread is challenged by research which suggests that asking a parent to help hold their child (forcibly restrain) "goes against the normal protective instinct of the parent" (Piira et al, 2005:12).

National guidance

Within children's nursing the issue of developing national guidelines or standardising practices for therapeutic holding procedures does not appear to have been considered, perhaps because therapeutic holding has until recently been viewed as 'uncontested practice' (Collins, 1999; Pearch, 2005) and that carrying out the clinical procedure on the child or young person was given more emphasis than the actions required to achieve the end result:-

> *KI.2   "I suspect it's because in centres outside of main children's hospitals no one gives it a second thought it's just something that has got to be done".*
>
> *KI.3   "Because there are no national guidelines for the majority of things that we do as children's nurses".*
>
> *KI.6   "I think because it's just something that people have always ever done…why haven't we got something documented for that a policy a guideline for certain things because we've always just done it".*

Confidence in holding and restraint

This study has identified that there are a limited number of healthcare staff with the confidence and skills to undertake therapeutic holding. The parent's role also appeared to include the role of 'expert' in therapeutic holding. This thought process and issues of what is acceptable or accessible to the child/young person was apparent when five participants stated that they would judge the effectiveness and whether a therapeutic holding technique was not working by the reaction of the parents:-

> *KI.5   "I think always if the parents are sort of looking a bit stressed that sort of gives you the vibes".*
>
> *KI.10   "We'd judge by the parents response and like if they're getting distressed".*

Only one participant discussed any clinical observations that would guide her judgement:-

KI.6   "I think you always have to make sure you can observe the face...that we're not cutting any circulation off...making sure that the child's observations are fine...if the nurse was holding the child ...you think it's done in an awkward position maybe damaging their back or they have been in the position for too long".

The participants in this study clearly believed that asking parents to hold their child was more acceptable than they as strangers doing the holding. This offers a different perspective to the research and professional opinions published which suggest that parents are asked to hold because the staff lack the skills (the responses documented in theme two suggest that this may also be true even though this opinion was not voiced by the participants) (Robinson and Collier, 1997; McGrath et al, 2002).

In summary, through their personal experiences, the participants in this study are knowledgeable about the use of therapeutic holding within this specialised service and their views increase the credibility and plausibility of this study. Grounded Theory as an analysis method took their views and experiences into account. Having the personal views of the participants makes it easier to build a comprehensive picture of what healthcare staff do in practice when faced with a child or young person who finds it difficult to sit still during procedures/examinations. The core category throughout this study was 'the impact of there being no consistency over the term used to describe holding practices' which connected all the themes together. It is this core category that if addressed would contribute to resolving this group of participants concern.

The key themes in this study ('use of language'; 'technicalities' of the holding techniques are not being addressed and doing things 'the right way') identified that therapeutic holding is viewed as a word which describes a gentle process and restraint a forceful process. The participants' belief in the word therapeutic and there being no agreement over terms used adds to the confusion and uncertainty in practice. This led in some cases to contradictory explanations being given by participants.

The term 'restraint' within UK and American history has become a taboo word due to the maltreatment of children and adults within both histories. Lindsay and Hosie (2000) suggest that as a result of this maltreatment, for some people, any form of physical restraint is therefore seen as unethical, which appears to be a premise some participants

thought to be true. Some authors writing from a child's and young person's perspective may be conscious of the controversy within other areas of health care about the use of restraint, which may impact upon their views of this term.

The participants' did not identify any guidelines which they used to nurture their practice, which demonstrates how this practice may be embedded within the culture of oral dissemination of knowledge and skills (Wollin and Fairweather, 2007). When answering the question of why they thought there were no best practice or national guidelines on therapeutic holding, the participants all expressed the opinion that no one gives this practice 'a second thought' with no agreement on a term which defines clearly what is done and why.

Kahneman (2011) has developed a theory that people tend to assess the relative importance of issues by the ease in which they are retrieved from memory, this importance is also loosely determined by the policies written, training, the media and the emphasis stressed by managers. With therapeutic holding, participants appeared to retrieve an explanation from memory with ease, but this explanation did not stand up to scrutiny (for example, in answering the questions 'what is therapeutic holding' and 'what is restraint') and most participants could not accurately recall supporting policies, legislation or any training they had received. There are several possible reasons for this situation:- the introduction of evidence based practice may have prevented a detailed exploration of therapeutic holding skills. The difficulty around therapeutic holding techniques was and still is that there is a scarcity of literature published for educationalists and practitioners to review in order to identify the best practice therefore it is difficult to make a quality statement about the effectiveness and efficiency of the therapeutic holding techniques in use, given the lack of discussion and documentation. Nursing text books, such as Whaley and Wong (1995) recommended that nurses devise alternative methods to the type of restraints (sic) currently in use – which may have also contributed to ad hoc techniques being developed, the lack of documentation due to there being no evidence base underpinning the use of particular techniques, senior staff passing down their experiences to junior staff who are usually in awe of their seniority, junior staff may be lacking any knowledge of their own or have limited experience to challenge practice when they are told it is "always done this way" (Valler-Jones & Shinnick, 2005: 22).

There are researchers who question whether it is ethical to ask parents to become involved in the holding process when many nurses feel uncomfortable about the process (McGrath et al, 2002; Souders et al, 2002; McGrath and Huff, 2003; Willock et al, 2004; Snyder, 2004; Pearch, 2005; Piira et al, 2005). Within this study the holding techniques are only accessible to parents willing to hold their child. This study did not address the question of what happens if parents refuse. It is noticeable that although there appears to be no open discussion about the decision making process for therapeutic holding, the belief that parents are the best people to hold their child is a predominant theme in this study. The lack of national guidelines, the inconsistent use of techniques, the belief that therapeutic holding is cuddling and the role given to parents to cuddle their child may mean that the skills of holding body part, where the medical procedure takes place is a practice no longer recognised or acknowledged as being a skill. Gardner (2004) discusses the power of theories that human beings develop which draws upon the findings of Piaget (1896-1980) and Freud (1856–1939). For the participants in this study, it made sense for the parents to hold their child because the participant's theory was that they are strangers to the child: research by Souders et al (2002) and McGrath et al (2002) demonstrates that not all parents would agree with this theory.

The participants' were aware that there is no consistent practice, with reliance upon custom and practice and not evidence to underpin their application of therapeutic holding techniques. Sharif and Masoumi (2005) and Jeffery et al (2007) identified a theory-practice gap. In this study, this gap can be demonstrated through participants describing the situation as a 'grey area', with no national guidance. This study identified that few healthcare staff have the skills and confidence to undertake therapeutic holding, with parents being not only asked to hold their child but to take on the role of 'expert' identifying when to stop the procedure or when the procedure is not being effective. A reticence to discuss this issue had been identified and it was possible to predict the level of response at the beginning of this thesis. This was the first study undertaken and as a 'dry run' it was successful in identifying that participants did want to discuss the issue with a researcher who was viewed to be non-judgemental and who focused on their experienced views.

Introduction to Study 2

Study 1 of this research explored experiences and perspectives of therapeutic holding. This was the first of the three qualitative studies and was a 'pilot' study in that this study served as a 'dry run' to gain reassurance that participants were willing to discuss the issues and that the questions asked were appropriate to the research aim and first research question of *"What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?"* Throughout the study participants used a range of definitions for therapeutic holding which appeared to confuse their practice. It appeared that the participants' beliefs and assumptions had led to a lack of documentation of successful holding procedures, a lack of documentation when the child struggles or when the holding procedure is unsuccessful. Participants identified that they based their practice around experience, custom and practice and 'common sense', recognising that this has led to bad habits and inconsistency. Parents are not only being asked to hold their child more frequently, there are expectations that they will make decisions about appropriateness, safety and risk. This study identified that the RCN guidelines (2010) are not used to influence practice and that participants believe that 'no one gives this practice a second thought'. A predominant belief was that therapeutic holding is cuddling and the role given to parents to cuddle their child may mean that the skills of holding the body part where the medical procedure takes place is a practice no longer recognised as being a skill.

Study 2 is the second of the qualitative studies and explores the training given to student nurses in the child health field of nursing. The perspective of the nurse lecturer, clinical mentor and the student nurses will be explored to describe why no one has questioned the practice of holding, the training on the subject and how the practical holding techniques are taught. This study provides descriptive accounts of the phenomenon to help link explanations.to the first research question.

Chapter 5   Study 2

What is the perspective of student nurses, nurse mentors and nurse lecturers on what is important with regards to therapeutic holding and how does this affect practice?[5]

Introduction

From the literature review, few healthcare professionals have questioned the practice of holding, training and how practical holding techniques are taught within HEIs and clinical practice. There is no consistency in the training or content of training that healthcare staff and student nurses should receive on therapeutic holding. It has been identified that there is a discrepancy with what is taught to child health nursing students in university to what they experience in the clinical area (a theory-practice gap).

Background

This phase explores the phenomenon from the perspective of the student nurse, nurse lecturers and clinical mentors and generates theories on what the participants see as important with regards to therapeutic holding and how this affects their practice.

The study

The aim of this qualitative study was to explore the teaching practices by examining what student nurses, qualified nurses, nurse lecturers and representatives from allied health professionals think of the techniques, procedure and training given on therapeutic holding techniques used to hold children and young people still for clinical procedures.

Design

Grounded Theory was used for this study because this method allowed for the management of qualitative research to generate theories in a relatively new research area, that does not have extensive existing literature published on it, through the

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collection of semi structured interviews and observations of therapeutic holding techniques being used 'in the field' (Strauss and Corbin, 1990). The emphasis on theory generation was important to this study, because there were no existing theories to verify and a 'fresh perspective' is required (Hoda et al, 2011). Using Grounded Theory for this study offered a deeper understanding of nurse teaching within a university setting and within clinical practice, enabled substantive theories to be generated based upon the perspectives and behaviours of the people doing the teaching (nurse lecturers and clinical mentors) and the people receiving the training (student nurses).

Participants

Purposive sampling was used in this phase of the research, using identified criteria for the three types of participants most likely to illuminate the phenomenon;-

A) Thirteen nurse lecturers employed by Birmingham City University who work in the child health nursing department or who were identified as having an appropriate child health nursing qualification, were invited to take part in this research. The research was discussed at the child health department's team meeting and all thirteen lecturers were approached via email. The participants who volunteered for the nurse lecturers group responded to emails very quickly. Seven nurse lecturers were interviewed (n=7, 54% response rate) using semi structured interviews. The remaining 6 lecturers were unable to complete interviews due to their work constraints.

Demographics: *Table 1.2.0 Birmingham City University – Nurse Lecturers (NL)*

Nurse Lecturer (BCU)	Identifying code	Qualifications
1	NL.1	NNEB; RGN; RSCN; MSc Public Sector Management; PG Dip Education
2	NL.2	RGN, Dip HE higher ed. Child Health, BSC (Hons) Emergency Nursing, PG Cert (Education)
3	NL.3	RGN (1988), Registered Children's Nurse (1991)
4	NL.4	SRN, registered midwife neonatal intensive care
5.	NL.5	RSCN, RGN
6	Nl.6	MA in Education, BSc (Hons) SCPHN (HV),
7	NL.7	RGN, RSCN, (paediatric intensive care course (ENB 415), MSc in ethics and law.

The 7 participants had a wide variety of qualifications and experiences within nursing;-

NNEB:- Diploma in Childcare and Education (formerly NNEB) National Nursery Examination/education Board qualification.

RGN:- Registered General Nurse/SRN: - State Registered Nurse qualification

RSCN:- Registered Sick Children's Nurse/RCN: - Registered Children's Nurse

MSc:- Master of Sciences academic qualification

Dip HE:- Diploma in Higher Education academic qualification

PG Dip:- Post Graduate diploma academic qualification

PG Cert:-Post Graduate Certificate academic qualification

SCPHN (HV):- Specialist community public health nurse (Health Visitor)

Although all of the nurse lecturer participants are employed to educate child field nursing students not all hold a children's nursing qualification (see NL4 and NL6).

B) There were forty-five active nurse mentors at Birmingham Children's Hospital at the time of this research. In addition to this number, colleagues from the allied professional groups also have input with student nurses during their placement (for example radiographers, neuroscientists and medical staff, n=19). A colleague, who has a joint contract with the hospital and with the University, explained in detail the criteria for selection and communicated with the mentors and allied professional staff asking for volunteers. Seventeen staff members who met the criteria to be interviewed indicated that they would be on duty when the interviews were scheduled to take place. Ultimately ten nurse mentors (22% of the identified active nurse mentors) and three professionals representing radiography, neurosciences and medical staff who also undertake therapeutic holding/supervision of student nurses were able to take time away from clinical practice and be interviewed for this study (n=13).

Birmingham Children's Hospital is a specialist children's service within the West Midlands. This service is a leading paediatric teaching centre in the UK, with a reputation for international research and development. The facilities include a 22 bedded paediatric intensive care unit, 280 inpatient and day-case beds, 38 speciality departments including an emergency department, nine theatres and dentistry. Healthcare professionals were interviewed from this service that work within some of these facilities.

Demographics: *Table 1.2.1 Birmingham Children's Hospital*

Clinical mentors (BCH)	Identifying code	Year Qualified	Year started work in this service
1. Staff nurse	M.1	2008	2008
2. Junior sister	M.2	2005	2005
3. Sister (education)	M.3	1985 RGN 1988 RSCN	1987
4. Lecturer practitioner	M.4	1996	2004
5. Doctor nephrology ward	M.5	2011	2011
6 Specialist neurophysiological scientist	M.6	Dip(HE) in Clinical Science Neuro-physiology (2003)	2009
7.Staff nurse	M.7	2003	2003
8. Lead nurse	M.8	1997	2004
9. Paediatric radiographer	M.9	1993	2000
10. Ward manager	M.10	1985 Enrolled nurse 1995 RSCN	1993
11 Junior sister	M.11	1975	1983
12. Junior sister	M.12	2000	2001
13. Lecturer practitioner	M.13	1995 RN 2000 (RSCN)	1997

Ten nursing participants all hold a relevant qualification to nurse children (participants 1, 2, 3, 4, 7, 8, 10, 11 and 12), with the remaining three (participants 5, 6 and 9) holding relevant qualifications to undertake their professional role, there being no distinction in their main qualification as to whether they work with children or adults.

C) There were one hundred and four student nurses undertaking degree and diploma pre-registration child health nursing at Birmingham City University, who were invited by email to take part in this research (this represented students in their first, second and third years of training). The number of students who could be placed at

Birmingham Children's Hospital where therapeutic holding has been identified as taking place is thirty at a time. A presentation was given prior to emails being sent out. All nursing students who met the selection criteria were selected at random (this meets the criteria specified by Todd et al, 2009 for research), four student nurses who responded to emails could not be interviewed as they did not meet the selection criteria. Eleven students (11% of the overall figure) were interviewed; three first year, five second year and three third year student nurses. With regards to the student nurse group, three separate emails requesting volunteers were sent out over a period of 15 weeks to correspond with when students would be back in University following placement.

Child Nursing students. Children's nursing covers care of patients from neonatal up to the age of 18 years. All pre-registered nurses now need to study at degree level based on NMC Standards guidelines (NMC, 2010). The degree course runs over 3 years with an average working week of 37.5 hours, split between theory and practice. Birmingham City University entrance requirements are currently set at 3 'A' levels at BBB level (300+ points in the UCAS tariff).

Demographics: *Table 1.2.2 Student Nurses, Birmingham City University (SN)*

Student nurses	Identifying code	Year of Birth	Year started as a student
1	SN.1	1991	2012 (BSc)
2.	SN.2	1984	2010 (Dip HE)
3.	SN.3	1988	2011 (BSc)
4.	SN.4	1984	2011 (BSc)
5.	SN.5	1984	2011 (BSc)
6	SN.6	1986	2010 (Dip HE)
7.	SN.7	1969	2011 (BSc)
8.	SN.8	1970	2011 (BSc)
9.	SN.9	1989	2010 (BSc)
10.	SN.10	1970	2012 (BSc)
11	SN.11	1979	2012 (BSc)

The age of the nursing students in this study is representative of the UK average:

"A third of nursing students across the UK (35%) were aged between 18 and 24 years, with a fifth (18%) aged between 25 and 30 years" (RCN 2008a: 7).

In total across the three groups of participants who took part in Study 2 there were:- 7 nurse lecturers, 13 clinical mentors and 11 student nurses (n=31).

Procedure

Data was collected through semi structured interviews with the participants. The interviews were digitally recorded and lasted:-

A) for the nurse lecturers between 12 minutes and 19 minutes, the average was 15 minutes;

B) for the clinical mentors between 15 minutes and 18 minutes, the average was 17 minutes; and

C) for the student nurses between 12 minutes and 17 minutes, the average was 13 minutes.

The interviews took place in the participant's place of work (clinical mentors) or within the University (nurse lecturers and student nurses). The questions within the semi structured interviews were designed to develop data that could create links to established theories as well as generate new theories. The questions came from the literature review and from themes identified in Study 1.

The interviews took place between April and May 2012 (nurse lecturers); June to December 2012 (student nurses) and July and August 2012 (clinical mentors).

A) <u>The nurse lecturers</u> There were originally 11 questions developed for the nurse lecturers, the interviews identified that one more question needed to be added:-did you receive any training on therapeutic holding techniques when you were a nursing student? Each of the 7 transcripts were read several times which identified that the 12 questions could be broken down into 8 categories to allow for substantive statements to be identified (some of the questions were grouped together to allow comparisons and some questions remained on their own) (Gillham, 2005).

B) <u>Clinical mentors</u> There were 13 questions developed for the clinical mentor participants. Each transcript was read several times which identified that the 13 questions could be broken down into 10 categories to allow for substantive statements to be identified (Gillham, 2005).

C) <u>Student nurses</u> There were originally 10 questions developed for the student nurse participants, one more question was added as a result of information provided by a student:- have you had any previous experience of caring? Each transcript was read several times which identified that the 11 questions could be broken down into 10

categories to allow for substantive statements to be identified (the questions asking what do you understand by the term therapeutic holding and the term restraint were grouped together to allow comparisons) (Gillham, 2005).

Data analysis

There were specific questions to identify patterns and code around. Each participant group did not have the same question because the questions came from the literature review and from relevant themes identified in Study 1. *Table 1.2.3* identifies the questions for each participant group and their relationship.

Table 1.2.3

Nurse Lecturer questions	Nurse Mentor Questions	Student Nurse Questions
Understanding of the terms therapeutic holding and restraint	Understanding of the terms therapeutic holding and restraint	Understanding of the terms therapeutic holding and restraint
Use of the term therapeutic holding within academic teaching		
Did they receive therapeutic holding training during their own training	Did they receive therapeutic holding training during their own training	Experiences of using therapeutic holding techniques
What they teach on therapeutic holding to student nurses	Are student nurses aware of therapeutic holding techniques when they start placement	
	Do they involve student nurses in therapeutic holding process	
	What therapeutic holding techniques are in use in the clinical area	Experiences of observing therapeutic holding techniques
		Awareness of best practice and policies
Key contents of therapeutic holding training	Key contents of therapeutic holding training	Key contents of therapeutic holding training
Where should therapeutic holding training take place	Where should therapeutic holding training take place	Where should therapeutic holding training take place
What is the Universities role in teaching therapeutic holding		What preparation should you receive from Universities

Each transcript was broken down to the responses given by the participants to each question and examined in depth. All of the participant answers to the questions were copied onto one Word document for each question (this was completed for each of the three groups). Codes were rechecked from the individual transcripts to the new Word document logging participant responses by section.

Understanding of the term therapeutic holding and restraint, contents of therapeutic holding training and *where should therapeutic holding training take place,* were common questions to all three groups.

Did they receive therapeutic holding training during their own training was common to the nurse lecturers and to the clinical mentors only, the questions of *experiences of using* and *observing therapeutic holding techniques* were affected by the participants responses (as is the question of *student nurse involvement* and *knowledge of best practice/polices*). *What is taught by the nurse lecturer* has an impact upon *student nurse awareness of therapeutic holding.*

Corbin and Strauss (2008*)* believe that such a 'close encounter' with the data in the beginning stages makes analysis easier in the later stages because there is a strong foundation. In this context, Glaser and Strauss (1967) referred to the researcher undertaking a process of theoretical sampling with the purpose of generating and developing theoretical ideas, rather than producing findings that are representative of a population. This process of theoretical sampling also helped with organisation of the data by the questions in *table 1.2.3* to look across the relevant participants and their answers in order to identify consistencies and differences. Corbin and Strauss (2008) suggest that:-

> "taking time to consider all possible meanings helps researchers to become aware of their own assumptions and the interpretations they are placing on the data" (Corbin and Strauss, 2008: 53).

Verification of transparency and integrity with interview interpretation

Eight transcripts (four student nurses, four nurse lecturers) were chosen at random and reviewed by colleagues from Birmingham City University looking at accuracy of the questions being asked and the integrity of the written transcription. (*See table 1.2.4 and 1.2.5 on the next page*).

Table 1.2.4 Accuracy of Questions

Informant	Reviewer	Response to 'did the overall schedule cover all points and demonstrate transparency'
Student 1	Verifier 1	Yes, completely
Nurse lecturer 1	Verifier 1	Yes, completely
Student 2	Verifier 2	Yes, completely
Nurse lecturer 3	Verifier 2	Yes, completely
Student 7	Verifier 3	Yes, completely
Nurse lecturer 4	Verifier 3	Yes, completely
Student 5	Verifier 4	One question not asked as had already established that the question was not relevant Yes, completely
Nurse lecturer 5	Verifier 4	Yes, completely

Table 1.2.5 Accuracy of transcription

Informant	Reviewer	Response to "did the researcher accurately transcribe the interview"
Student 1	Verifier 1	100% accuracy
Nurse lecturer 1	Verifier 1	In Response to Question about what teach student nurses on therapeutic holding to prepare them for placement the researcher generally recorded what informant said not accurately. 98.69% accuracy
Student 2	Verifier 2	100% accuracy
Nurse lecturer 3	Verifier 2	In Response to Question what understand about therapeutic holding the researcher generally recorded what informant said not accurately. 98.69% accuracy
Student 7	Verifier 3	100% accuracy
Nurse lecturer 4	Verifier 3	100% accuracy
Student 5	Verifier 4	100% accuracy
Nurse lecturer 5	Judge 4	100% accuracy

A very high verification was achieved for the transcriptions of the interviews with these participants. A colleague from another university, who has published in this area (Shinnick-Page et al, 2008), was asked to independently review six transcripts (two from each participant group) and identify codes to the chunks of text. This process of checking resulted in a degree of coherence regarding open coding, helping to ensure trustworthiness in the process of analysis.

5.1   Results and discussion: Study 2

As in the previous study, axial coding was followed to identify relationships and identify what was missing from the analysis. In this phase of refocusing, post it notes were used to identify thoughts about the relationship between the categories (Strauss and Corbin, 2008).

Selective coding was used to identify one category to give this study a storyline and ensure that this category systematically related to and was integrated with other major categories (Glaser and Strauss, 1967) *See appendix 5*. Strauss and Corbin (2008) describe this process as moving from description (axial coding) to conceptualisation. *See Appendix 6* which demonstrates a conditional relationship guide (Scott and Howell, 2008) to demonstrate Strauss and Corbin's questions of who, when, how and with what consequence (Strauss and Corbin, 1998). The core category is 'values and behaviours'. Corbin and Strauss (2008) recommend establishing a core category to describe what has been identified through axial coding and to help conceptualise research. The core category identified for this phase is that of 'values and behaviours'. Values and behaviours are not new concepts within nursing; they have recently been redefined by the Chief Nursing Officer for England and the Director of Nursing within the Department of Health and Lead Nurse for the Public Health England (DOH, 2012). Using this core category of 'values and behaviours' provided a story line which may be relevant to all services where the holding of children takes place, and all HEIs which teach student undertaking the child field of nursing. 'Value' is a term used to indicate what is important, what is worthwhile and what is worth yearning for. Values determine beliefs and the actions undertaken by individuals (Horton et al, 2007).

In this study, the participants are identified *in Tables 1.2.0 to 1.2.2*. Participants are identified using the code NL signifying nurse lectures, M for mentors and SN for student nurses.

There are six themes identified within this phase of research to answer the research question What are the perspectives of student nurses, nurse mentors and nurse lecturers on what is important with regards to therapeutic holding and how does this affect practice? ': -
- Confusion over definition
- Lack of clarity when teaching
- Therapeutic holding is 'cuddling', 'wrapping' the child

- The role of parents
- Real world teaching
- Impact on student nurse training.

Theme: confusion over definition

When asking participants to define what they understand by the term therapeutic holding, participants answered by using words with the same or similar meanings: synonyms such as beneficial (*support, nurture*), good (*safe, effective, protect*), calming (*comforts, comfortable, not getting distressed, providing reassurance, pleasant*).

NL4 "*I understand it as meaning holding supporting children and babies whilst clinical procedures are undertaking being undertaken but holding them in such a way that that supports and nurtures comforts them rather than restrains them*"

M12 "*Where holding is beneficial for the patient in order to get the treatment that they require safely and effectively*"

It appears to be that the nurse lecturers and mentors were guessing about what they thought therapeutic holding was because of their vagueness and use of synonyms. Student nurses also used synonyms to answer this question:-

S1 "*It might be something as simple as they are being held to protect themselves or protect other people or to protect themselves while they are having to have a procedure done that would be of benefit for them*"

S5 "*Just making the experience more pleasant*"

S6 "*Holding a child to sort of encourage their comfort levels*"

All the mentors and nurse lecturers tried to give an answer to the question, although the students were also able to state that they could not answer the question:-

SN 1 "*I wouldn't say I completely understand it*"

SN 3 "*I don't know much about it really I am guessing it's holding a patient in order to in a therapeutic way so they get some sort of comfort out of it I guess*"

SN 6 "*My understanding is finding like alternative methods of holding a child*".

Problems of definition

This theme also emerged in Study 1. It is the use of the word *therapeutic* and the beliefs which people hold about this term which this study suggests may be adding to the confusion. Belief is the psychological state in which an individual holds a proposition or premise to be true (Schwitzgebel, 2006). Therapeutic holding seems to be associated with synonyms which identify the following belief systems of the participants:- that therapeutic holding is a gentle process, which is beneficial, good and calming for the

child or young person being held. The difficulty with this belief is that participants were very vague about their own behaviours required to carry out therapeutic holding, emphasised by the use of words such as "KIND OF", "LIKE" "SORT OF" "MIGHT". This indicates an uncertainty about the nursing skills required to hold a child still for procedures. This supports findings in Phase 1 which identified that some nurses and allied professionals interviewed lack confidence in their ability to hold a child:-

NL 2   "*Therapeutic holding is **kind of** when you're actually holding someone to do some kind of treatment*"

NL5   "***Sort of** holding*"

M13   "***Just be** holding their limb…might be holding their head*"

Words grouped together according to similarity of meaning suggests that KIND OF can also mean 'somewhat; more or less, or to some extent'; LIKE can also be 'approximately or close'; SORT OF can be rephrased as 'more or less or to a degree' and MIGHT suggests likelihood and is often viewed as not being as optimistic as the word 'may'.

Use of terminology

Not one of the participants in this phase of research (n=31) used the term 'therapeutic holding' to describe the practice of physically holding a child for a medical procedure to be undertaken safely:-

NL1   "*I don't think I've ever used the term therapeutic holding or even used any term*"

NL3   "*I don't refer to holding for clinical procedures very much I talk about parents holding children*"

M1   "*We would say comforting or holding probably not therapeutic*"

M3   "*Probably just holding them or I have heard in the past the term restrain them being used but it's not PC to use the word restraining any longer*"

Through interviewing a range of participants from different healthcare professional groups, it became apparent that there was no firm agreement on how to describe the practice of holding children. A search of the terms 'therapeutic and RCN' identified that the RCN use the term therapeutic in a variety of interpretations (undertaken 30th September 2013. 'Holding' has many definitions but the one that meets this context is:-

To have or keep (an object) with or within the hands, arms, etc; clasp (Collins English Dictionary, 2003).

For 'therapeutic holding', it appears that many healthcare staff are clinging onto the term 'therapeutic' as a reference point and that the synonyms associated with this term are not always synonymous with what is occurring in practice when faced with an objecting child or young person.

Theme: lack of clarity when teaching

The following extracts are typical of the interviews with the participants where on the surface their answers appeared to be appropriate but when asked to explain the participants answers showed confusion:-

Q   "IS RESTRAINT A TERM THAT YOU USE WITHIN YOUR TEACHING?"

NL2   "*No it isn't and in fact I was teaching some students yesterday and we were talking about this 'cause I was doing a session on tracheostomy we were actually talking about with epiglottitis and when children with epiglottitis have an endo tracheal tube in young children we sometimes splint their elbows to stop them from bending their arms and we didn't refer to that as restraint at all //SO JUST TO CHECK IF YOU HAD TO SPLINT A CHILD FOR A PROCEDURE// yeah // WOULD YOU VIEW THAT AS THERAPEUTIC HOLDING OR RESTRAINT// I don't think I would use the term restraint I'd consider it restricting their movement rather than I don't think I'd use the term therapeutic holding either //CAN YOU CLARIFY // well you are not physically holding the child you're not holding them 'cause it isn't feasible to stay by somebodies bed and hold their arms to stop them and in fact it is potentially more damaging to hold a child around the wrist to stop them from bending their arm as there's no physical contact in that process I suppose you could argue that if I had to choose between one and the other then I would be restraining them although that term doesn't feel right for to describe it either //LOOKING AT RESTRICTIVE HOLDING WOULD YOU SAY THAT THAT'S A TERM YOU WOULD PREFER TO USE FOR THERAPEUTIC HOLDING OR RESTRAINT// I think it sounds like it is almost a stage up from therapeutic holding although it seems to sit more comfortably in that end of the spectrum.....restraint just seems to have such negative*".

This lack of clarity was also noticeable when interviewing mentors:-

M3   "*The word restraint I would refer to really as more holding them against their will and there are situations in practice when you do have to hold a child in their best interest for example a lumbar puncture //. WITH THIS PROCEDURE LUMBAR PUNCTURE - WOULD YOU SAY THAT WAS THERAPEUTIC HOLDING OR RESTRAINT // it's a grey area because if you don't hold them in the correct position then the test or the lumbar puncture could go wrong to the detriment of the child //SO WHAT IS THERAPEUTIC HOLDING// then therapeutic holding has to have an element of restraint but it has to be consented does it have to be consented well this is where the I'm getting myself confused //OKAY LETS THINK AGAIN YOU'VE GOT A CHILD THAT NEEDS A LUMBAR PUNCTURE WOULD YOU SAY THAT THEY ARE BEING THERAPEUTICALLY HELD OR WOULD YOU*

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SAY THEY ARE BEING RESTRAINED// they should be therapeutically held but some may argue that it's restraint //WHAT ABOUT YOU IN YOUR MIND WHAT IS THE DIFFERENCE BETWEEN THERAPEUTIC HOLDING AND RESTRAINT // in my mind there's whether there is consent to it so the fact that it may not be the child particularly with lumbar puncture it may be that it's a neonate that's got cerebral irritation and then it has to be consent through parents so that it's a consented procedure but it may be against their will".

M9   *"We tend to try and get the parents to do it because then they are actually holding their child it is not us well we are restraining really aren't we we are not actually doing it and the parents are actually giving their permission by them actually holding their child rather than us doing it".*

Theme: therapeutic holding is 'cuddling' / 'wrapping' the child

M3   *"I would say so yeah for example may be wrapping the child to put a tube in as in wrapping in a blanket or something like that"*

NL1   *"If we were teaching about passing a naso gastric tube yes we do talk about how to hold a child and how you would manage to perhaps wrap a baby in a blanket"*

What is safe

Participants demonstrated a lack of sophistication around their knowledge of what could be used to hold a child safely which demonstrates that perhaps healthcare staff are not aware of holding techniques and may view the actual holding of a limb as being part of the procedure:-

NL2   *"It isn't feasible to stay by somebody's bed and hold their arms to stop them and in fact it is potentially more damaging to hold a child around the wrist to stop them from bending their arm"*

M13   *"I think they would be directed by their mentor or the doctor – where to hold and where to squeeze".*

One student nurse demonstrated another confusion which may be occurring around healthcare staff's understanding of holding techniques. She appears to be somewhat correct in that the holding of a limb to enable the procedure to be carried out is part of the therapeutic holding; she believed that it was wrong and against policy to hold the child:-

SN8 "*I suppose if they were on their parents lap and you were just holding the arm or leg so that the cannula could be inserted I think that would be therapeutic because you are not actually holding the whole of their body yourself*"

This could be a predominant view amongst healthcare staff and students. One of the nurse lecturers was able to explain this view during the interview:-

NL7 "*I have to admit because of the current child safeguarding protection climate it's not possibly something that we necessarily recommend because of the risks of holding sometimes being misconstrued*".

Theme: the role of parents

M 5 "*We do not restrain, we get the parents to do this*"

M6 "*We don't routinely hold children they are normally held by their parents for our procedures*"

M12 "*We get the parents to do it*"

SN2 "*It's usually the parents that hold them*"

SN5 "*What I have seen in practice is if we can utilise the parents and get the parents to hold them because you know it's not so scary as it is to be handed to somebody you don't know*"

SN9 "*Parents do the holding*"

It is possible that healthcare staff make sense of their vulnerability on the subject of therapeutic holding by asking parents to do the holding. Corlett and Twycross (2006) identified that nurses are reluctant to allow parents to undertake technical skills, stating that they felt that parents did not have the necessary skills required. Yet with therapeutic holding, which could be a technical skill, healthcare professionals are asking parents to get involved because they do not view the holding as a technical skill or because they do not know what to do or have lost the ability to practice the skill through disuse. This study also identified that some staff ask parents to hold because this absolves them of any issues around consent, which concurs with research and professional opinions published suggesting that parents are asked to hold because the staff lack the skills (Robinson and Collier, 1997; McGrath et al, 2002):-

M9 "*We tend to try and get the parents to do it because then they are actually holding their child it is not us … we are not actually doing it and the parents are actually giving their permission by them actually holding their child rather than us doing it*".

In Study 1, 7 participants (n=11) suggested that therapeutic holding is what is taught or directed for the parents to do. In this study, 14 participants stated that they ask the parents to hold the child (5 student nurses, 7 mentors and 2 nurse lecturers):-

NL1 *"We talk about how the parents might hold them"*

M11 *"We'll just say to the parents they need to be quite still can you hold them like this"*

SN6 *"As the parents are there…we don't need to hold"*

The reasons cited are because they as staff are strangers to the child/young person because the child/young person had not given consent or they as healthcare staff can avoid ethical dilemmas about the use of force.

Theme: real world teaching

Within this study there was a clear difference between the descriptions given by mentors about how they involve student nurses in holding processes and the experiences of the student nurse:-

M1 *"We try to get them to take the lead in caring for the patients so if that involves procedures that would require to be held we get the student nurses involved obviously if they are happy to do"*

The issue with the answers given by the mentors is that they all appeared to be giving the expected and correct answers and there were no specific examples offered, responses were vague. Mentor 3 was the only participant who referred to what she would do specifically:-

M3 *"well I would hope I mean certainly if a student is working with me I would talk through a situation"*

One student was so traumatised by her experience of this process that she believed that she would be asked to leave her nursing course:-

SN 1 *"She was only small she was only two she was getting really upset and in the end her parents said that they weren't happy to do it any more they would rather the nurses do it …there wasn't any kind of not debrief I felt really guilty afterwards I thought I was going to get kicked off the course"*

When this student nurse questioned her experience with the lecturer who was visiting her placement area she did not feel supported by the response:-

SN1 *"then I spoke to ******** (Nurse lecturer BCU) when they came round and they said it was okay what happened but it wasn't"*

Student nurse 1's experience was traumatic for her and led her to believe that her involvement was abusive which supports findings by Valler-Jones and Shinnick (2005)

and MacLean (2011).

Are student nurses aware of therapeutic holding

The clinical mentors (n=13) were asked 'are student nurses aware of therapeutic holding when they start placement?' The following presents the responses:-

M2   "*I think they have kind of picked up things from previous placements so they kind of everybody either has bad habits or good habits they come with what they have seen and been taught on other wards and we may do it differently*"

M3   "*to be quite honest I don't know whether it's taught in the curriculum I would say that it is still hit and miss as to whether all the clinical staff know about the difference between clinical holding but they would talk a student nurse through a procedure and I am hoping that those procedures would always be consented*"

M4   "*I'm not a hundred per cent sure what they get taught in their initial module so I don't know and I don't work with students in their first year so I wouldn't be able to give a really good answer on that*"

M5   "*no I can't really say I have seen nurses using therapeutic holding //SO HAS IT BEEN MAINLY SITUATIONS WHERE YOU ADVISE THE PARENTS WHAT TO DO // yeah*"

M7   "*within the booklet it is not something that you have to tick off to specifically go through so I suppose it is something that sort of you'd go through at the time if you had a patient that there was something happening with*"

M9   "*I don't know about student nurses but as radiographers we have the student radiographers and the way we hold children is quite different to how you hold or move an adult and there are certain ways in which we are holding for a specific reason to keep them still for an X-ray or a procedure and there is certain techniques we use that you learn from experience to hold them in a kind way and also to get a certain position for an X-ray but I don't think students are aware of this the newly qualified radiographers that we train as they come to us they learn these techniques from being on the job there's a certain way of doing it*"

M10   "*I haven't challenged any and I haven't asked any when I've been holding them but this should be covered in their time in the university*"

M11   "*Don't know*"

M12   "*No and I wouldn't have taught them about therapeutic holding*"

The responses suggest that there is no discussion and many assumptions made by nurse mentors about the student nurse's prior experience of therapeutic holding. This is in contrast to the radiographer (mentor 9) who stated that their difficulty was that

radiography students are aware of holding adults, but few have any knowledge or practical experience of the issues around holding children, therefore they expect to teach this during the placement.

Students' experience of holding in practice

Two students (student nurses 2 and 5) were not allowed to get involved in the process, they were only allowed to observe their mentors or qualified staff:-

SN 2   *"No I have only watched it"*

The feedback from the students about their observations suggested that they did not notice any strategy or skill to the holding techniques being used:-

SN 1   *"I don't know they just hinted just hold the child there didn't seem any kind of strategy to it …. it was almost just a case of just hold her still really"*

The data from this study suggests that there are variations in practice, a lack of confidence and guesswork when it comes to the application of therapeutic holding techniques. Once again this research has identified that because parents are involved in holding their child there is no need for the student to be involved:-

M9   *"The students don't necessarily get involved   you might be asked to hold the legs or the arms or something like that you might be or we tend to try and get the parents to do it"*

This quote reiterates the issue that healthcare staff are not aware that holding a limb is part of the therapeutic holding process and of the technical difficulties the process involves. The introduction of Compassion in Practice, action area five which looks at competency, experience and education (DoH, 2012: 22) specifies that healthcare services should have ;-

"the right number of staff with the right skills and behaviour and working in the right place to meet the needs of the people they care for".

Within this document, the Department of Health will work with care providers, service users and carers to promote culture change and skills development.

Theme: impact on student nurse training

In this study, seven nurse lecturers and thirteen mentors (n=20) were asked if they had received therapeutic holding training during their own professional education. The response is surprising given that there is an assumption that nurses are routinely taught holding techniques during their training. Only three participants (two nurse lecturers and one mentor) (15%) stated that they were taught holding techniques:-

NL1   *"I was remembering being taught how to wrap a baby in a blanket … I can't remember physically being shown how to perhaps hold an older child "*

NL7 "*I was taught them on my paediatric course as a student*"

M7 "*yes I did have training*"

85% of participants did not receive any training, with three mentors explaining that they acquired this skill once qualified (Mentors 5, 6 and 10):-

M10 "*No I think things like this have developed over the years*"

The answers to the question from participants about what do you teach student nurses on the subject of therapeutic holding may offer an explanation to the picture that there is no consistency in what is taught to student nurses within the UK. Only one nurse lecturer discussed therapeutic holding in terms of the practice that parents might do. Five nurse lecturers interviewed discuss how to hold a child securely and how to lift the child (including nurse lecturer 1 who teaches the technique she learnt as a student nurse) but not the techniques for holding a child effectively to enable procedures/examinations to take place. Two nurse lecturers did not discuss the issue at all:-

NL1 "*Not in a formal term not using your terminology no … if we were teaching about passing a naso gastric tube yes we do talk about how to hold a child and how you would manage to perhaps wrap a baby in a blanket* "

NL2 "*we don't go into any specific detail about it*"

NL3 "*to be honest I don't refer to holding for clinical procedures very much I talk about parents holding children*"

NL5 "*I don't I don't do any teaching with respect to that*".

General versus specific methods

One nurse lecturer struggled to see how techniques could be taught for all the situations that students may find themselves in with children:-

NL3 "*that you can teach people techniques and strategies but it won't be appropriate to use them on everybody that you are caring for as a children's nurse*"

This comment from nurse lecturer 3 is important because it serves to remind readers that therapeutic holding is viewed as complex and therefore any policies, procedures and regulation must not be based upon 'black and white scenarios', instead 'shades of grey' would be more helpful. Only nurse lecturers 2 and 5 specifically mentioned that students should be taught therapeutic holding techniques. Other suggestions from participants included *legal and ethical issues, consent, age appropriateness, definitions, rights of the child, therapeutic holding being a last resort.*

Mentors views were very similar to the nurse lecturers:-

M1   *"I think the benefits definitely should be discussed like involving parents"*

M3   *"what holds can be used"*

M5   *"what we are allowed to do "*

M11   *"I think it is really important to have informed consent from the child and the parents"*

M12   *"I think it's more about getting the parents involved and getting them to work with their child"*.

Student nurses stated that they required more practical help which included:- what is acceptable/what is not (6 students), exploring feelings of student (2 students), identifying the support students may need, preparation what to say to parent and how to prepare parents (3 students), communicating with the child (3 students) and how much force to use (2 students):-

SN1   *"it's how you are gonna feel afterwards the support you might need afterwards and the way in which you are meant to do it what's acceptable what's not …is there you know is there a limit are you supposed to how are you meant to actually do it you need someone there to show you an acceptable way like you would with moving and handling you need that kind of guidance that says this is how you do it if you go outside these lines that's not right"*

SN2   *"I think similar to what you prepare the parents 'cause at the end of the day you are going to be taking good care of the parents so its easier that you both know what you are doing"*

SN3   *"I think sort of boundaries really I think we need to be taught what's acceptable and what's not".*

Student nurse 1, who has had a negative experience using therapeutic holding, suggested that she would benefit from having the opportunity to explore the feelings and emotions therapeutic holding can have upon the person involved in the holding (the psychological impact). Lloyd et al (2008) found that nurses did experience negative emotions (for example on account of the child or their parents being upset or in situations when something had gone wrong) but that these emotions were short lived, any feelings of frustration, anxiety or distress were also short lived mainly due to the supervision systems available to the nurses, for example, debriefing. Unfortunately student nurse 1 did not have access to such systems and as a result believed that she would be asked to leave the nursing course because she felt that she was involved in a holding situation that had gone wrong. Student nurse 1 likened the distress she experienced as being

similar to the grieving process and need for training that has been identified for student nurses on perceptions of dying/end of life care (Tery and Caroll, 2008; DOH, 2008 and NMC, 2010). This study has identified that there were no supervision systems available to student nurses following holding situations which in the case of Student 1 affected her emotionally. Shona MacLean was also a student nurse at Birmingham City University and her published article (2011) also supports the views of Student 1 and not the findings of Lloyd et al (2008).

The students did start to think about what was reasonable with regards to the amount of force that they could use with the child:-

SN 3   "*I don't know how much is too much if that makes sense I suppose you sort of know from your general knowledge any way how much is too much if you're gonna be hurting them but I think you should be taught boundaries really*"

SN 4   "*Am I using therapeutic holding now or is this now become restraint and I am using a bit of force*".

In summary, there are assumptions made within text books and published articles that nurses may be holding children as a means to get the procedure "over and done with" and that using therapeutic holding with an objecting older child is wrong (Jeffery, 2008:50). Within the literature review for this research only one study identified this as an issue (Demir, 2007). It is evident in this study that this belief has added to the confusion of the participants, who may be worried that if they advocate the use of therapeutic holding they could be seen as using poor practice because they are not looking at alternatives (which raises the question of do they view the use of parents to hold their child as an alternative practice), or they may be worried that they cannot defend their rationale for holding the child because there is no consensus on the benefits of holding.

There is no agreed term to describe the people doing the holding. The term holding guardians was used by a radiologist working at Birmingham City University. The term 'guardian' originates from France (gardien) which means protector or custodian, which are accurate synonyms for this role.

The core category throughout this study was 'values and behaviours' which connected all the themes together. It is this core category that if addressed would contribute in resolving this group of participants concerns. The use of the words "KIND OF", "SORT OF" and "JUST" in this study identified that there was no technical description from any of the participants interviewed to suggest that participants are aware of the skill required

to hold a child or young person safely. It is possible that student nurses are learning to disengage from the process and this is leading to the disconnection from all the technicalities and an indifference to the practice as they become immersed in other nursing skills and procedures.

Within this study, the holding techniques are only accessible to parents willing to hold their child. This study did not ask the question of what happens if parents refuse. In Study 1, the participants believed that asking parents to hold their child was the best practice and more acceptable than they as strangers doing the holding. The Code: Standards of conduct, performance and ethics for nurses and midwives advocates that nurses "must have the knowledge and skills for safe and effective practice" (NMC, 2008: 7). Jeffery (2008) warns that nurses would be negligent if they used techniques which they have not had training on. We know from the literature review that this is very much the case (Pearch, 2005, Valler-Jones and Shinnick, 2005; Jeffery, 2008). It has already been identified that many healthcare professionals ask parents to hold because they lack the skills to do so themselves (McGrath et al, 2002). In Study 2 the suggestion is that parents are asked to hold because the healthcare staff are unclear of ethical issues around whether they are therapeutically holding the child or using restraint. The words of mentor 9 stating that they try and get parents to hold to avoid holding the child themselves implies that healthcare staff are trying to avoid making ethical decisions about the holding situations they are in. Piira et al (2005) undertook research which suggests that asking a parent to help hold their child (forcibly restrain) 'goes against the normal protective instinct of the parent' and some researchers question whether it is ethical to ask parents to become involved in the holding process when many nurses feel uncomfortable about the process (McGrath et al, 2002; Souders et al, 2002; McGrath and Huff, 2003; Willock et al, 2004; Snyder, 2004; Pearch, 2005; Piira et al, 2005).

Gardner (2004) identified that when asked a question to which the individual has not been properly prepared:-

> "Not only is one stymied but, more often than not, the respondent reverts to the earlier engraving, or to shift metaphors, slides back to the valley of ignorance" (Garner, 2004: 57).

Gardner (2004) also suggests that the more emotion that is attached to an issue the less likely the individual will be willing or able to change. The participants were flummoxed by the question 'what do you understand by the term therapeutic holding' followed by 'what do you understand by the term restraint' which suggests that they may have established strong beliefs and mental representations about this issue which have not been

challenged. Most participants did not realise that their answers were inadequate and contradictory until challenged within this study. Gardner (2004) points out that this is a complex process where the individuals' beliefs are entrenched by views held through emotion. It is possible that the intuition that informed these conscientious decisions may be based on a lack of agreement, a lack of clarity and a lack of empirical research about what is actually happening within HEIs and clinical placement. The overt moral judgement is that it is acceptable to hold a child who is deemed too young to understand the need to be still. Another overt moral judgement within nursing is that any nurse who holds a child or young person against their will is demonstrating poor practice. Mentor 9 suggested that by getting the parent to hold also absolves her of any professional issues around consent and decision making. This places healthcare staff in a dilemma, as they often receive conflicting messages from colleagues, published papers and policy. Healthcare staff may believe that they will be in the wrong regardless of the decision and actions they take- a 'double bind' situation (Bateson et al, 1956). Conversely there are no multidisciplinary aspects of research published in this area, therefore, it is difficult to identify whether anaesthesiologists, dental nurses, radiologists and neuroscientists also feel this way. The belief that the use of therapeutic holding is 'common sense' could now be seen as a flawed assumption.

This study has identified that there may be a gap with healthcare staff not having the right skills to hold children and identified that not only are HEIs not preparing student nurses for clinical practice where therapeutic holding may be used, there is a deficit of nurse lecturers and clinical mentors who have been taught therapeutic holding skills themselves. This deficit is evident in the vague manner in which therapeutic holding is described, the lack of clarity with teaching and the reliance on parents to do the holding. The theory-practice gap is also evident within the practice areas with the descriptions given by mentors about how they involve students not matching up with the student nurses who participated in this study. This study supports the findings of Study 1 and offers a clear picture of the impact of the theory-practice gap.

Introduction to Study 3

Study 2 of this research explored why few healthcare professionals have questioned the practice of holding, training and how practical holding techniques are taught within HEIs and clinical practice. Focusing the participant stories on values, identified that participants used words with a similar meaning to therapeutic to explain their understanding of the term such as supportive, nurturing and comfort. They also used words which stressed their uncertainty. A review of RCN documents published also highlighted the interchangeability of the term therapeutic by this organisation. This was evidenced by participants becoming stymied when their knowledge was probed further. An exploration of participants' perception of holding techniques identified that healthcare staff prefer techniques that they are familiar with, usually cuddling and wrapping. The outcome was that healthcare staff do ask parents to hold their children to avoid doing so themselves. With regard to education, nurse lecturers and clinical mentors felt that legal and ethical issues, the age of the child and informed consent were important which reflects their reading and knowledge of the literature. Whereas the student nurses wanted to be taught what they can and cannot do, debriefing, communication strategies and how much force to use.

Study 3 is the last of the three qualitative studies which sets out to answer the research question of *"What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?"* This study seeks to corroborate the views of participants in Study 2 with nurse lecturers (child field) at other HEIs. The aim of this phase is to explore the degree to which therapeutic holding is embedded within the curricula within other HEIs. The literature review established that there is no consistency over the training (Ellis, 2000; Bland, 2001; NIMHE, 2004) or content of training that student nurses working within child health should receive (Valler-Jones and Shinnick, 2005; Shinnick-Page et al, 2008; Jeffery, 2010).

Chapter 6   Study 3

What are the assumptions and practices of other HEIs on the subject of therapeutic holding?

Introduction

Student nurses from Birmingham City University stated that they had been involved in holding children and that most felt uncomfortable with this practice because they had not received formal training. Nursing students' experiences of clinical practice identified a discrepancy between theory and practice. The literature review established that there is no consistency over the training or content of training that student nurses working within child health should receive on therapeutic holding. Study 2 identified that there was not only a theory-practice gap in what was taught by Birmingham City University on therapeutic holding which did not reflect clinical practice, but that there was a deficit of qualified practitioners with the skills to implement or teach techniques, which may explain the lack of a consistent approach and the catalyst for parents to do the holding.

Background

There is a lack of systematic evidence and inconsistency in the quality and content of training (and skills of trainers) on this subject (Ellis, 2000; Bland, 2001 and NIMHE, 2004). The literature review identified that there are a number of opinion papers stressing what should be taught to student nurses but only one practice paper which detailed their teaching on therapeutic holding to child health nursing students (Valler-Jones and Shinnick, 2005).

The study

This phase of research explores what is being taught by other HEIs to nursing students (child health) on the subject of therapeutic holding.

Design

Grounded Theory was also appropriate for this study because it provided a method of conceptualisation for explaining how people respond to the phenomenon (Creswell, 2003).

Procedure

Nursing courses vary between universities and colleges but all help to prepare students for admission to a relevant part (field) of the Nurse Midwifery Council (NMC) Professional Register for example as an adult nurse, a learning disability nurse, mental health nurse or child nurse. A survey of UK courses that offered Children's Nursing or Child Health Nursing (UCAS, *accessed 25th March, 2012*) identified that there were 69 courses offered by 36 HEIs.

An electronic questionnaire was emailed to a convenience sample of HEIs. Eighteen questionnaires were emailed and fourteen were received back (response rate of 78%). The eighteen HEIs were identified by contacting learning disability lecturers from other HEIs and asking for a contact name and asking the Child Health Team, Birmingham City University, to approach external examiners to see if they would agree to take part in this research. This meant that the questionnaire was sent to an identified nurse lecturer.

See Chapter 3.2, which lists the questions developed for the participants from other HEIs who were asked to take part in this study. The difficulty with receiving this information via a questionnaire sent by email was that not all sections were filled in correctly or at all by the respondents. Seven were completed thoroughly. Two more were updated in response to email requests. The researcher did not get an updated response from the remaining five of the respondents despite emails requesting further information. Therefore only the nine fully completed questionnaires were included in this phase of the research (which gave an overall response rate of 25%) (n=9). Data was collected between May 2012 and July 2012.

Data analysis

As with Studies 1 and 2, a Grounded Theory approach was used. Robson (2011) suggests that coding of questionnaires can be completed through copying all the responses to a particular question onto a separate piece of paper to develop categories into which these responses can be sorted, with the aim being to turn the answers of open questions into a set of standard responses. *Appendix 7* details this process. Each email response was read several times which identified that the questions could be broken down into 11 areas to allow for substantive statements to be identified (some of the questions were grouped together to allow comparisons and some questions remained on their own) (Gillham, 2005). Each of these new questions captured pertinent or substantive statements made by each informant with regard to the subject area.

Reliability of Study 3

The questionnaire was based upon guidance from Corbin and Strauss (2008) and Robson (2011) as a means to open up a specific line of enquiry. Robson (2011) suggests that the disadvantages of a questionnaire based survey are that the data received is dependent upon the characteristics of the respondents, which includes their knowledge, experience and motivation to complete and return the survey, and a low response rate. Denscombe (2010) adds that with questionnaires there is little opportunity to check the truthfulness of the answers given or any disparity between a given answer and another factor. Despite sending eighteen questionnaires to named nurse lecturers, with follow up emails, fourteen were sent back. Of this fourteen only nine were completed with all questions answered. It is not known why the nurse lecturers from the five HEIs did not answer all the questions. Due to the time of year which included nurse exams and summer holidays, there was no further correspondence or clarification from them. The nine complete responses appear to provide full information on the phenomenon, which adds to the value of this research. There is confidence that the information given appears to be accurate in the nine full responses which Denscombe (2010) suggests is essential when evaluating a research questionnaire which is why they were included in this phase of the research. The five responses which had information missing were excluded because it could not be ascertained as to why the questions were not answered fully.

6.1   Results and discussion: Study 3

Table 1.3.0 Keywords used to describe therapeutic holding

The key words used by the respondents (in vivo) to describe their understanding of the term therapeutic holding are:-	Examples
	To help/support
	Holding
	Still
	Positioning
	Minimum force
	Consent
	Agreement/understanding
	Only when required
	Safe
	Effective
	Quick
	Secure

Through axial coding the conditions and context under which the respondents believe that therapeutic holding occurs is when the child offers their cooperation and are compliant with the procedure. The core category is the belief that therapeutic holding signifies a benefit to the compliant child.

Table 1.3.1 Keywords used to reflect what term they use instead of therapeutic holding

The key words used by respondents to reflect the term they use when discussing therapeutic holding:-	Example
	Therapeutic holding
	Restraint
	Holding still
	Clinical holding
	Supportive holding
	Comfort holding
	Immobilisation
	Holding

Through axial coding the link between the labels is the interchangeability of terms by the respondents. The core category is inconsistency.

Table 1.3.2 Responses to how therapeutic holding is threaded throughout the respective nursing curricula

The Responses from participants' relating to how therapeutic holding is threaded through the nursing curricula:-	Example
	Practical skills taught as well as relevant theory
	Follow RCN guidance
	Consistent approach
	Threaded through curriculum
	Hit and miss - not directly expressed
	Not sure
	No consistency
	Discussion based - theory
	Moving and handling mandatory session
	Awareness point
	Taught once within curricula
	Theory – ethical & legal issues and general principles
	Covered within curricula if student completes directed study
	Theory only and classified as self directed reading
	Assume placement teaches specific holding techniques

The core category is a lack of a cohesive approach to nurse education despite the need to hold being a daily practice.

Table 1.3.3 keywords to reflect understanding of restraint

The key words used by the participants (in vivo) to describe their understanding of the term restraint are:-	Example
	A physical intervention Restraint of child using word support for a clinical procedure Holding without consent Holding Holding and a physical intervention

Through axial coding the conditions and context under which some respondents believe that restraint occurs as part of the holding for clinical procedures is; - when the child does not consent and is not compliant with the procedure. The core category is inconsistency.

Table 1.3.4 Responses to what HEIs include in their practical teaching element

Responses to the practical teaching element of therapeutic holding skills:-	Example
	Swaddling, venepuncture, cannulation Distraction Photos RCN guidelines Experience Policy NMC Code DoH documents UN convention

The core category is a lack of a cohesive approach to nurse education, despite the need to hold being a daily practice.

In this study, participants are identified using the code HEI.

There are three themes identified in this study to answer the research question 'What is taught on the subject of therapeutic holding to child field student nurses by other HEIs?':-

- The belief that therapeutic holding signifies a benefit to the compliant child.

- Inconsistency in the use of terminology.

- A lack of a cohesive approach to nurse education despite the need to hold being a daily practice.

Theme: The belief that therapeutic holding signifies a benefit to the compliant child

Study1 (audit and service evaluation) explored the beliefs about therapeutic holding. It identified that participants held a 'black and white' view of the situations where holding is required which crumbled under scrutiny and may be a factor in why many parents are asked or left to hold their child when the child's behaviour limits the ability of the healthcare team to deliver treatment. In Study 2 (perceptions on techniques, procedure and training by student nurses, nurse lecturers and clinical mentors) the participants used synonyms that reinforced the perceived therapeutic aspect of the procedure (beneficial, good, calming). Just as in Study 1, the participants in Study 2 where flummoxed when asked to explain their knowledge of therapeutic holding and restraint and gave inadequate and contradictory answers. This phase of the research offers a tentative link as to why the above is a recurrent situation across the studies:-

> HEI 7 "*A term used to describe supportive holding and positioning of infants/children during clinical interventions/procedures*"

The explanation offered by participants is that the holding 'guardians' are therefore comforting and offering the child their protection by holding the child to soothe and alleviate any perceived pain.

The terms used by the participants appeared to stress that this process can only be achieved with a compliant child who understands what is happening:-

> HEI 1 "*The use of minimum force to help a child undergo a procedure, where they are developed enough, with their consent*".

HEI 4 *"Holding a child with their consent"*

HEI 8 *"It's the holding of a child or young person by either another person or persons, in order to perform a procedure such as taking blood or a lumber puncture. Therapeutic holding requires consent and is carried out to enable the procedure to be completed quickly and safely".*

The participant from the HEI 4 stresses that they only discuss therapeutic holding situations where the child has consented:-

HEI 4 *"Only for therapeutic holding with consent. We have photos of how children can be positioned"*

This belief is threaded through this research and current literature. There appears to be no recognition within this term and definition of therapeutic holding for situations where the child does not give their consent or is not compliant with being held for the procedure.

Theme: Inconsistency in the use of terminology

This phase of research confirms that there is no consensus of terminology or definition across the HEIs surveyed.

HEI 2 *IS THIS A TERM THAT YOU USE TO DESCRIBE THE PRACTICE OF HOLDING CHILDREN FOR CLINICAL PROCEDURES? "Yes And use the term restraint"*

HEI 3 *"No…Use term holding still"*

HEI 5 *"No ...Clinical Holding for Procedures also use restraint"*

HEI 6 *"Yes …but also use clinical holding supportive holding"*

HEI 7 *"Yes and no… also use clinical holding and comfort holding"*

This implies that the term used as a replacement has the same meaning as the term it is replacing. All of the above terms have different definitions. (*See Table 1, Timeline of Terminology, Chapter 1 of this thesis*). Participants also used the term comfort holding, which has not been discussed in literature.

For some participants the use of the term 'holding' implies interchangeability with the term 'therapeutic holding' and that the conditions under which restraint occurs is the same as those identified for therapeutic holding. Some participants disagreed with this and have a completely different thought process about the term restraint. This disagreement in findings concurs with the professional opinion papers published in particular, Jeffery (2010), Darby and Cardwell (2011) and Wilson and Hockenberry (2012):-

HEI 2   "*restraint is…the support of a child who may not wish it to be undertaken , would only be used when the procedure is for in the greater good of the child*"

HEI 5   "*Restraint is associated with holding against a person's express wishes necessitating some degree of force or immobilisation*"

Four participants did give a definition of restraint that could not be confused with therapeutic holding (HEI1, 3, 6 and 7) for example:-

HEI 3   "*Now referred to as Restrictive physical intervention and used to prevent harm*"

The response from participant 8 suggested that there should be consent to restrain the child whereas most others suggest that they view the use of restraint as being when there is no consent:-

HEI 8   "*It's the holding of a child or young person by either another person or persons, or the use of restraint equipment to hold a person to maintain and ensure their safety. Consent should be obtained, however, in cases where the child is being held in order to maintain their safety and the safety of those around them*"

HEI 5   "*Restraint is associated with holding against a person's express wishes necessitating some degree of force or immobilisation*".

Theme: A lack of a cohesive approach to nurse education, despite the need to hold being a daily practice

There appear to be several models within HEIs to demonstrate the conditions in which therapeutic holding is threaded through nursing curricula. The first is that there is a consistent approach with the subject threaded through the curriculum and students receive practical and theoretical advice:-

HEI 1   "*I refer to therapeutic holding in many clinical skills sessions that I teach, in one of the second year modules we have a guided study and feedback session which is based on the RCN guidance. This issue is also covered in our legal and ethical sessions*"

Another model is that therapeutic holding is taught as part of mandatory moving and handling sessions and therefore there is some consistency to teaching:-

HEI 3   "*We discuss the subject within the professional practice modules and particularly in the mandatory training sessions such as Moving and Handling in Children's nursing as an awareness point*"

Another example of a model is that therapeutic holding is taught to the students once, usually as a discussion based theoretical session:-

> HEI 4 "*Nursing Care of Children with acute health care needs in a session on procedural distress*"
>
> HEI 6 "*Children who are ill 1 (old curriculum); Principles of Children's Nursing (new curriculum). The session is 'Physical care of children'*"
>
> HEI 9 "*Proactive approach taken in year two we teach theory - principles of holding rather than specific techniques*"

or as a skills session (HEI 5 and 7).

Another model is that awareness of the phenomenon is part of self-directed study:-

> HEI 8 "*Students are directed to reading on therapeutic holding within the suggested reading list of RCN publications which is included in the year one uni-professional module*"

There are several assumptions that are evident:- that placement teaches students specific holding techniques, that it would naturally be part of the ethical and legal theoretical teaching sessions and that if it is part of 'directed-study' all students would complete the activities:-

> HEI 2 "*Most likely to come up on sessions re ethical/legal issues*"
>
> HEI 9 "*In practice they are taught specific holds*"
>
> HEI 8 "*There is no teaching on therapeutic holding as far as I am aware – it's classed as self-directed reading. There is formal lecture on consent, record keeping and policy and the rights of the child which covers the child's right to refuse treatment. Ethics of medication administration is in a separate lecture*".

Is the theory implicit or explicit within the curricula?

Implicit suggests that the phenomenon is implied within the curricula, perhaps even taken for granted (demonstrated by participants 2 and 9):-

> HEI 2 "*Most likely to come up on sessions re Ethical and legal issues*"

Whereas explicit suggests a certainty and that it is clearly demonstrated where therapeutic holding is embedded within the curricula (demonstrated by participants 1 and 7):-

> HEI 1 "*The law and consent, the law and refusal to treatment, the difference between holding and restraint, some clinical skills sessions will demonstrate techniques such as distraction, swaddling etc , level 1 violence and aggression training*"

Participants 3, 4, 5, 6 and 8 appeared to be explicit in some areas and implicit in others; when asked about how therapeutic holding is threaded through the curriculum there was no consistency between the HEIs.

HEI 3 "*We familiarize our students with the 2010 RCN guidelines and I raise awareness during mandatory moving and handling sessions but may be included in other practice and therapeutic skills modules*".

The models identified through axial coding suggest that apart from one respondent, most believe that the RCN guidelines (2010) offer advice on how to ensure practical holding techniques are safe and effective to use. Some identify experience, policy and Department of Health documents as guiding their teaching.

HEI 6 "*teach general principles using RCN Guidance on Restrictive Physical Intervention and Therapeutic Holding for Children and Young People (2010)*"

This is not supported by the views of participants in Study one which identified that the nurses interviewed did not use the RCN guidelines to influence their practice.

Five participants do not teach student nurses any practical therapeutic holding techniques (HEIs 2, 3, 6, 8 and 9). HEI 1, 4, 5 and 7 stated that they teach swaddling, distraction, and how to support the child for cannulation and venepuncture:-

HEI 1 "*Demonstrate swaddling, distraction*"

HEI 4 "*We have photos of how children can be positioned including astride their parents back or sitting side on, with a hand behind the parents back*"

HEI 7 "*Only those related to venepuncture and cannulation with regard to supporting the limb and child*".

Only HEI 4 received any training in practical therapeutic holding techniques when they were a student nurse, which may be reflected in their ability to describe the techniques taught within their response.

In summary, this questionnaire was designed to confirm or disprove the findings of Study 2 of this research that student nurses are no longer being taught therapeutic holding techniques as part of their training. This questionnaire was the least successful aspect of this research because the format created its own problems with some respondents not completing all the questions and failing to respond to further emails. It was also difficult to identify whether the respondents were giving attention to the questions or regarded the questionnaire as a chore. If study 3 were to be repeated, a higher response rate and in-depth explanations may be gained by using face to face interviews or by using a Delphi technique. No claims of generalisability can be made as this study reports the comments from only nine HEIs, from thirty six identified through UCAS in 2012, who teach the child health nursing curricula.

This study sought to explain why there is a theory-practice gap as discussed by Sharif and Masoumi (2005) and Jeffery et al (2007). *Appendix 7* lists the responses from child health nurse lecturers and presents a picture of inconsistency and that therapeutic holding does not appear to be a priority amongst the non-mandatory subjects which are taught to student nurses. Of the nine participants only one had received training on therapeutic holding, which means that the other participants are using only theoretical knowledge to inform their teaching. It is evident from the responses that they are using the opinion papers published without an understanding of what is occurring in the clinical area. As with Studies 1 and 2, participants in this study did not all use the term 'therapeutic holding' when discussing this practice. Many participants used other terms and some had a different knowledge base about the use of the term 'restraint'.

The core category throughout this study was 'a lack of cohesive approach to nurse education, despite the need to hold being a daily practice' which connected all the themes together. It is this core category that if addressed would contribute to resolving this group of participants concern.

Study 3, identified that four of the nine participants working in other HEIs teach practical holding techniques around swaddling, distraction, venepuncture and cannulation. There are many other procedures which may require the child to be held still in order for the procedure to be carried out safely. The following were identified by the participants in Study 1:-

- Blood tests, cannulation and venepuncture (mentioned by all participants)
- Suturing/gluing of wounds (4 participants)
- Medical examination (2 participants)
- Naso gastric tube insertion (2 participants)
- Lumbar punctures (2 participants)
- Dental examination (2 participants)
- Dental treatment (2 participants)
- Cleaning wounds, cleaning burns (2 participants)
- Catheterisation (1 participant)
- Preparation for theatre (1 participant)
- Tracheostomy care, PN central line administration (parenteral nutrition) plus administration of medication via this route (1 participant).
- Removal of foreign body (1 participant)

There is therefore a gap in the practical skills being taught to student nurses within HEIs. The lack of cohesion within the HEIs about how therapeutic holding is threaded through the curriculum within each HEI and the assumptions made about what is taught within the clinical area further illustrate that therapeutic holding has become an 'indifferent' practice.

Introduction to Study 4

Study 3 sought to corroborate or challenge the opinion by Sharif and Masoumi (2005) and Jeffery et al (2007) that there is a theory-practice gap. This study identified that there is a theory-practice gap. A cause of this gap may be that the theories discussed in class are those presented as opinion papers, which are not always based upon the real life situations students may face in practice and therefore fail to prepare the student for generalising what they have learnt. The lack of empirical research published on this phenomenon means that there is a lack of practice theory and a lack of practice examples for nurse lecturers to use to underpin their teachings.

Creswell (2003) definition of mixed methods specifies that quantitative and qualitative data collection and analysis are present in mixed method studies with the purpose being triangulation. The typology (classification) of the mixed methodology used in this thesis was an exploratory sequential design, which was used to expand the findings of one method with another (Creswell, 2003). Studies 1, 2 and 3 followed the theoretical perspective of Grounded Theory (Glaser and Strauss, 1967), in that once the area of research had been identified, the researcher entered the field as soon as possible to gain an understanding of the phenomenon and to answer the research question of *"What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?"* All three studies enabled an exploration of what was happening with holding practices from the practitioners' interpretation. Through building theories and making sense of practices, it was then hoped to make comparisons with decision making and technique selection (Study 4 and 5).

All five studies have been kept independent of each other as distinct studies, data collection and data analysis. The strands will come together and conclusions will be formed during the interpretation stage (chapter nine of this thesis) (Creswell, 2003). The two methods, qualitative and quantitative will provide different aspects of interpretation of the phenomenon (Bryman, 2006). The three qualitative studies (1, 2 and 3) may explain factors underlying relationships in the two quantitative studies (studies 4 and 5). The timings of the methods, the dominance of each method by expanding the findings of one method with another, may confirm or contradict findings, may interpret statistical relationships and may help to explore puzzling responses or results (Creswell, 2003; Bryman, 2006).

Study 4 explores preference about the techniques in order to offer explanations as to why holding techniques for older children and holding techniques for procedures other than cannulation and venepuncture are not routinely taught. This study provides a preliminary 'pilot' approach because it looks at preferences and follows a non-statistical approach, giving the lowest level of interpretation to extend and build upon results from the Grounded Theory studies and lead into Study 5.

Study 4 is the first of the two quantitative studies in this research designed to collect statistical information to answer the research question *"What holding techniques are preferred by healthcare staff and why?"*

Chapter 7   Study 4

What holding techniques are preferred by healthcare staff and why?

Introduction

There is little evidence about the practicalities surrounding the use of the therapeutic holding techniques currently in use, the routine situations where nurses use them and it is not known why healthcare staff use the holding techniques they do. Many of the holding techniques being used by clinicians have been developed over time by nurses, which prompted Valler-Jones and Shinnick (2005: 21) to ask the question "what guidelines are nurses working to and who has designated these techniques safe and acceptable?".

Background

The RCN (2010), Jeffery (2010), Hull and Clarke (2010) and Coyne and Scott (2014) believe that the differences between a restrictive physical intervention and therapeutic holding are the degree of force and the intention. There has been no empirical research which looks at how and why healthcare staff select the techniques they do to hold a child or young person still for a clinical procedure or medical examination. In stage 1 of this thesis Studies1, 2 and 3 explored assumptions. The results suggest that therapeutic holding is predominantly viewed as 'cuddling' or 'wrapping' the child in a blanket. Study 4 explores preference about the techniques to offer an explanation as to why holding techniques for older children and holding techniques for procedures other than cannulation and venepuncture are not routinely taught.

The study

This Study explored preference by asking participants to identify therapeutic holding techniques they 'liked' and 'disliked'. The therapeutic holding techniques were those identified by participants from Study 1 as being routinely applied by healthcare staff in their clinical practice. This study is unique, in that it is the first study to identify the techniques healthcare staff are using in practice to hold children and young people.

7.1   Method: Study 4

Design

To answer the second research question of:- "What holding techniques are preferred by healthcare staff and why?, mixed methods were used to identify frequency of responses to two key questions '***which technique struck you as being most positive/you liked most?*** and which ***technique struck you as being most negative/you liked least?'*** Ordinal scales were used because they allowed for the attribution of labels (strongly like, like, neutral, dislike and strongly dislike) with the participants values being assessed through questioning their preferences. Grounded theory was used to analyse the responses to the questions. The questions asked to help organise the data into codes and categories followed those suggested by Glaser (1978):- 'What is this data a study of', 'what category or property of a category, or of what part of emerging theory does this data indicate' and 'what is actually happening in the data'. This follows the methodology identified in Chapter 4.

Participants

A purposive sample was selected, which involved deliberately choosing lecturers from two universities and healthcare professionals who met the following criterion;-

A) Healthcare professionals (n = 7): Professionals were identified by the specialist service to be most knowledgeable about the therapeutic holding techniques being used and which therapeutic holding techniques are in use for each clinical procedure.

B) Lecturer (n = 1): Lecturers who indicated a specific interest in the area and who had used therapeutic holding techniques when working in the clinical area.

C) Lecturers who have published on the issue of therapeutic holding. This group included a lecturer working in a child health department at another university (n= 3).

D) Co-author of a risk assessment tool looking at physical interventions, who is also a specialist in managing challenging behaviour, clinical psychologist and one of the author's supervisors (n =1).

This sample is a non-random form of convenience sampling that utilised selected professionals and experts from a limited number of appropriate participants who could inform this research (Kumar, 1996; Denscombe, 2010).

Table 1.4.0 Demographics: Participants who took part in Study 4 (n=12).

Participant	Job role	Experience
Participant 1 (Healthcare practitioner) Non nurse	Phlebotomist	34 years' experience as a Biomedical Scientist, phlebotomy manager and staff representative regarding clinical governance from year qualified.
Participant 2 (Healthcare practitioner) Non nurse	Play specialist	13 years' experience working with children from year qualified.
Participant 3 (Nurse practitioner)	Emergency Department	9 years' experience working with children from year qualified.
Participant 4 (Nurse practitioner)	Department of Education	26 years' experience working with children from year qualified.
Participant 5 (Nurse practitioner)	Cardiac ward	3 years' experience working with children from year qualified.
Participant 6 (Nurse practitioner)	General medical ward	11 years' experience working with children from year qualified.
Participant 7 (Nurse practitioner)	Renal ward	14 years' experience working with children from year qualified.
Participant 8 (Expert)	Senior Lecturer children's nursing (lecturing at another university) published on subject in 2008; also completed Masters of Professional Education, (unpublished) on therapeutic holding in 2010	26 years' experience working with children from year qualified.
Participant 9 (Nurse practitioner)	Senior Lecturer (BCU)	16 years' experience working with children from year qualified.
Participant 10 (Expert)	Senior lecturer (BCU) published on subject in 2008	28 years' experience working with children from year qualified.
Participant 11 (Expert)	Senior academic (researcher) published on subject in 2005, 2008 and 2013	30 years' experience first started looking at therapeutic holding in 1998 and teaching on the subject in 2000.
Participant 12 (Expert)	Co developed a risk assessment tool looking at physical interventions using the Juster Probability Scale. Published on subject in 2013.	26 years' experience in the field. Published over 30 articles on the issue of managing behaviours.

The two non nurses were an essential part of this sample group. The play specialist spent a large amount of their working day explaining therapeutic holding techniques to the child/young person and if necessary teaching the technique to parents. The phlebotomist would often refer a child to the play specialist for this specific purpose. The

nurses were selected because they were identified as having experience of using therapeutic holding techniques within the departments they were based in. There is uncertainty about who can be termed an 'expert' (Martin et al, 2008). For this study the following definition shall apply:-

> "An expert … who by virtue of education, training, skill, or experience, is believed to have expertise and specialised knowledge in a particular subject beyond that of the average person" (Collins English Dictionary, 2003)

Two experts had extensive experience in teaching therapeutic holding techniques to student nurses and had published articles on this subject. One expert (the researcher writing this thesis) had extensive experience in teaching therapeutic holding techniques to student nurses, had extensive experience of physical intervention skills management and training, held formal instructor qualifications in more than one training system for physical intervention skills and had published on both physical intervention skills and on therapeutic holding. One expert (also one of the researcher's supervisors) had extensive experience of physical intervention skills management and training, held formal instructor qualifications in more than one training system for physical intervention skills and had published outcome research on the effectiveness of staff training with physical intervention skills and a publication about defining good practice for therapeutic holding.

Data Collection

Key participants from Study 1 (n=11) were asked to identify the therapeutic holding techniques which they use or teach to parents. The key participants were healthcare professionals from dentistry, theatres, emergency department and the play specialist. 39 techniques were identified. One additional method was identified from a publication because it is the only 'new' technique published in this decade and the only technique published since Kurfis Stephens et al (1999), this is the 'Superhero Cape Burrito': Brown and Klein, (2011).

All of the 40 techniques were photographed using manikins/colleagues to simulate the appropriate age of the infant, child or young person. The professionals who identified the 39 techniques confirmed that the photographs were an accurate representation of the techniques they use in their specific area. There were no changes made. The therapeutic images were put onto colour A4 paper with the following information:-

- Photograph of therapeutic hold (or if relevant photographs of hold from different positions).

- Description regarding purpose.

- Description regarding characteristics of hold.

- Comments regarding risk factors were left blank.

The therapeutic images were presented to each participant in a random order.

The 12 participants in this study were asked two key questions:-

Which technique struck you as being the most positive/you liked most?

and

Which technique struck you as being the most negative/you liked least?

Data analysis

Two types of analysis were used. In the quantitative stage in analysis was used to separate the information from the participants into component parts (likes, dislikes) and link the data to each technique. Data from all participants was scrutinised and then summarised into a frequency measurement from the perspective of three separate professional groups (non nurses, nurses and 'experts') to allow in depth probing to identify possible explanations of the phenomenon and whether these principles can be applied to other services. This stage involved developing a grid to highlight the frequency of similarities and differences within and between the three groups. The techniques were also categorised into the following 5 sections:-

- ***Strongly like***: where 6 or more participants reported that they liked the technique

- ***Like***: where between 3 and 5 participants stated that they liked the technique.

- ***Neutral***: techniques which no participants expressed a preference.

- ***Dislike***: techniques where 3 to 5 participants stated that they disliked the technique.

- ***Strongly dislike***: where 6 or more participants reported that they disliked the technique.

In the qualitative stage the comments were analysed using Grounded Theory to gain a

better understanding of the phenomenon and to identify emerging theories (Glaser and Strauss, 1967 and Glaser, 1978). To help identify codes and categories, this Study asked the following questions of the data :- 'What is this data a study of', 'what category or property of a category, or of what part of emerging theory does this data indicate' and 'what is actually happening in the data'. A reflective diary was kept about the discussion with participants' on their preference. This contained information about the participants' justification for their preferences and in some cases their knowledge base and prior experiences. The process of coding, categorising, reflective writing and comparison identified themes for discussion.

7.2   Results: Study 4

Table 1.4.1 Frequency of likes and dislikes per participant group NON NURSES

Participant	Number of Likes	Number of dislikes	% likes	% dislikes	% where did not give a response to the technique	% where did give a response to the technique
1 (Non Nurse)	4	8	10	20	70	30
2 (Non nurse)	10	1	25	2.5	72.5	27.5
			17.5% average	**11.25% average**	**71.25% average**	**28.75% Average**

Table 1.4.2 Frequency of likes and dislikes per participant group NURSES

Participant	Number of Likes	Number of dislikes	% likes	% dislikes	% where did not give a response to the technique	% where did give a response to the technique
3 (Nurse)	3	9	7.5	22.5	70	30
4 (Nurse)	4	3	10	7.5	82.5	17.5
5 (Nurse)	9	4	22.5	10	67.5	32.5
6 (Nurse)	6	2	15	5	80	20
7 (Nurse)	9	2	22.5	5	72.5	27.5
9 (Nurse)	5	7	12.5	17.5	70	30
			15% average	**11.25% average**	**73.75% Average**	**26.25% average**

Table 1.4.3 Frequency of likes and dislikes per participant group EXPERT
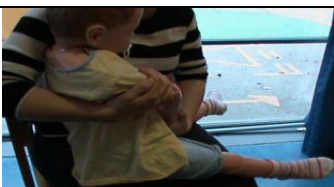
Participant	Number of Likes	Number of dislikes	% likes	% dislikes	% where did not give a response to the technique	% where did give a response to the technique
8 (expert)	14	2	35	5	60	40
10 (expert)	11	11	27.5	27.5	45	55
11 (expert)	7	10	17.5	25	57.5	42.5
12 (expert)	6	13	15	32.5	52.5	47.5
			23.75% average	**22.5% average**	**53.75% Average**	**46.25% average**

These tables demonstrate that the non-nurses and nurses had similar likes and exactly the same number of dislikes about the techniques. Their response rate on expressing an opinion about their likes and dislikes for the techniques averaged 27.5%. The experts liked more techniques and disliked more techniques in comparison. Their response rate was nearly 50%.

Table 1.4.4
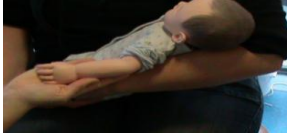
- ***Strongly like:*** 6 or more participants reported that they liked the technique (50% or greater)

Four out of forty techniques (10%) met this criterion.

	Technique 1 **Ten** out of the twelve participants liked this technique (2 non nurses, 4 nurses, 4 experts). Comments centred on familiarity (5 participants). Reasons expressed for liking this technique: - it involves cuddling/wrapping the child (3 participants), familiarity (3 participants) There were no dislikes.
	Technique 3 **Seven** participants liked this technique (2 non nurses, 5 nurses 1 expert) Comments centred upon familiarity and that it involved cuddling and wrapping the child. There were no dislikes.
	Technique 14 **Seven** participants expressed a liking for this technique (2 non nurses, 3 nurses, 2 experts). The reasons expressed are familiarity and that it involved cuddling. There were no dislikes.
	Technique 2 **Six** participants liked this technique (all the experts and 2 nurses). There were no dislikes.

- *Like*: Between 3 and 5 participants liked the method.

Nine out of forty techniques (22.5%) met this criterion. (Technique 17 also included in the dislike section)

	Technique 4 **Five** participants liked this technique (1 non nurse, 4 nurses) Comments centred on familiarity and that it involved cuddling the child, wrapping them in a blanket. One expert disliked this technique but did not say why.
	Technique 17 **Five** participants liked this technique (the same ones that liked techniques 14 and 15). One nurse and three experts disliked this technique. The nurse's explanation was the same as technique 16 based upon her experience of finding the procedure difficult when the child is sitting face forwards).
	Technique 15 **Five** participants liked this technique (2 non nurses, 2 nurses and 1 expert). Positive views were based upon familiarity and because the technique involved cuddling the child. Two participants disliked this technique (2 nurses). Participant 4 a nursing sister disliked this technique based upon her experience of finding the procedure difficult when the child is sitting face forwards. The other nurse disliked this technique based upon the possibility that the child could cause harm to the person doing the holding, which means that they person doing the holding requires more skill.
	Technique 18 F**ive** participants liked this technique (the same ones that liked techniques 14 and 15). Disliked by one nurse and one expert. The nurse was concerned about not being able to see the child's face.
	Technique 10 **Four** participants liked this technique (1 nurse and 3 experts). There were no comments as to why they liked this technique. The phlebotomist disliked this technique (see comments for technique 7).
	Technique 21 F**our** participants liked this technique (2 nurses and 2 experts who hold a children's nursing qualification), views expressed were based on the technique involving cuddling, familiarity. Disliked by the same 2 participants as technique 20.
	Technique 35 **Three** participants liked this technique (2 nurses and 1 expert). Disliked by the nurse who disliked all techniques she was unfamiliar with.
	Technique 36 **Three** participants liked this technique (2 nurses and 1 expert).(Same participants as 35) Disliked by the nurse who disliked all techniques she was unfamiliar with.
	Technique 37 **Three** participants liked this technique (2 nurses and 1 expert). Disliked by the nurse who disliked all techniques she was unfamiliar with. 1 nurse participant felt that this technique addresses patient comfort, back care issues of staff, and allowed for good communication and distraction.

- ***Neutral*:** No participants expressed a preference.

Five out of forty techniques (12.5%) met this criterion.

	Technique 9 No specific likes/dislikes or comments were made. Although the phlebotomist's comments applied to all blood taking techniques from the back of the hand.
	Technique 23 None of the participants expressed a liking for this technique. One expert disliked the technique.
	Technique 28 None of the participants expressed a liking for this technique. There were no dislikes.
	Technique 29 None of the participants expressed a liking for this technique. There were no dislikes.
	Technique 31 There were no likes /dislikes expressed for this technique.

- *Dislike***:** 3 to 5 participants disliked the method.

Seven out of forty techniques (17.5%) met this criterion. (Technique 17 also included in 'like' section)

	Technique 12 None of the participants expressed a liking for this technique. **Four** participants 1 nurse and 3 experts did not like this technique, viewing it to involve a locking procedure and flexion of the limb. Two of the experts do not hold a children's nursing qualification, therefore are not familiar with this medical procedure or the medical need.
	Technique 13 None of the participants expressed a liking for this technique. **Three** experts did not like this technique, one concern was about the hand resting on the infants chest. Two of the experts do not hold a children's nursing qualification, therefore are not familiar with this medical procedure or the medical need.
	Technique 17 <mark>also classed within the LIKE criteria</mark> Liked by five participants (the same ones that liked technique 14 and 15). **Four** participants 1 nurse and 3 experts did not like this technique. The nurses explanation was the same as technique 16 based upon her experience of finding the procedure difficult when the child is sitting face forwards.
	Technique 22 Liked by one participant an expert, because it involved cuddling the child. **Four** (2 nurses and 2 experts) disliked this technique. One nurse, participant 4 a nursing sister disliked this technique based upon her experience of finding the procedure difficult when the child is sitting face forwards. Participant 11 asked whether this technique was necessary, would work. Participant11 and 12 were concerned about pressure being placed upon the neck.
	Technique 24 One participant liked this technique (an expert with a children's nursing background). **Three** disliked it (phlebotomist and the two experts who do not hold a children's nursing qualification).
	Technique 32 One nurse and one expert liked this technique. The nurse participant was a senior nurse. **Three** junior nurses disliked this technique. One assumed that this technique could not be used within the Trust.
	Technique 33 One participant liked this technique (senior nurse). **Three** participants disliked this technique. Two of the junior nurses who disliked technique 32 and one of the experts with a children's nursing qualification disliked this technique. One nurse participant assumed that this technique could not be used within the Trust.
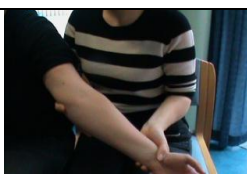
- ***Strongly dislike:*** 6 or more participants reported that they disliked the technique.

Two out of forty techniques (5%) met this criterion.

	Technique 34 None of the participants expressed a liking for this technique. **Eight** participants disliked this technique. 5 nurses and the 3 experts expressed a dislike for this technique. One nurse participant assumed that this technique could not be used within the Trust. One nurse participant did not like this technique because it involved holding the young person's head. One nurse participant felt that too many staff were involved, that this was unrealistic and that there was a possibility of staff trying to use this technique without adequate training.
	Technique 5 Three participants liked this technique (1 nurse and 2 experts, neither of whom hold a qualification in children's nursing). **Six** participants disliked this technique (1 non nurse, 4 nurses 1 expert). Negative comments were about this technique being dishonest (pretending that the situation is better than it is – 2 participants). Not familiar with this technique therefore did not like it (1 participant), poor social validity (1 participant) and poor technical robustness (1 participant).

14 Techniques which did not meet criteria (35%):-

Liked and disliked in equal numbers and did not meet criteria.

	Technique 38 Liked by **one** expert (who had spent time talking to dentist nurses and understanding their practice). Disliked by the **one** nurse participant who disliked all techniques she was not familiar with.
	Technique 6 **Two** participants liked this technique because they were familiar with it (non nurse and nurse). **Two** participants disliked this technique (2 experts) because of the hand resting on the infants chest.
	Technique 16 **Two** participants liked this technique but did not state why. **Two** participants disliked this technique (one nurse and one expert). Participant4, a nursing sister disliked this technique based upon her experience of finding the procedure difficult when the child is sitting face forwards. The expert disliked this technique based upon the possibility that the child could cause harm to the person doing the holding.
	Technique 19 Liked by the same **two** participants who liked technique 16. Disliked by **two** participants (one non nurse and one expert) as being a poor technique. See comments for technique 7 about taking blood, in that there is a difference of opinion between professional groups about where to take blood from.
	Technique 20 Liked by **two** participants (all experts). Disliked by **two** participants (phlebotomist and one expert).
	Technique 30 **One** expert with a children's nursing background liked this technique. There were no dislikes.
	Technique 8 **One** participant liked this technique (nurse). This was based upon familiarity with the technique. The same **two** participants disliked this technique (*see comments for technique 7*). The expert queried the role of the parent holding the child's upper arm. The phlebotomist expressed a similar concern in that this participant felt that the child should be cuddled and with this technique this could not occur.
	Technique 25 **One** participant liked this technique (an expert with a children's nursing background). **Two** disliked it (the two experts who do not hold a children's nursing qualification).

	Technique 27 **One** expert with a children's nursing background liked this technique. **Two** experts disliked it (one holds a children's nursing qualification one does not).
	Technique 7 No participants expressed a preference for liking this technique. The phlebotomist and one expert disliked the technique. The phlebotomist is concerned about any technique where blood is taken for a child's hand, using flexion as he believes this to be a painful technique based upon his knowledge that there are less pain receptors in the ante cubital fossa.
	Technique 11 None of the participants expressed a liking for this technique. The phlebotomist and an expert disliked the technique (see comments for technique 7).
	Technique 26 None of the participants expressed a liking for this technique. **Two** disliked it (the two experts who do not hold a children's nursing qualification).
	Technique 39 None of the participants expressed a liking for this technique. The nurse participant and an expert disliked this technique.
	Technique 40 Liked by **one** expert (who had spent time talking to dentist nurses and understanding their practice). Disliked by **two** participants, the nurse participant who disliked all techniques not familiar with and the expert who disliked technique 39.

Limitations

This study was limited to one specialist children's service in the UK (Birmingham Children's Hospital) and two HEIs (Birmingham City University and Stafford University) therefore the findings could be subject to other interpretations. Participants were recruited from a variety of professional groups who had substantial years of work experience and views expressed by participants shared similar perspectives which may suggest relevance to all services where the holding of children takes place (*See the demographic information table 1.4.0).*

7.3   Discussion in relation to Study 4

Many of the holding techniques being used by clinicians have been developed over time, and it is not known what guidelines healthcare staff are working to and who has designated these techniques safe and acceptable (Valler-Jones and Shinnick, 2005). Valler-Jones and Shinnick (2005) and Shinnick–Page et al (2008) identified that there are a lack of standards for practice and education with little research on the best practice for teaching student nurses holding skills.

Research question: - What holding techniques are preferred by healthcare staff and why?

Attitudes are an important aspect of healthcare (NMC, 2010). To provide safe and effective care to patients healthcare practitioners must integrate knowledge, skills and attitudes which underpin their judgement and decisions (NMC, 2010). The difficulty for children and young people's nursing is that literature published often highlighted the harm caused by using therapeutic holding techniques (Folkes, 2005). Langley et al (2011) suggest that the attitude of practitioners on therapeutic holding is negative. There is disagreement about precise definitions of attitudes although the following definition by Ajzen (2001) is often cited:-

> "It is common to define an attitude as affect toward an object, affect (i.e., discrete emotions or overall arousal) is generally understood to be distinct from attitude as a measure of favourability" (Ajzen 2001: 28).

This definition of attitude allows for evaluation of an attitude object to vary from extremely negative to extremely positive, but, suggests that people can also be conflicted or ambivalent toward an object, meaning that they might at different times, express both positive and negative attitudes toward the same object (Wood, 2000). Jung (1921; 1971) defines several attitudes as being rational (with thinking and feeling psychological functions) and irrational (with intuition and sensing psychological functions).

This snapshot study has found that 'practitioners' and 'experts' can discriminate between a range of techniques to identify what they 'like' and 'dislike'. The overall picture is that participants like techniques they are familiar with, in this study included techniques which involved cuddling or wrapping the child in a blanket. Participants' stated that they dislike techniques they are unfamiliar with, in this study included many of the techniques identified as being effective for the older child. This discussion will examine the

participants' responses, a brief examination of the methods and the implications for future research.

Themes identified:-

- Technique preference

- Subjective judgements

- Classification to interpret the participants' preference regarding the techniques.

Technique preference

Within this study the majority of participants from all three groups appear to base their views on the appropriateness of the techniques on whether they are familiar with the technique and previous experience:-

> P6   *"I have used all the techniques one through to twenty in my practice".*

> P7   *"I liked all the techniques I am familiar with".*

> P9   *"I liked all the techniques I am familiar with as they are comfortable and allow the parents to be involved".*

The nurse group were also influenced by whether the technique involved cuddling/wrapping the child:-

> P8   *"The techniques I liked most were all those which involved cuddling/wrapping the child".*

> P9   *"I liked the cuddling ones as they allow for a good grip, involve play specialists and allow for distraction".*

These techniques are therefore possibly viewed as safe by this group and help them address concerns that it would be a breach of their duty of care to use inhumane techniques (Folkes, 2005). The difficulty is that cuddling or wrapping may not be appropriate or safe to use with young people, a child with autism or with a child/young person who does not want such close physical contact. The other difficulty is that the skill required to immobilise a limb seems to have been lost, which explains findings in Study 1 where there was a misunderstanding about what therapeutic holding actually involves. It is important that healthcare practitioners understand the factors that influence their selection of techniques. At the same time they need to be able to comprehend fundamental factors known about certain patient groups, for example, the child with autism who may not like to be touched, and balance this with the selection process of

techniques. This requires further research and is an issue highlighted in 2010 by Garrard et al.

Unfamiliar techniques

The reverse situation appears to have occurred with techniques the participants were unfamiliar with; because they had no knowledge of the technique some participants expressed a view that they disliked the technique. Therefore, such black and white views could make the introduction or any meaningful discussions on techniques difficult, as emotions, rather than logic, appear to be the deciding factor and may offer an explanation as to why these discussions have not taken place to date:-

> P7   *"I am not familiar with technique 5, therefore I do not like it".*

In group one the phlebotomist (P1) was critical of many of the techniques that are in use to hold a child or young person to enable blood taking to take place (venepuncture):-

> P1   *"I am concerned about any technique where blood is taken from the child's hand as I believe that this is a very painful technique…this is because there are less pain receptors in the ante cubital fossa".*

The phlebotomist is concerned about any technique where blood is taken from a child's hand using flexion, as he believes this to be a painful technique. This is based upon his professional knowledge that there are less pain receptors in the ante cubital fossa (where the median cephalic and basilica veins are situated): this has also been documented by Jackson (1997). The difficulty is that his knowledge and perceptions on this issue may be different to other professional groups. In Study 4 it is apparent that there is a difference of opinion between three professional groups (play specialists, nurses and phlebotomists) about where to take blood from. Nurses are taught to cannulate their patients using the metacarpal vein and at some stage it appears that the play specialists and nurses have started to suggest that this vein is used as an appropriate site for venepuncture. This issue should be explored further because there does seem to be a gap in the thought processes especially around taking blood, techniques and sites to be used. This research also looked at literature on the subject, in particular research that confirmed that there are less pain receptors in the ante cubital fossa in comparison to the back of the hand. The literature found does indicate that regardless of objective physiological measures for example, receptor density or conductance, perception of pain is whatever it is (Horowitz, 2001 and Savino et al, 2013). Previous research by Briggs and White (1985) and Tan and Onsiong (1998) state that pain is more frequently felt in the back of the hand (39% incidence of pain compared to 3% in the ante cubital fossa). This then suggests that each professional group may not

be sharing their knowledge and thoughts about pain and procedures at the ground level or that one professional group may be adapting the techniques. This study did not pursue with participants the use of localised anaesthetic creams, concentrating only on issues of holding children and the specific techniques which require holding. Caws and Pfund (1999) wrote from the perspective of nursing when they offered their professional opinion about venepuncture and cannulation of infants and children. On page 12 their advice is in conflict with the phlebotomists Briggs and White (1985) and Tan and Onsiong (1998):-

> "The dorsum of the hands and feet are acceptable sites for infants and children of all ages, but are more accessible in older children. " (Caws and Pfund 1999: 12).

The phlebotomist was also concerned about the holding techniques for taking blood identified as being taught by the play specialists which did not adequately demonstrate the optimal distance for taking blood from the ante cubital fossa (for example techniques 25 and 26). This may indicate a lack of knowledge by the play specialists which means that their attention to detail on such issues could be missing.

The phlebotomist was also concerned about techniques 7, 8, 10. These are techniques which were in use by Emergency Department staff. The phlebotomist identified that there was no consistent or uniformed practice which guided where to hold the child or infant (ie the limb is held above or below the elbow) when the decision should be based upon where the blood supply is. Pressure should be applied using the hand or tourniquet on the forearm for taking blood at the back of the hand and pressure applied above the ante cubital fossa when taking blood from the crease of the elbow (Jackson, 1997).

The two senior nurses were the only two who expressed a preference for techniques that they were not familiar with within the nursing group. Therefore this could mean that some nurses may be open to trying new techniques if they are secure in their professional roles.

Participant 9 stated in the interview that he uses technique 12 but is uncomfortable with the technique because it has the potential to break the child's leg or arm, cause a sprain or a contusion. Further questions were therefore asked to explore this statement:-

> Author   *"HOW DID YOU KNOW IT WAS THE TECHNIQUE?"*
> P9   *"It was a broken radius caused by over flexing a wrist"*
> Author   *"HOW WAS THE INJURY RECORDED - IE WAS THE TECHNIQUE ATTRIBUTED-?"*

> P9   *"Injury was documented as part of the procedure"*
>
> Author   *"HOW MANY STAFF WERE INVOLVED - WERE PARENTS INVOLVED?"*
>
> P9   *"Two staff parents were present"*
>
> Author   *"WHAT WAS THE CONSEQUENCE OF THE INJURY IE DID EVERYONE STOP USING THE TECHNIQUE?"*
>
> P9   *"It was reviewed and the staff were "supervised" I don't know the exact details"*
>
> Author   *"DID YOU HAVE DISCUSSIONS BEFORE WITH COLLEAGUES TO SAY THAT YOU WERE CONCERNED"*
>
> P9   *"I was a junior staff nurse without paeds experience and came on duty a few days after"*
>
> Author   *"DID YOU HAVE DISCUSSIONS AFTERWARDS?"*
>
> P9   *"Just as friends"*
>
> Author   *"HOW LONG AGO WAS THIS AND WHAT TYPE OF WARD AREA/SETTING?"*
>
> P9   *"1996/97 Accident and Emergency"*
>
> Author   *"WHO HAD TAUGHT THE STAFF?"*
>
> P9   *"We were taught on the job by "experienced staff""*
>
> Author   *"WAS THERE ANY TRAINING OFFERED AFTERWARDS?"*
>
> P9   *"I can't recall".*

Although this situation happened a long time ago, the lack of discussion and lack of review of the techniques supports Pearch's assertions at that time, that therapeutic holding was an uncontested practice (Pearch, 2005).

Subjective judgements

Likes and dislikes are subjective judgements. Whilst there have been many studies looking at the factors which influence the decision to hold a child for a procedure (Selekman and Snyder, 1995; Robinson and Collier, 1997; Graham and Hardy, 2004; Brenner, 2007), in the cases of physical restraint, especially with the elderly (Lane and Harrington, 2011; Goethals et al, 2011; Mohler at al, 2011) the individual with a profound and multiple learning disability (Garrard et al, 2010) and children with mental health issues (Dorfman, 2000), there are no studies which look at how the child is held (Jeffery, 2002; Valler-Jones and Shinnick, 2005) or the factors which underpin the technique selected by healthcare staff. When it comes to the use of therapeutic holding, it is important that healthcare practitioners understand the factors that influence their selection of techniques. Ariely (2008) suggests that an individual's point of view can be subject to 'ownership'. That once an individual takes ownership of an idea they can prize

the idea for more than it is worth and have trouble letting this idea go because they have trouble coping with the idea of its loss. Ariely (2008) writes that this leaves the individual with an ideology which is "rigid and unyielding" (page 138):-

P2   Did not like technique 5 *"as the pretence/imagination needed suggests that the situation is better than what it is"*

P4   "*Face forward tracheostomy changes as a procedure are notoriously difficult to do*"

P5   Liked the wrapping techniques (3, 4) and 32, 33, 35 and 36 as she felt that "*they looked secure. I do not like technique 5 and any technique which involves holding child's head*" (34)

P7   *"I Like all techniques I am familiar with such as the child sitting on their parents lap and the wrapping techniques"* (1, 2, 3, 4, 14, 15, 17, 18 and 21). Not familiar with technique 5 therefore did not like it. Viewed technique 32, 33, 34 as reminding her *of "prison holds".*

Further research needs to be carried out to look at the ideology behind healthcare professionals' views on therapeutic holding to identify whether healthcare staff are valuing the use of wrapping a child/cuddling a child and the view that it is comforting to the child. It may be that this view has prevented further discussion around situations when the child is resistant to being held because healthcare staff are unable to let go of this image.

Classification to interpret the participants' preference regarding the techniques

The arbitrary classification to interpret the participants preference, regarding the techniques, demonstrated that with the techniques that met the criteria (26 techniques) more participants expressed a preference 'strongly like' / 'like' as opposed to 'strongly dislike / 'dislike' (13 techniques = 50% as opposed to 9 techniques = 34.6%). This range demonstrated a good range of preferences and allowed for exploration of the findings in more detail.

In the 'strongly like' category there are similarities between the methods - the child being cuddled is a theme which all participants stated was why they liked these four techniques. In three of the four techniques the child is also wrapped in a blanket. All four techniques are typical of the holding images identified within nursing text books (Bruner and Suddarth, 1981; described as mummy restraint or swaddling by Hockenberry and Wong, 2004; Hockenberry, Wilson and Winklestein, 2005; Brenner, 2007). These four

techniques address situations where a small child or infant is held for medical procedures where there will be no issues, in that the healthcare professional involved in the process will be assuming that the infant or child does not understand the need to be still and therefore they are acting in the child's best interest, a view supported by research by Selekman and Snyder (1995), Robinson and Collier (1997), Graham and Hardy (2004) and Homer and Bass (2010). All four techniques typify the image of holding described by participants within this research and within the RCN guidelines (2010):-

> "Make skilled use of minimum pressure and other age-appropriate techniques, such as wrapping and splinting, explaining and preparing the child/parents beforehand as to what will happen" (RCN, 2010a: 3).

Jeffery (2008), in a clinical skills nursing text book included photographs of therapeutic holding techniques to help nurses visualise the procedures. There are six procedures in this nursing text; four are depicting a small child/infant.

In the 'like' category there are similarities between the methods in that five techniques showed a child or infant being cuddled and one was an example of a child being wrapped in a blanket during the therapeutic holding process. The last three techniques, which were at the lower end of receiving a preference by the participants, all demonstrated the immobilisation of a limb. There are seemingly no controversial issues around these techniques in that they all represent an image of therapeutic holding that participants in Study 2 described as their belief of what therapeutic holding is and they all would appear to be examples of techniques which meet the RCN guidelines (2010):-

> "This means immobilisation, which may be by splinting, or by using limited force. It may be a method of helping children, with their permission, to manage a painful procedure quickly or effectively. Therapeutic holding is distinguished from restrictive physical intervention by the degree of force required and the intention" (RCN, 2010: 2).

In the 'neutral' category the five techniques are examples of therapeutic holding techniques which may be associated with medical procedures, for example, techniques 28 and 29, which are only used when the child requires a lumbar puncture. All nursing text books discussing lumber punctures describe the same process and there has been no advancement or changes to the technique for holding an infant or child for this procedure. The text books identified in this research do not criticise any techniques, presenting the techniques in a neutral fashion. This may explain why almost 20% of the 26 techniques that meet this arbitrary category fall into the neutral category because there is a classic reticence about commenting about therapeutic holding techniques.

In the 'dislike' category there are similarities between the methods selected; there is a perception of pain (techniques 12 and 13), perception of force (techniques 17, 22, 24, 32 and 34) and the participants may have interpreted that these techniques will be used with a young person who is not consenting to the process and may therefore resist being held. Charles-Edwards (2003) wrote about power and control over children and young people. The case study about Paul aged eleven who required a medical procedure to his forehead did not describe a specific technique, instead suggesting a scenario where Paul was held down by his father. Charles-Edwards clearly views this situation as physical force being used to enforce treatment against Paul's will and suggests that this approach of using physical holding to carry out a medical procedure, although quicker, is not the most ethical approach that nurses should follow. It is not known how many nurses have read this 'Continuing Professional Development' article (although it was cited by the RCN in 2003 and 2007 and cited four authors: Lowther, 2005; Ryan, 2008; Richardson, 2008; Williams, 2008) and how it has influenced nursing opinion and practice. There is confusion and differences of opinion over techniques used to physically hold the child and young person who does not consent to being held. This difference may challenge participants' perceptions of therapeutic holding and may explain why only the techniques which involve children and wrapping are strongly liked.

Brenner and Noctor (2010 page 19) identified a 'noticeable gap' in research which addressed the complexities of holding the older child and young person. Folkes (2005) continued to question physically holding the resisting child by suggesting that repeated attempts at some procedures and implementing holding of a resistant child when there is no medical emergency is a form of abuse. With techniques 32 and 33 one participant assumed that these techniques could not be used within the Trust (this assumption was checked out by the researcher and found to be untrue). Two of the experts in this study who disliked techniques 12 and 13 do not hold a children's nursing qualification and are not familiar with the procedure or medical need. These techniques are based upon custom and practice, there are other ways of taking blood from an infant which do not involve flexing the infant's ankle to expose the vein – this technique (12) is the technique that most healthcare practitioners appear to remember and use. Technique 17 was also liked by five participants. This technique is also in the 'disliked' category because three participants expressed a dislike. One nurse stated that she found the technique difficult to apply which is why she disliked it. Brenner et al (2007) use a pencil drawing of a mother physically holding her child for a procedure to be undertaken, the child is sitting on her lap, facing forwards and the mother has one arm around the child's arms and torso and another immobilising the child's head. In this article the authors suggest to

nurses that there are consequences to being physically held, which include psychological problems such as forming trusting relationships. Although no therapeutic holding techniques are identified, the image in this article is similar to three that are within this classification (techniques 15, 17 and 22). Technique 24 was disliked by the phlebotomist who felt it was an inappropriate technique for the age group. It is surprising that techniques 22, 32 and 33 did not fall into the 'strongly disliked' category given that participants expressed concerns about putting pressure on the child's neck (technique 22) and questioned the effectiveness of the technique. With techniques 32 and 33 few participants would be familiar with this technique. This suggests that participants, especially the non-nurses and nursing group, are confident to express a liking for techniques they are familiar with but are unsure about how to analyse techniques of which they have no knowledge.

The two techniques which are in the category of 'strongly dislike' are those which may be viewed as possibly socially unacceptable. Technique 5 (Brown and Klein, 2011) is not used within this Trust. The author introduced it in this research because the American authors suggested that it was more effective than wrapping a child in a blanket. The comments from participants were about Brown and Klein's paper which means that it is possible that cultural differences are the major issue in that it is more acceptable to use mechanical restraints in the USA (Wilson and Hockenberry, 2012). The other technique made participants feel uncomfortable as it suggested that the healthcare practitioners needed a higher level of expertise and training to carry out the technique to a proficient level. As with the dislike category, the participants appear to use emotional thoughts instead of factual guidance, which may be due to the complexity of the factors, which have to be considered (such as age of child, their resistance to being held, the child's cognitive ability, the child's physical and emotional condition, the expertise of the holding person, the specific holding technique for the medical procedure). A checklist may help resolve this situation (Gawande, 2011).

The participants' suggested that the techniques identified in the 'dislike' and 'strongly dislike' categories are ones which they would be reluctant to use. This contradicts the opinion of Coyne and Scott (2014) that these techniques are widely used interventions.

A large number of techniques did not fit into any of the categories chosen to scrutinise preferences by participants. All three techniques advocated by the dental department fall into this group (technique 38, 39 and 40). For this study, it was not possible to interview a dental nurse and given that familiarity of technique was an influential factor it is possible

that the participants in this study felt that they did not have enough knowledge to offer an opinion. Seven techniques (6, 16, 19, 20, 25 and 26) were taught to parents by the play specialists, four techniques were used with the Emergency Department (7, 8, 11 and 30) and all were viewed as being technically difficult to apply and questions were asked as to whether the technique would enable a successful procedure.

In summary, this study points to a need for further research about the actual techniques being used to hold children still. Participants base their 'liking' for techniques around familiarity. Studies 2 and 3 have identified that there is a gap in techniques being taught within HEIs because nurse lecturers have no practical knowledge or training to underpin their teaching. Studies 2 and 3 also identified that those techniques viewed as comforting and swaddling the child are routinely taught but that there is a gap in techniques being taught for the older child and for those who do not like to be touched. This study has explored why identifying that the paradoxical views that therapeutic holding is comforting and restraint is forceful (identified in Study 1) continue to be an issue, with participants liking and using techniques which they view as 'comforting' and disliking and not using techniques which they view as 'forceful'. It was also noticeable in this study that the lack of discussion and documentation, also noted by Coyne and Scott (2014), may mean that healthcare professionals are not discussing or sharing experiences of holding and therefore not improving on the technicalities of the techniques. The comments made by the phlebotomist about the techniques being taught by the play specialists to parents to facilitate blood taking demonstrate this lack of communication.

Introduction to Study 5

To answer the research question "What holding techniques are preferred by healthcare staff and why?" Studies 4 and 5 comprised of two interlinked exploratory investigations.

Study 4 examined the impact of 'likes/dislikes' on the holding techniques in clinical practice and identified that fixed judgements were being made based upon the 'liking' or 'disliking' of a technique. Participants' reasoning behind their preferences were mainly based on techniques they were familiar with (liked) and not familiar with (disliked). None of the participants who took part in the Study doubted their decision-making ability and appeared confident that their attitudes were based upon perceived expert opinion. This study was the first to review the different holding techniques in use to hold a child or young person for a clinical procedure or medical examination.

Study 5 tests the quality and effectiveness of the opinions shared by participants on the same forty identified techniques, using an assessment instrument (Children's Holding assessment Tool – CHAT for assessing the therapeutic holding techniques used within Birmingham Children's Hospital, 2012), which has seven sub categories.

The intention of this rating tool is to review the forty techniques in terms of preference and ascertain whether a rating tool would introduce the concept of evidence based practice which would assist healthcare professionals address the gap in decision making about selecting techniques and monitoring their effectiveness. Whilst it could be viewed as acceptable to select a technique which cuddles or wraps a small child in a blanket, for the majority of clinical procedures where they need to be still, there is a gap with selecting techniques for the resistant child and in selecting techniques for the young person. It should not be desirable to base decision making on emotional factors such as likes and dislikes (Gawande, 2011). When it comes to the use of therapeutic holding it is important that healthcare practitioners have a tool or checklist available that will assist in the decision making. Such a checklist does not currently exist. Study 5 explores the effectiveness of an instrument based upon the work published by Martin, McDonnell, Leadbetter and Paterson (2008).

This exploratory sequential mixed methods design, started by qualitatively exploring the phenomenon, and then, based on the qualitative findings conducted a second, quantitative phase to test and generalise the initial findings. Study 4 utilised a preliminary 'pilot' approach because it looked at preferences and followed a non-statistical approach, giving the lowest level of interpretation to extend and build upon results from the Grounded Theory studies and lead into the final study (Study 5). To answer the research question of:- What holding techniques are preferred by healthcare staff and why? Study 5 explores the quality and effectiveness of the opinions made by participants on the same forty holding techniques explored in Study 4. This study introduces a mechanism to analyse techniques adapted from the published work by Martin et al (2008).

Chapter 8   Study 5

What holding techniques are preferred by healthcare staff and why? (Measuring the quality and effectiveness of the judgements made by participants using a rating scale).

Background

> "Nurses are accepting the need to base specific nursing actions and decisions on evidence indicating that the actions are clinically appropriate, cost effective and result in positive outcomes for clients" (Polit and Beck, 2010: 5).

The literature review in this thesis, identified that the therapeutic holding techniques published within journals and nursing texts are not based on evidence, that healthcare staff have been encouraged to devise alternative methods (Whaley and Wong, 1995; Rushing, 2009). Whilst some techniques have stood the passing of time, other techniques may have disappeared from being documented within publications within the UK. Only one therapeutic technique has been published in the last decade (Brown and Klein, 2011) and that this was published as an opinion publication detailing the two expert's use of the 'superhero cape burrito', lacking empirical evidence about its use. A randomised control trial (Sparks et al, 2007) identified that parental holding and upright positioning whilst trying to insert an intravenous catheter decreased distress in children, yet many authors who document the use of therapeutic holds following this article have not included this research within their discussion, for example Jeffery (2008), Brenner and Noctor (2010) and Brenner (2011).

The literature search identified publications which discuss holding techniques for healthcare staff to use in their practice area; this thesis has identified difficulties with critiquing the quality of instruction and that the technique being advocated by the author is based upon their preference only, for example Pretlow (1977), Kurfis Stephens et al (1999), Caws and Pfund (1999), Willock et al (2004) and Brown and Klein (2011). Darby and Cardwell (2011) state that in their practice literature paper they will review different techniques, this was not achieved in their published paper. More recently Coyne and Scott (2014) have published their opinion that nurses are using what they term 'restraint' techniques instead of what they view to be 'holding' techniques. Coyne and Scott (2014)

base this difference on their opinion that the only differences between restraint and holding are the 'degree of force used' and whether the child gives consent. The perspective of this thesis is that this opinion is flawed and unhelpful to the child or young person who needs to be held, their parents and the healthcare staff who may be required to be part of the holding.

The effectiveness of holding techniques does not appear to have been scrutinised within literature and there is no consistency with imagery and text. Therefore the nature of the problem is that none of the therapeutic holding techniques in use across the UK have been assessed in terms of being clinically appropriate and whether the use of the chosen technique will lead to a 'successful outcome' for the child or young person. There is a gap in empirical research about the techniques currently in use to hold children (Valler-Jones and Shinnick (2005). Leroy (2012) believes that there is a 'casual approach' towards holding children with little consideration to who has designated these techniques as safe, effective and acceptable and there is limited consideration to ensuring that the techniques in use are safe, effective and appropriate.

Study 5 of this thesis, will contribute towards providing an evidence base to underpin the selection and application of therapeutic holding techniques, by using a structured rating scale to measure the techniques. This is a preliminary study, in that the literature review has identified that no analysis of therapeutic holding techniques has taken place in the UK. There are seven categories within the twenty five question rating scale used titled Juster probability scale tool of measurement 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital' (2012) (*See Appendix 8*). These are:-

• Physical safety

• Psychological safety

• Trainability

• Child/young person risk factors

• Technical robustness

• Effectiveness

• Social validity.

Study 4 identified that participants 'like' or 'dislike' certain therapeutic holding techniques and will only use holding techniques that they are familiar with and like (preference). In Study 5, measurement was used to transform the abstract of preference about therapeutic holding techniques into empirical concepts (Ruane, 2005).

Aims and objectives

The aim of this study is to use a structured tool (a rating scale) to differentiate between therapeutic holding techniques:- interpreting the conditions, relationships and evident trends within the seven categories for the therapeutic holding techniques identified within the rating scale using descriptive statistics.

The objectives are:-

First, to review the forty therapeutic holding techniques using measurement.

Second, to define 'what it is' that makes the difference between the 'liked' and 'disliked' techniques identified in Study 4, by making additional comparisons across the categories and between the two studies.

Third, to ascertain whether a rating tool would introduce the concept of evidence based practice, which would assist healthcare professionals address the gap in decision making about selecting techniques and monitoring their effectiveness.

Fourth, to explore the effectiveness of the rating tool based upon the work published by Martin, McDonnell, Leadbetter and Paterson (2008), in providing valid and reliable evidence (*see Appendix 8 for a copy of this tool*).

Research question

Can healthcare professionals differentiate between 'preference' and 'non preference' of therapeutic holding techniques using a rating scale?

Hypothesis

Study 4 looked at the impact of attitudes on the holding techniques in clinical practice and identified that fixed judgements were being made based upon the 'liking' or 'disliking' of a technique. Participants reasoning behind their preferences were mainly based on techniques they were familiar and not familiar with. None of the participants who took part in Study 4 doubted their decision making ability and appeared confident that their attitudes were based upon perceived expert opinion.

The author's hypothesis is that there is a relationship between the techniques which are 'preferred' which is based upon the participants believing that the therapeutic holding technique does not carry any risk to the child or young person, is easy to apply and comforting to the child or young person, because the technique involves 'hugging', 'wrapping' of the child or young person. At the opposite end of the scale the hypothesis is that there is a relationship between the techniques which are 'non preferred' based upon the participants perceiving the therapeutic holding technique to carry some risk, painful and possibly causing psychological harm.

8.1   Method: Study 5

Sampling

The purposive sample for this Study is the same sample taking part in Study 4 (n=12). Study 4 details the participants' job titles and offers a breakdown of experience in relation to therapeutic holding.

The rating scale

The literature review established that there was a lack of empirical research on therapeutic holding techniques and thus, there is a scarcity of reliable and credible tools available to evaluate techniques. This is similar to the findings of Martin et al (2008), whose response was to develop their own risk assessment tool as a pilot project to review five physical intervention skills. The original risk assessment tool contained thirty nine questions, within four categories of safety, trainability, client risk factors and effectiveness. The research by Martin et al (2008) and tool used was the foundation for this Study, because is still the only tool of its kind that has been published.

Chapter 3.3 details the procedures used to adapt the original tool to one relevant to the research question "*can healthcare professionals differentiate between 'preference' and 'non preference' of therapeutic holding techniques using a rating scale*?" and enable this study to describe, explain and interpret the judgements made by participants.

The 'Evaluating the Risks associated with Physical Interventions' tool developed by Martin et al (2008) was adapted into the 'Juster probability scale tool of measurement Children's Holding Assessment Tool – CHAT for assessing the therapeutic holding techniques used within Birmingham Children's Hospital, 2012' *(See Appendix 8)*. This tool consisted of 25 questions applicable to the holding of children and young people. Each question is answered on the same eleven point scale with answers expressed as a probabilistic response (0 = no chance (high optimism) ➡ 10 = certain (low optimism). This probabilistic response takes the form of numbers, which can represent different forms of measurement, for this research it represented the average probability negative or positive judgements about each technique considered (Denscombe, 2010). The

adapted Children's Holding Assessment rating scale explored the techniques in terms of familiarity and risk, and measured the participants optimism about the techniques in terms of the higher the score awarded the less optimistic the participant was about the technique, thus it was viewed that they judged the technique negatively. A low rating score was interpreted as the participant viewing the technique positively.

Identification of techniques

This is detailed in chapter 3.3 and Study 4.

Statistical analysis

To answer the research question and test the hypothesis, this study made comparisons with the data collected from the 12 participants who used the rating scale to judge each of the forty therapeutic holding techniques. This involved analysing the conditions, relationships and evident trends within the seven categories identified within the rating scale. Descriptive statistics include looking at distribution through identifying the average (arithmetic mean) – a measure of central tendency which identified a single figure which best represents the level of distribution. Standard deviation was used to detect the extent to which the data values in a set of scores are clustered or wide spread (Robson, 2011) and range of scores (Pallant, 2010). Given the variability of therapeutic holding techniques it was also decided to conduct a modal analysis.

Version 21 SPSS software for statistical analysis (IBM Corporation, 2012) was used to explore the conditions, relationships and evident trends between the forty techniques. The data was imported from Excel into this software.

8.2   Results: Study 5

Table 1.5.1 Duration of interviews with the participants (n=12).

Participant	Job title	Time taken to rate the techniques	Time in minutes
Participant 1 (Healthcare practitioner) Non nurse	Phlebotomist	Took four hours 25 minutes to complete this study. No Breaks	265
Participant 2 (Healthcare practitioner) Non nurse	Play specialist	Took 2 hours 20 minutes to complete. One break	140
Participant 3 (Nurse practitioner)	Junior Sister	Took 1 hour 35 minutes. No break	95
Participant 4 (Nurse practitioner)	Sister Education	Took 1 hour 55 minutes. No break	115
Participant 5 (Nurse practitioner)	Staff nurse	Took 2 hours 20. No break	140
Participant 6 (Nurse practitioner)	Deputy ward	Took 1 hour 40 minutes. No break	100
Participant 7 (Nurse practitioner)	Junior sister	Took 2 hours 30 minutes. No break	150
Participant 8 (Expert)	Senior Lecturer children's nursing (another HEI) published on subject in 2008; also completed Masters of Professional Education, (unpublished) on therapeutic holding in 2010	Took 2 hours 35 minutes No break	155
Participant 9 (Nurse practitioner)	Senior Lecturer (BCU)	Took three hours 15 minutes. Two breaks	195
Participant 10 (Expert)	Acting head of Department Child Health (BCU) published on subject in 2008	Took three hours thirty minutes. Three breaks	210
Participant 11 (Expert)	Senior academic published on subject in 2005, 2008	Took two hours ten minutes. Two breaks.	130
Participant 12 (Expert)	Co developed a risk assessment tool looking at physical interventions using the Juster Probability Scale.	Took one hour 55 minutes. Three breaks	115

Total =   1810

Mean =   150.8

σ_{n-1} (sample standard deviation) =   49.9

The average time taken to judge the forty techniques using this measurement tool was one hundred and fifty minutes.

A) Reliability of the Children's Holding Assessment Tool (CHAT)

Table 1.5.2   Cronbach's Alpha vs. Mean Scores

alpha coefficients ≥.8 are considered preferable (Pallant, 2010)

Data	Cronbach's Alpha	N of Items	Range
Whole Questionnaire	.891	25	

alpha coefficients ≥.7 indicates good reliability (Pallant, 2010)

Data	Cronbach's Alpha	N of Items	Range
Trainability	.922	4	*3.41 − 2.14 = **1.27***
Physical Safety	.723	5	*3.82 − 0.83 = **2.99***

alpha coefficients ≤.7

Data	Cronbach's Alpha	N of Items	Range
Psychological Safety	.677	4	*3.43 − 2.41 = **1.02***
Child Risk Factors	.586	11	*6.42 − 1.40 = **5.02***
Technical Robustness	.510	4	*4.42 − 2.41= **2.01***
Effectiveness	.318	6	*6.42 − 3.40 = **3.02***

physical safety	Questions 1- 5
psychological safety	Questions 6 7 11 20
trainability	Questions 8 9 10 19
child/young person risk factors	Questions 11 12 13 14 15 16 17 22 23 24 25
technical robustness	Questions 18 19 21 22
effectiveness	Questions 11 18 22 23 24 25
social validity	Question 20

The result for the overall 25 item scale was high (α = .891). There is an accepted convention that alpha coefficients >.7 indicate good reliability of a measurement scale (Pallant, 2010). There was variation in alpha coefficients for the subscales ranging from .922 to .318. This would appear to indicate subscales where there is also significant disagreement. Trainability and physical safety items showed relatively high levels of agreement, which would indicate that these questions were easier for the participants to interpret. It is significant that the category with the lowest level of agreement were the six items pertaining to effectiveness.

Social validity was not included because there was only one question.

Trainability.

This scored an alpha value of .922. The question with the highest mean value in this category was **question 19**; - *in the event of the technique requires a high level of pre rehearsed coordination between healthcare practitioners requiring regular practice and communication* ($\bar{x}$ = 3.41). The question with the lowest mean was **question 9**; - *the safe application of this technique on a regular (daily/weekly) basis requires a high level of healthcare practitioner fitness* ($\bar{x}$ = 2.14). Range = 3.41 – 2.14 = 1.27.

Although the scores are still low, a Cronbach's alpha of **.922** is 'preferable' and suggests that the questions which make up this category are all measuring the same underlying attributes.

Physical safety.

***This scored an alpha value of .723.** The question with the highest mean value in this category was **question 5**; - this technique uses a locking movement ($\bar{x}$ = 3.82). The question with the lowest mean was **question 1**; - repeated regular use of this technique on a training course (with passive/no resistance from participants being held) is likely to cause injury to the healthcare practitioner ($\bar{x}$ = .83). Range = 3.82 – 0.83 = 2.99.*

Although the scores are still low, a Cronbach's alpha of **.723** is 'acceptable' and suggests that the questions which make up this category are all measuring the same underlying attributes.

Psychological safety.

This scored an alpha value of .677. The question with the highest mean was **question 6**; - *resistance by the child/young person against this therapeutic holding techniques will result in them experiencing pain* ($\bar{x}$ = 3.43). The question with the lowest mean was **question 20**; - *a lay individual (such as a parent) witnessing this technique would make a formal complaint about it* ($\bar{x}$ = 2.41). Note that the range of mean scores (3.43 – 2.41 = 1.02) is much smaller than found for Physical Safety (range = 3.82 – 0.83 = 2.99), to identify the significance of this difference would require further research.

Child/young person risk factors.

This scored an alpha value of .586. The question with the highest mean was **question 25**; - *this technique will not be effective when applied to a young person (12-18)* ($\bar{x}$ = 6.42). The question with the lowest mean was **question 17**; - *a visual impairment in the child/young person would increase the risk associated with this technique for the child/young person* ($\bar{x}$ = 1.40). Range = 6.42 – 1.40 = 5.02

Technical robustness.

This scored an alpha value of .510. The question with the highest mean was **question 22**; - *this technique will not be effective when applied to an infant (under 1 year old)* ($\bar{x}$ = 4.42). The question with the lowest mean was **question 21**; - *use of this technique would not comply with principles of good practice in moving and handling* ($\bar{x}$ =2.41). Range = 4.42 – 2.41= 2.01

Effectiveness.

This scored an alpha value of .318. The question with the highest mean was **question 25**; - *this technique will not be effective when applied to a young person (12-18)* ($\bar{x}$ = 6.42). The question with the lowest mean was **question 11**; - *the child/young person must consent to the clinical procedure and only require the therapeutic holding technique to physically help them to remain compliant* ($\bar{x}$ = 3.40). Range = 6.42 – 3.40 = 3.02

B) Overall Mean and standard deviations for all 40 therapeutic holding techniques

Table 1.5.3 shows the means and standard deviation for all 40 therapeutic holding techniques. The techniques have been ranked highest to lowest to facilitate further discussion.

Table 1.5.3 Overall Mean and standard deviations for all 40 therapeutic holding techniques

Rank	Technique	Mean	Std. Deviation
1	T28	107.08	44.97
2	T34	106.50	26.32
3	T40	97.83	28.42
4	T17	97.50	40.69
5	T18	95.00	39.58
6	T16	94.25	35.13
7	T5	91.92	50.91
8	T33	90.67	18.60
9	T20	90.00	36.12
10	T21	89.83	34.25
11	T14	88.50	38.55
12	T22	87.00	37.57
13	T29	86.67	33.96
14	T15	84.25	37.65
15	T19	83.92	34.13
16	T39	81.75	27.76
17	T7	81.33	32.29
18	T30	79.50	23.57
19	T11	79.17	33.68
20	T8	78.50	27.44

Table 1.5.3 continued

Rank	Technique	Mean	Std. Deviation
21	T12	78.08	29.72
22	T27	75.92	26.11
23	T38	74.58	31.44
24	T37	73.25	26.78
25	T26	71.67	26.80
26	T25	71.67	22.82
27	T32	70.75	19.70
28	T36	70.75	29.62
29	T6	70.08	22.73
30	T4	68.00	24.36
31	T24	66.58	23.66
32	T3	66.42	24.29
33	T23	66.25	25.00
34	T13	65.83	29.31
35	T2	65.58	23.61
36	T31	65.33	20.91
37	T9	64.25	23.03
38	T1	62.42	22.05
39	T10	62.42	30.58
40	T35	57.00	20.55

Techniques that were ranked in the top ten were those techniques judged by the participants negatively and included techniques mainly used with the young person or were unfamiliar to the participants. Techniques ranked in the bottom ten were those techniques judged by the participants more positively and included techniques which cuddle or wrap the child. The standard deviation for techniques 28, 17, 18 and 5 are 39.58 or greater which indicates variability in the scores given for the techniques.

B1) Mean and standard deviations which identified the top and bottom therapeutic holding techniques in the seven categories within the measurement tool.

This involved analysing the rank and evident trends within the seven categories identified within the rating scale (CHAT) in more detail to identify the top techniques (negative judgement) and bottom techniques (positive judgements) for the questions that made up each category. SPSS was used to identify the frequency of the data.

Techniques identified were those which were ranked in the top five or those which were ranked in the bottom five of the each of the questions that made up the category.

The categories identified are:- physical safety, psychological safety, trainability, technical robustness, child/young person risk factors, effectiveness and social validity. Each category is depicted by two tables; one indicating techniques which were given a high score (a high score indicated that the participants viewed the techniques identified in each category with low optimism) and the second category indicating techniques which were given a low score (a low score indicated that the participants viewed the techniques identified in each category with high optimism).

There are 14 tables in this section *(Tables 1.5.4 to 1.6.7).*

Table 1.5.4
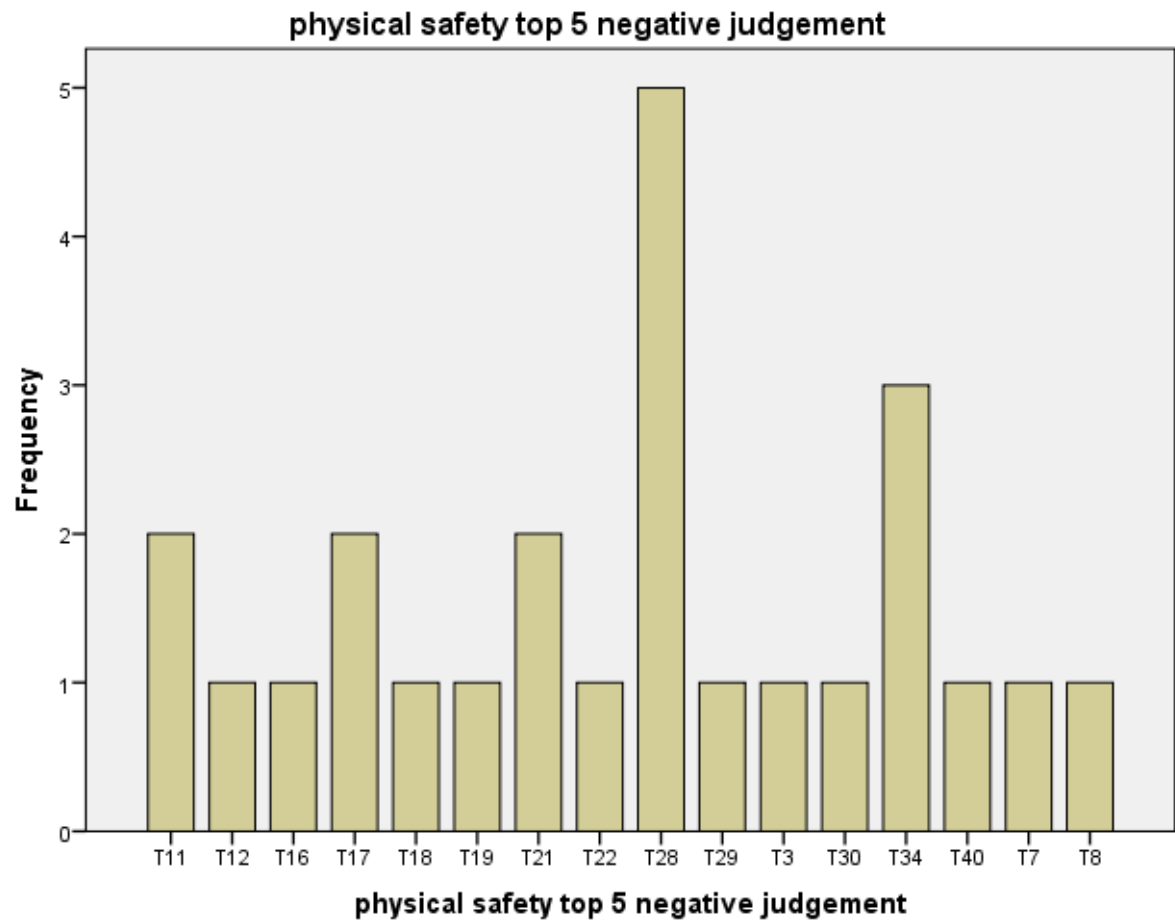
physical safety top 5 negative judgement

| X= the techniques |
| Y= frequency that technique was scored in the top 5 of the questions relating to this category. |

There were five questions which made up this category. Technique 28 was given one of the highest scores for all five questions, followed by technique 34 which was in the top five for three of the five questions. Techniques 11, 17 and 21 were in the top 5 for two of the questions that made up this category.

Table 1.5.5
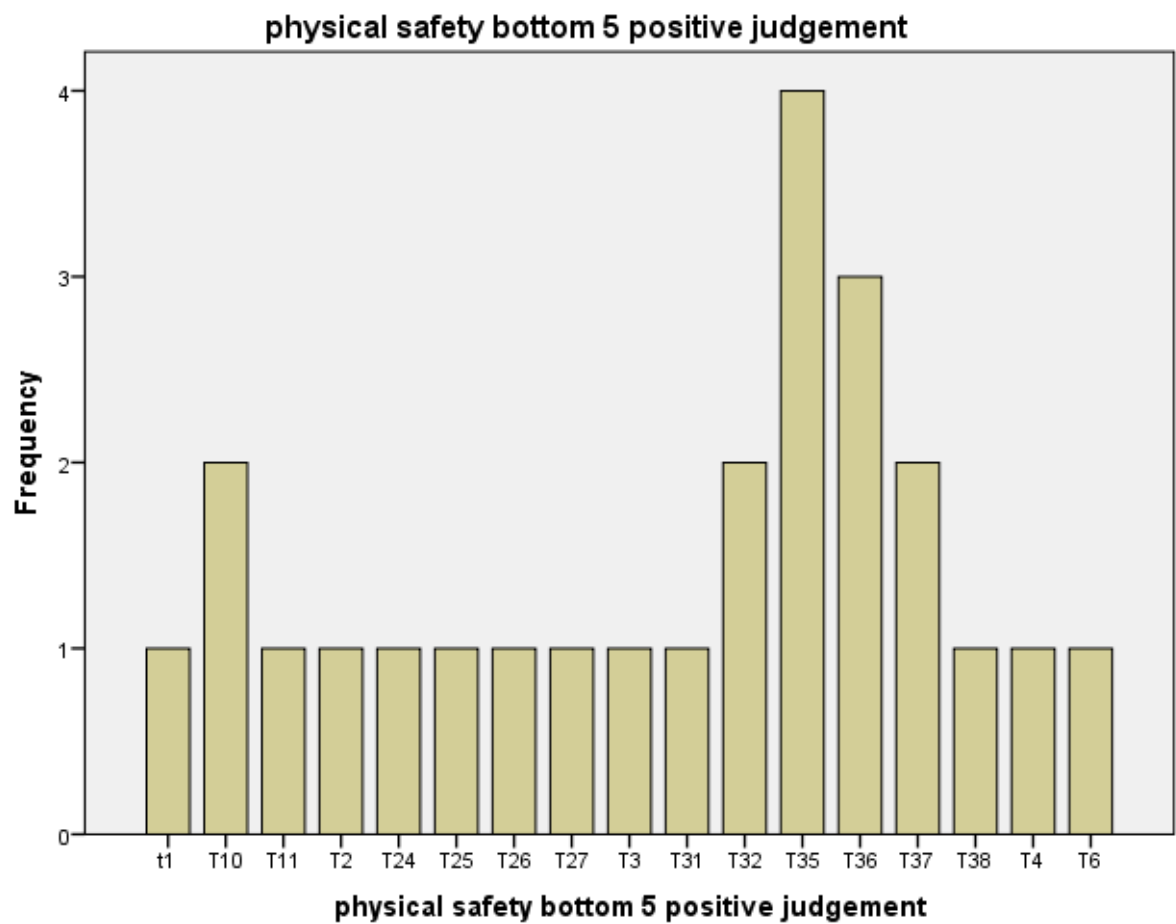
physical safety bottom 5 positive judgement

X= the techniques
Y= frequency that technique was scored in the bottom 5 of the questions relating to this category.

Within the five questions that made up this category, technique 35 was rated in four of the five questions positively by participants, followed by technique 36 (rated positively in three of the five questions). Techniques 10, 32 and 37 were rated in two of the five questions.

Table 1.5.6
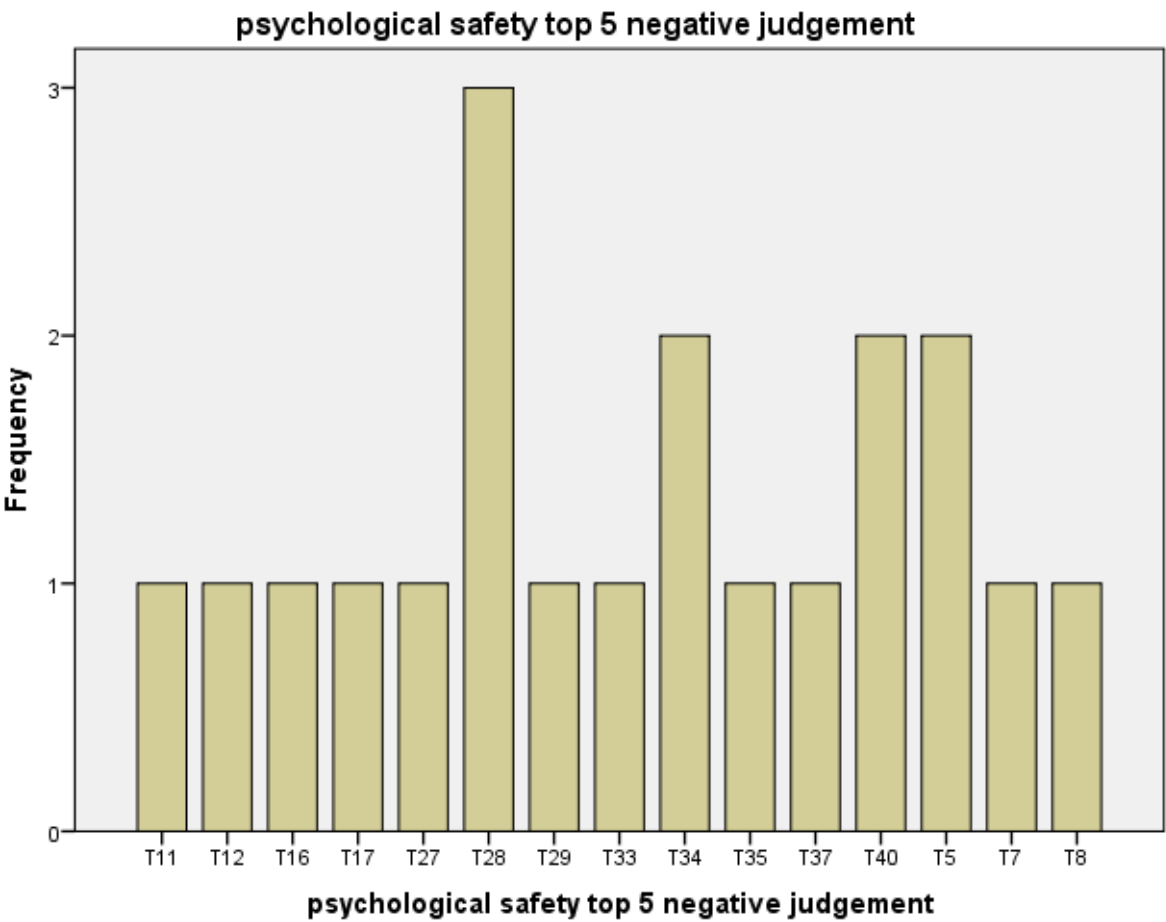
psychological safety top 5 negative judgement

X= the techniques
Y= frequency that technique was scored in the top 5 of the questions relating to this category.

There were four questions which made up this category. Technique 28 was given one of the highest scores for three of the four questions, followed by technique 34, 40 and 5 which were in the top 5 for two of the four questions.

Table 1.5.7
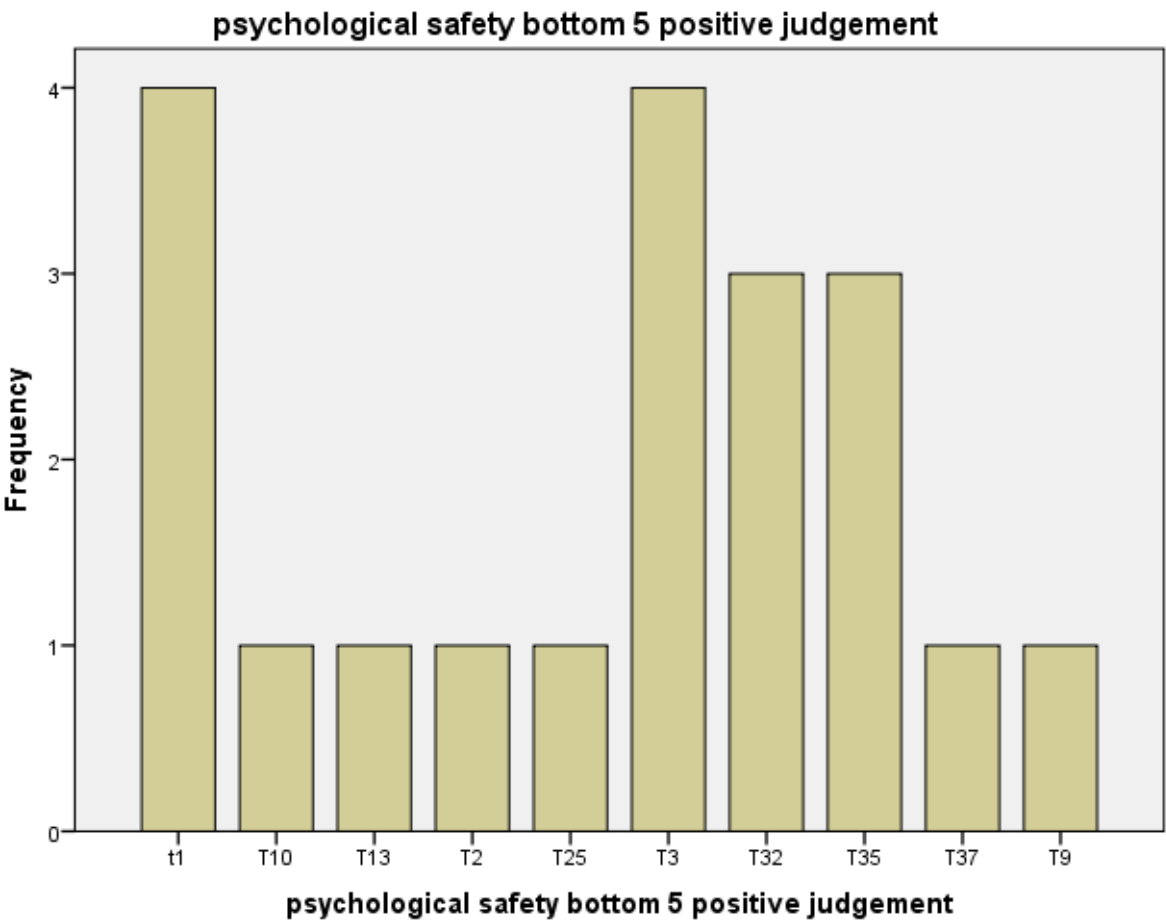
psychological safety bottom 5 positive judgement

X= the techniques
Y= frequency that technique was scored in the bottom 5 of the questions relating to this category.

Within the four questions that made up this category, technique 1 and 3 were rated in the top 5 of all four questions positively by participants, followed by technique 32 and 35 (rated positively in three of the four questions).

Table 1.5.8
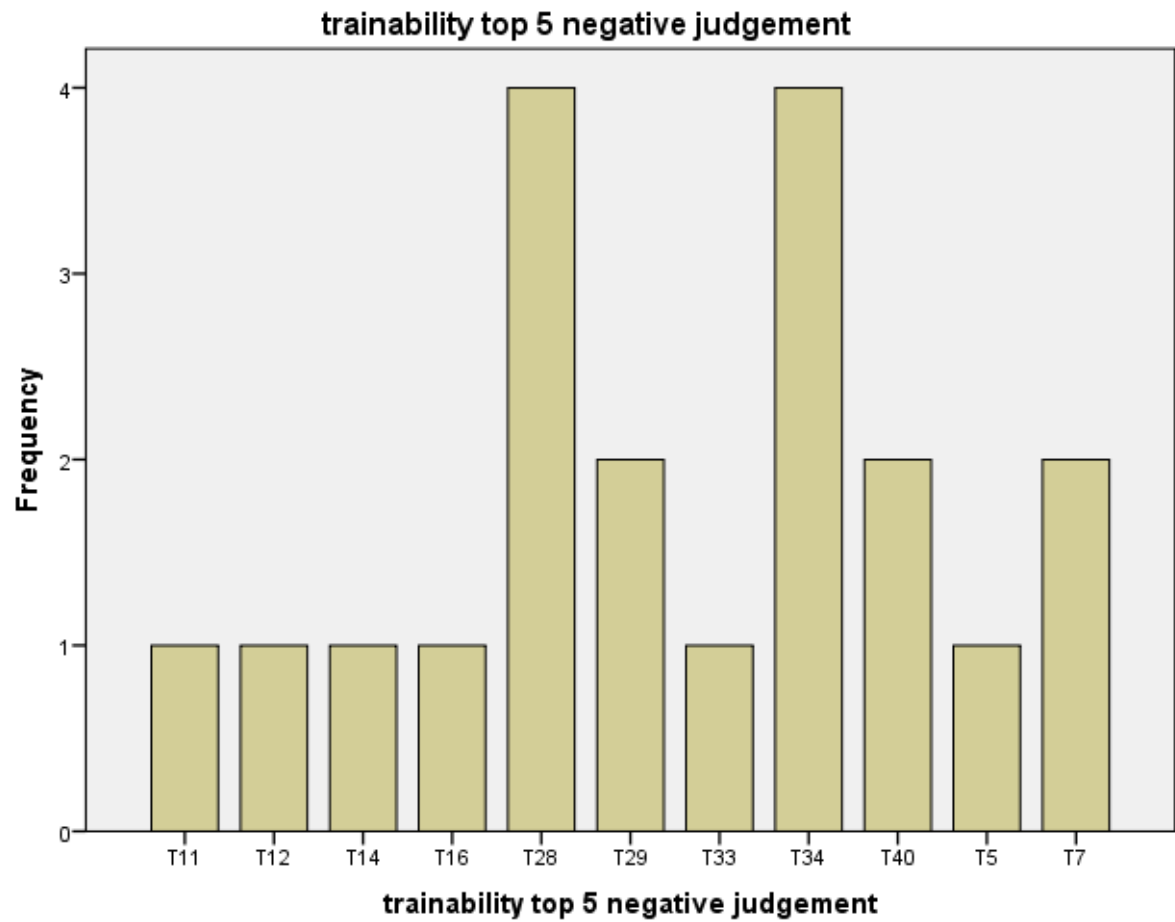
trainability top 5 negative judgement

trainability top 5 negative judgement

X= the techniques
Y= frequency that technique was scored in the top 5 of the questions relating to this category.

There were four questions which made up this category. Technique 28 and 34 were given one of the highest scores for all four questions, followed by technique 29, 40 and 17 which were in the top 5 for two of the four questions.

Table 1.5.9
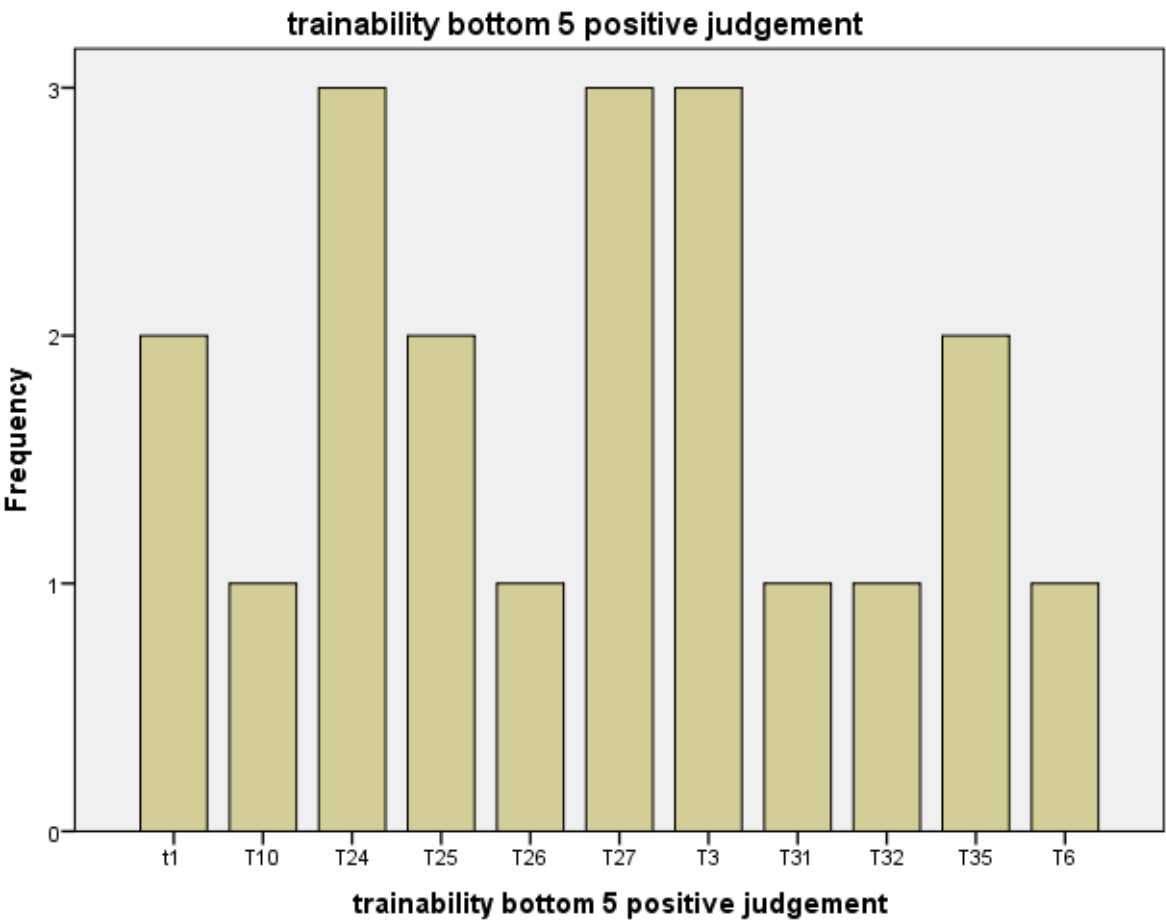
trainability bottom 5 positive judgement

X= the techniques
Y= frequency that technique was scored in the bottom 5 of the questions relating to this category.

Within the four questions that made up this category, technique 24, 27 and 3 were rated in the top 5 of three of the four questions positively by participants, followed by techniques 1, 25 and 35 (rated positively in two of the four questions).

Table 1.6.0
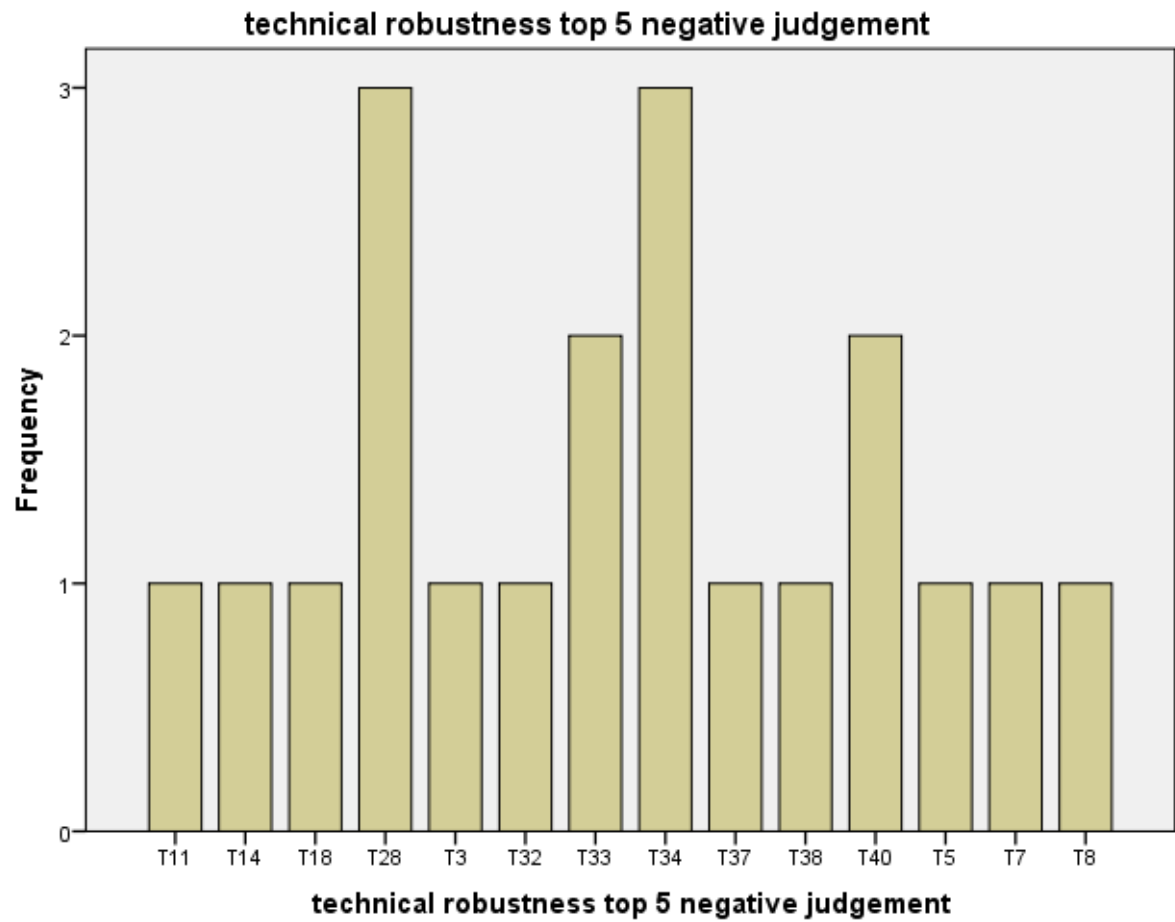
technical robustness top 5 negative judgement

technical robustness top 5 negative judgement

X= the techniques
Y= frequency that technique was scored in the top 5 of the questions relating to this category.

There were four questions which made up this category. Technique 28 and 34 were given one of the highest scores for all four questions (they were in the top 5 of three questions that made up this category), followed by technique 33 and 40 which were in the top 5 for two of the four questions.

Table 1.6.1
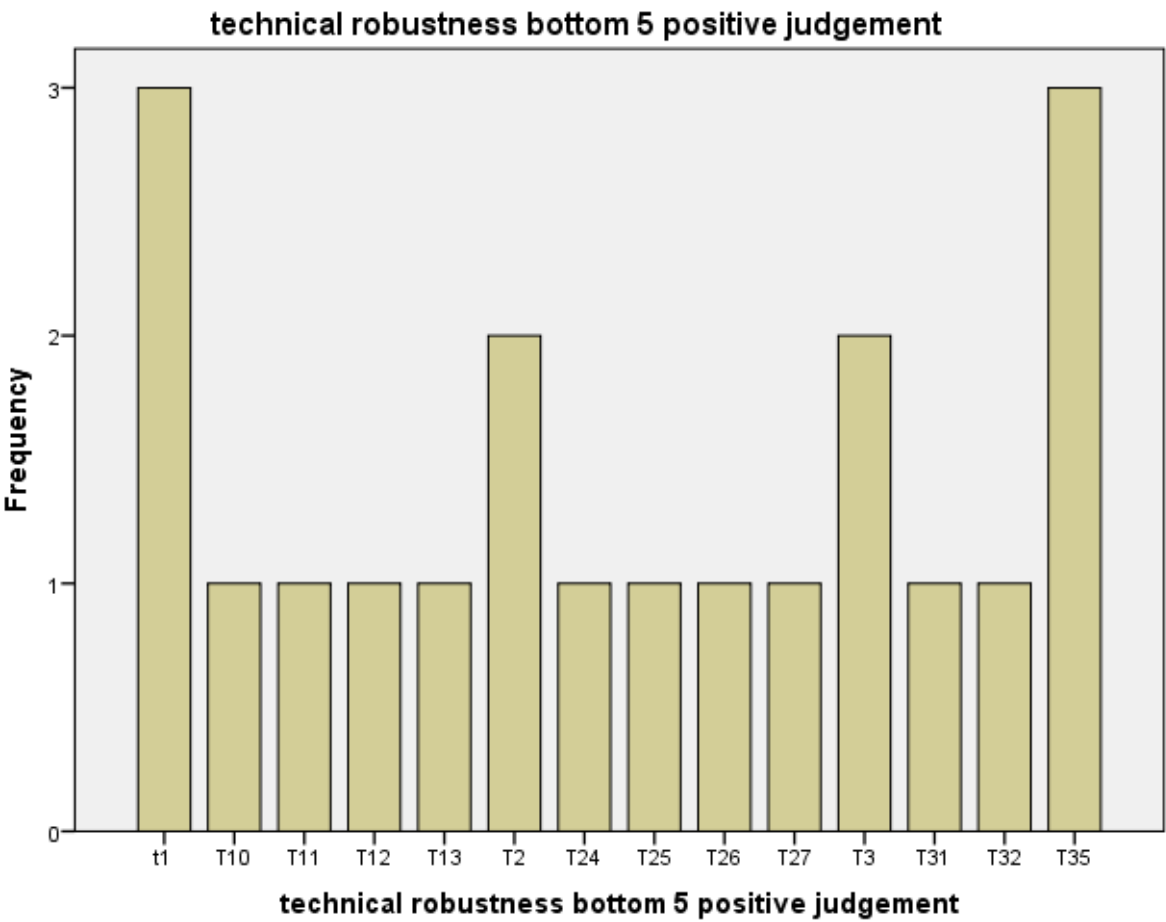
technical robustness bottom 5 positive judgement

technical robustness bottom 5 positive judgement

X= the techniques
Y= frequency that technique was scored in the bottom 5 of the questions relating to this category.

Within the four questions that made up this category, techniques 1and 35 were rated in the top 5 of three of the four questions, followed by techniques 2 and 3 (rated positively in two of the four questions).

Table 1.6.2
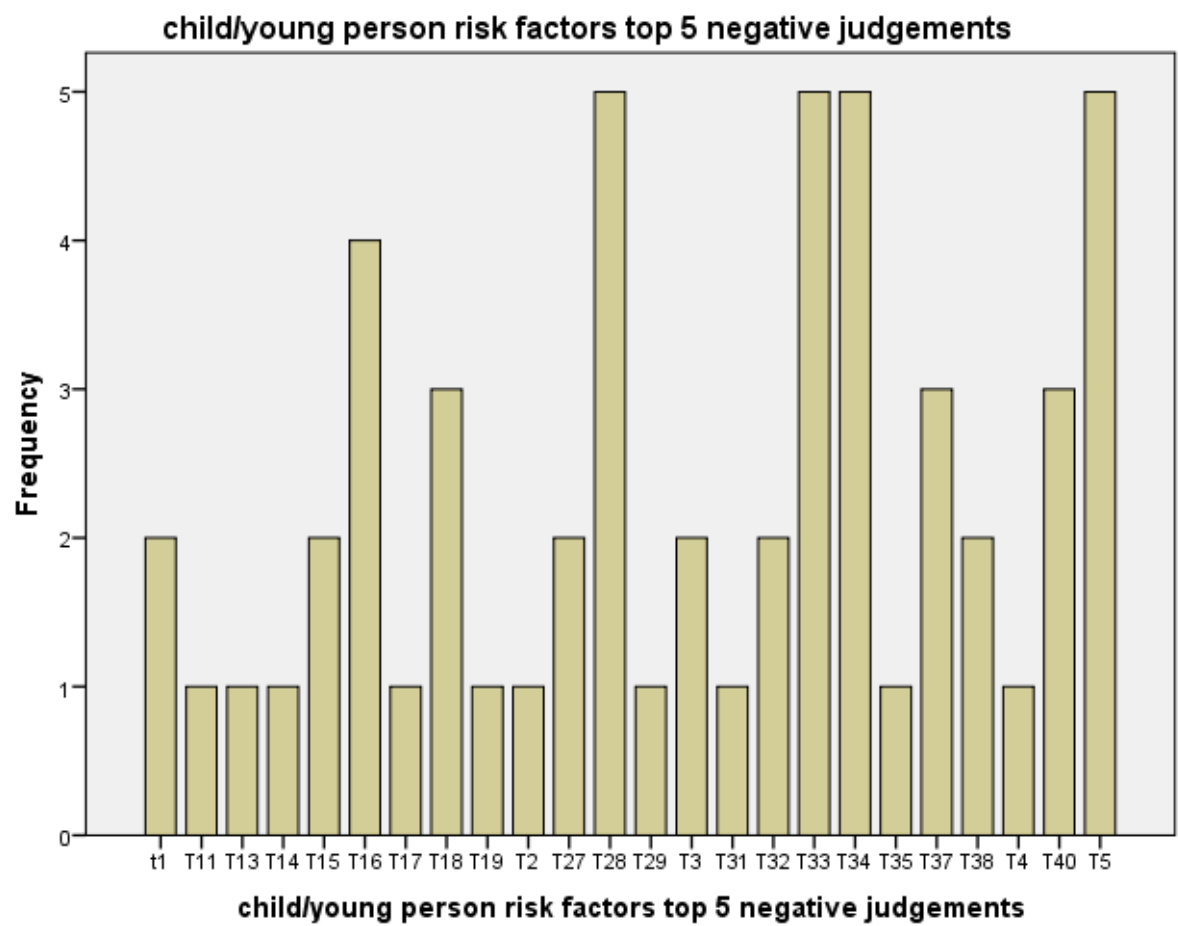
child/young person risk factors top 5 negative judgements

X= the techniques
Y= frequency that technique was scored in the top 5 of the questions relating to this category.

There were eleven questions which made up this category. Technique 28, 33, 34 and 5 were in the top 5 of five questions that made up this category, followed by technique 16 which was in the top 5 for four of the eleven questions. Techniques 18, 37 and 40 were in the top 5 of three questions.

Table 1.6.3
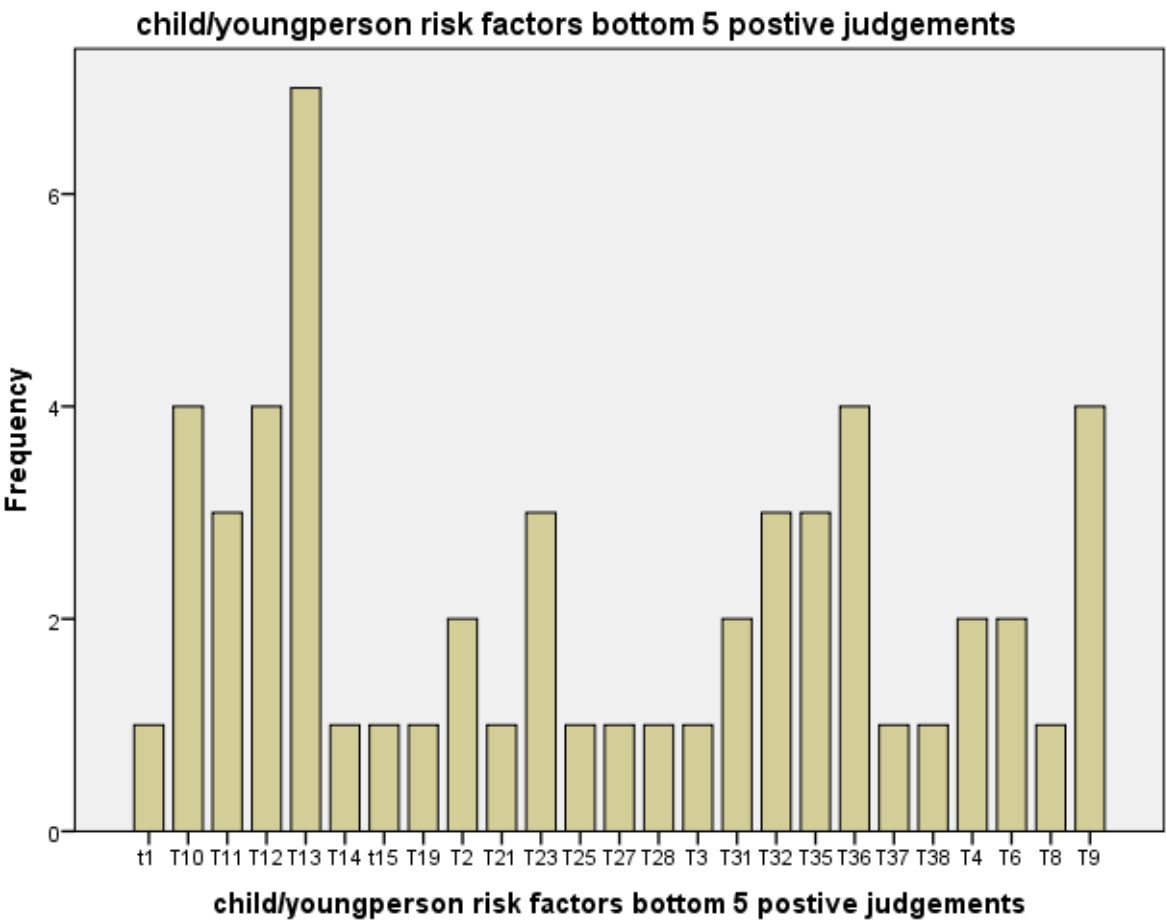
child/youngperson risk factors bottom 5 postive judgements

child/youngperson risk factors bottom 5 postive judgements

X= the techniques
Y= frequency that technique was scored in the bottom 5 of the questions relating to this category.

Within the eleven questions that made up this category, technique 13 was rated in the top 5 of seven of the eleven questions, followed by techniques 10, 12, 36 and 9 (rated positively in four of the eleven questions). Technique 1 was only rated in the top 5 of one question.

Table 1.6.4
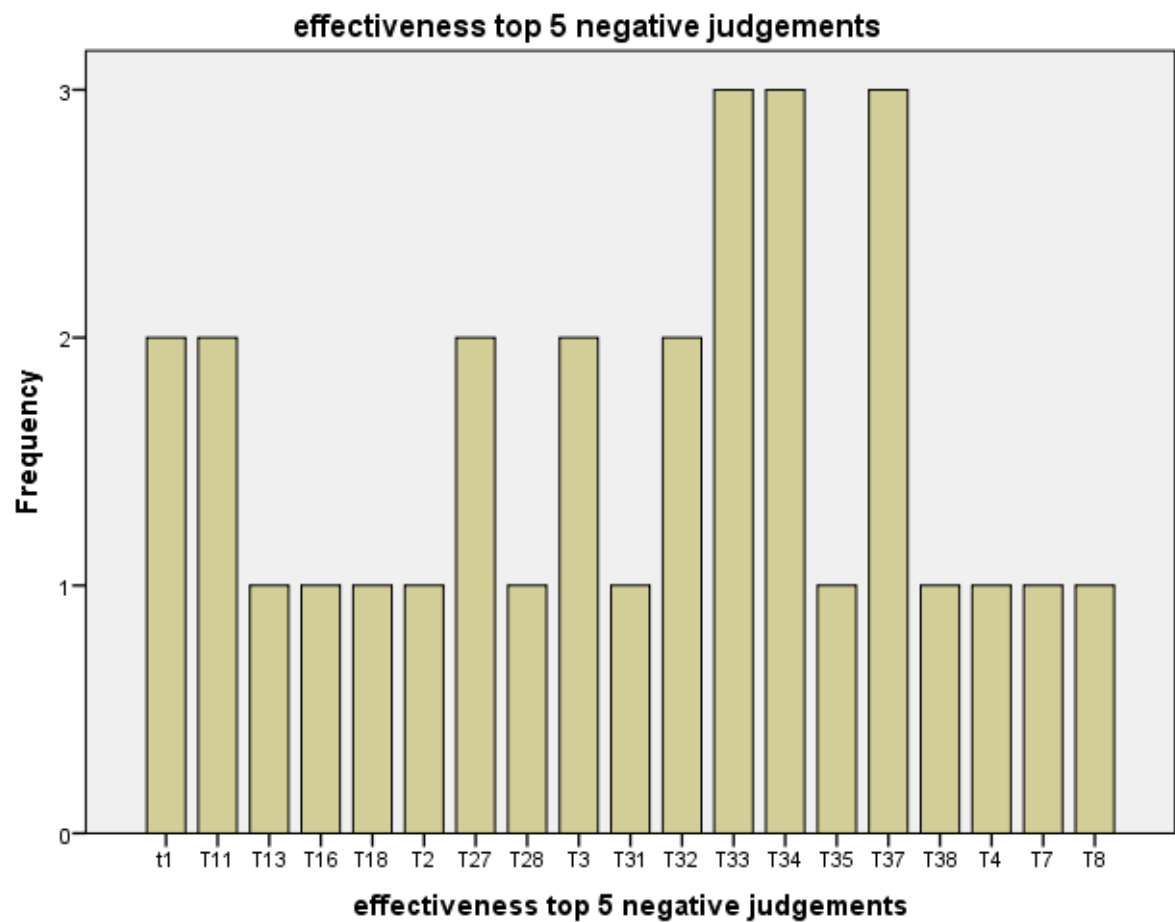
effectiveness top 5 negative judgements

X= the techniques	
Y= frequency that technique was scored in the top 5 of the questions relating to this category.	

There were six questions which made up this category. Technique 33, 34 and 37 were in the top 5 of three questions that made up this category, followed by techniques 1, 11, 27, 3 and 32 which was in the top 5 for two of the six questions. Technique 28 was in the top 5 of one questions.

Table 1.6.5
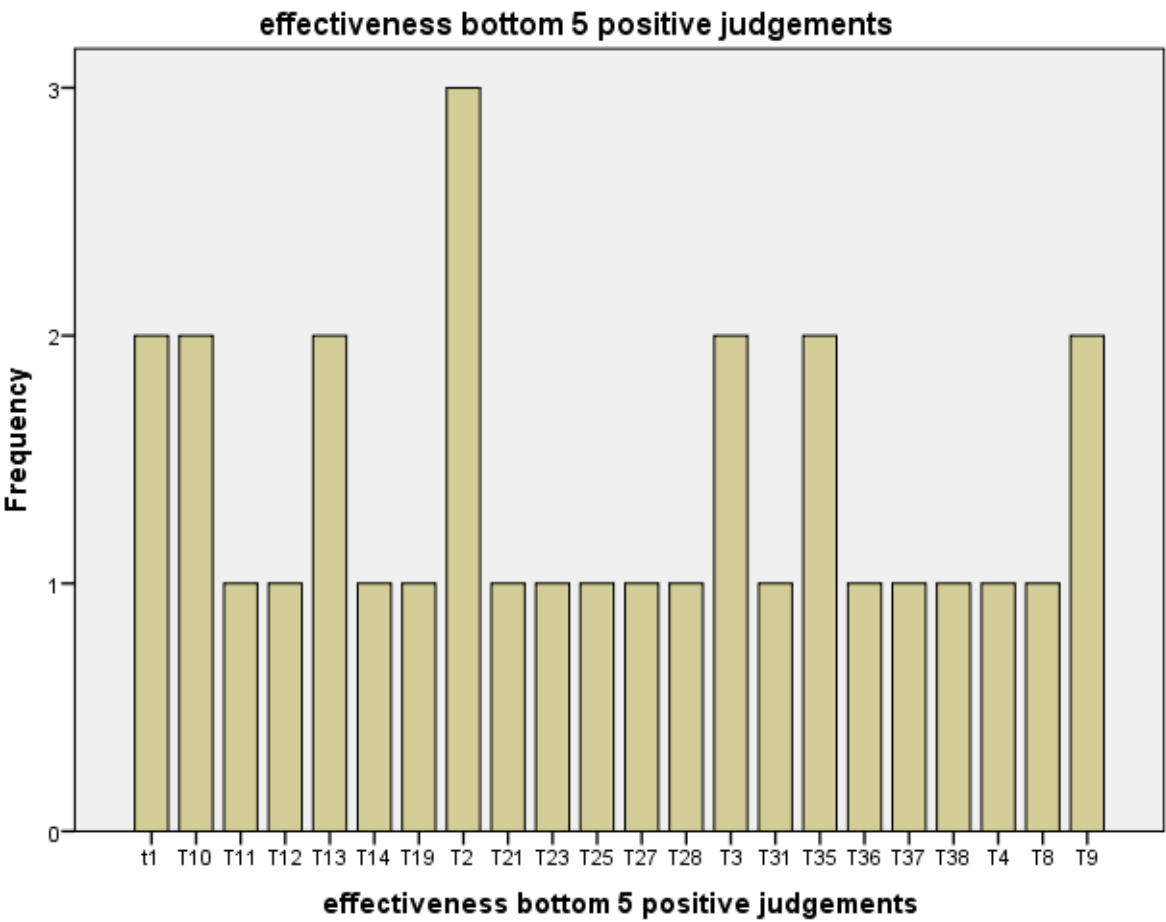
effectiveness bottom 5 positive judgements

X= the techniques
Y= frequency that technique was scored in the bottom 5 of the questions relating to this category.

Within the six questions that made up this category, technique 2 was rated in the top 5 of three of the six questions, followed by techniques 1, 10, 13, 3, 35 and 9 (rated positively in four of the eleven questions).

Techniques 1 and 3 were rated in both tables for effectiveness.

Table 1.6.6
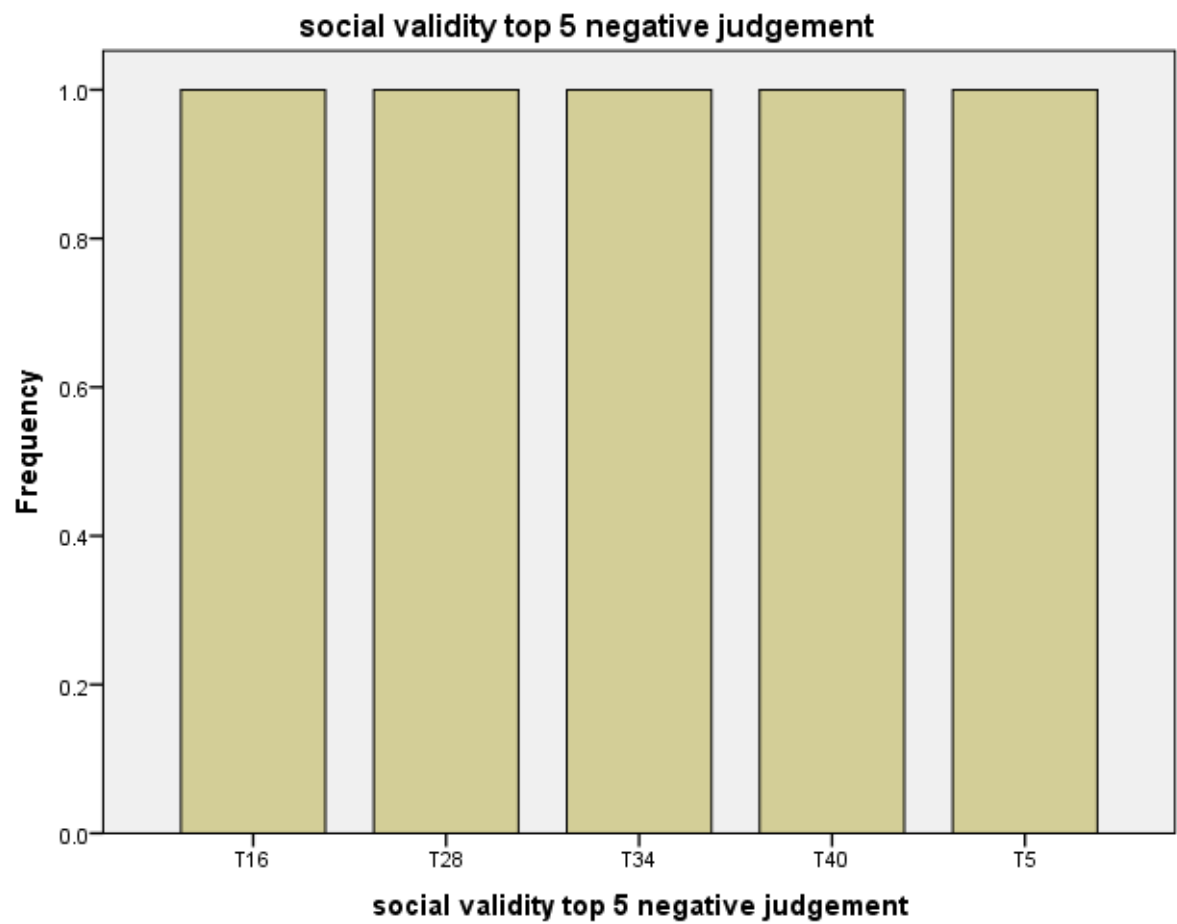
social validity top 5 negative judgement

X= the techniques
Y= frequency that technique was scored in the top 5 of the questions relating to this category.

There was one question which made up this category.

Table 1.6.7
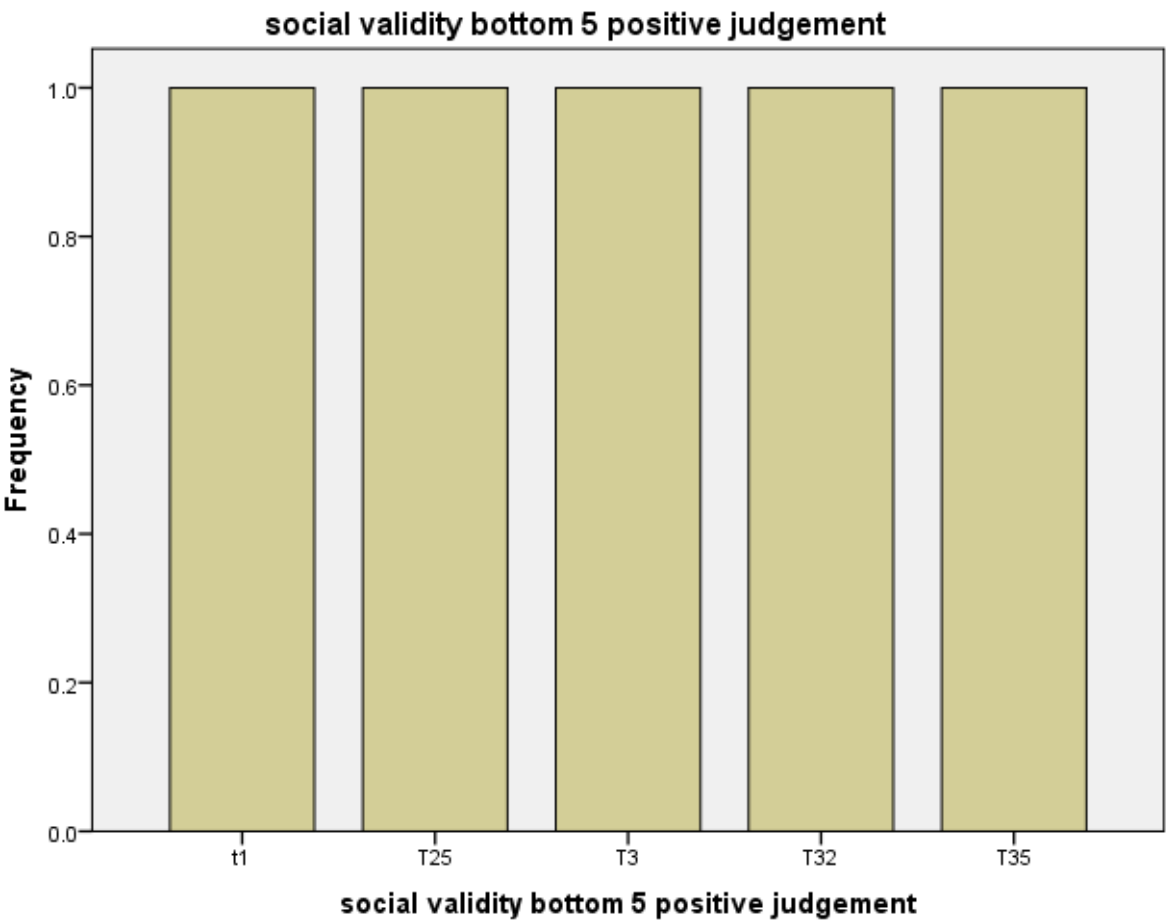
social validity bottom 5 positive judgement

X= the techniques
Y= frequency that technique was scored in the bottom 5 of the questions relating to this category.

There was only one question which made up this category.

This section of results looked at the mean and standard deviations by category to identify techniques which came in the top 5 and bottom 5 of the questions that made up that category. Technique 28 and 34 appeared in the most categories for negative judgements. Whereas, for positive judgments, no one technique stood out.

B2) An exploration of the top ten techniques and bottom ten techniques (identified by rank) through exploration of the seven categories identified within the rating scale (CHAT).

The seven category summed scores for top ten techniques were displayed in this table in order to shed light on the relationship between these categories and to test the hypothesis.

Using Excel each category was summed for all the techniques. The maximum score for each category used the following calculation =
Number of questions in the category X number of participants X maximum score.

Table 1.6.8 Rater 'non preferred' group (top ten therapeutic holding techniques)

Category	Max Score (Min=0)	28	34	40	17	18	16	5	33	20	21
Risk factors	1320	**511**	**645**	552	558	567	559	621	618	540	552
Effectiveness	720	**289**	**445**	355	376	370	368	376	431	356	355
Physical safety	600	**250**	149	167	194	185	173	154	**108**	170	172
Psychological safety	480	199	199	**201**	193	165	178	167	**156**	**156**	161
Technical Robustness	480	189	**286**	229	220	221	**188**	216	248	212	212
Trainability	480	**248**	244	200	177	167	174	**159**	193	170	173
Validity	120	48	44	48	41	30	42	**55**	**28**	29	32
Total	4200	1734	**2012**	1752	1759	1705	1682	1737	1782	**1633**	1637

Where "Techniques" is the column span header over 28, 34, 40, 17, 18, 16, 5, 33, 20, 21.

Table 1.6.8 shows that all ten techniques were identified by the participants as techniques which they did not prefer and gave high scores to, indicating that they believe that the technique posed more risk to the child or young person. The summed scores

indicate that no one technique stood out in all the measures and achieved high summed scores in each category. Also the summed scores given by participants using the likert scale were all moderately low and none were close to the maximum score.

Table 1.6.9 Rater 'preferred' group (bottom ten therapeutic holding techniques)

Using Excel each category was summed for all the techniques. The maximum score for each category used the following calculation =

Number of questions in the category X number of participants X maximum score.

The seven category summed scores for the bottom ten techniques were displayed in order to shed light on the relationship between these categories and to test the hypothesis.

Techniques

Category	Max Score (Min=0)	35	10	1	9	31	2	13	23	3	24
Risk factors	1320	420	379	428	**344**	422	405	385	370	**469**	458
Effectiveness	720	299	280	284	**245**	292	262	306	254	301	**328**
Physical safety	600	**58**	90	112	**125**	109	119	110	120	98	103
Psychological safety	480	121	112	**68**	116	117	96	113	**150**	81	128
Technical Robustness	480	145	120	**82**	124	115	106	125	142	109	**175**
Trainability	480	104	122	115	132	107	**137**	125	133	98	**94**
Validity	120	14	21	**13**	25	**28**	20	24	23	16	18
Total	4200	1161	1124	**1099**	1111	1190	1145	1188	1192	1172	**1304**

In Table 1.6.9, all ten techniques were identified by the participants as techniques which they did prefer and gave low scores to, indicating that they believe that the technique posed less risk to the child or young person. The summed scores indicate that no one technique stood out.

Despite the low summed scores there was a difference in scores for each category between the two tables (1.6.8 and 1.6.9). *Table 1.6.8 and 1.6.9* may illustrate uncertainty with the participants in the ability to identify and risk assess appropriate therapeutic holding techniques. For example, technique 28 has the lowest risk score in this table and the lowest effectiveness score of the techniques illustrated in *table 1.6.8*, yet this technique appeared in most of the questions for each category. The Cronbach's alpha (*see Table 1.5.2*) for effectiveness was **.**318 and had the lowest level of agreement. This is an issue for further investigation.

B3) Modal category analysis

Given the variability of the therapeutic holding techniques it was also decided to conduct a modal analysis. In this analysis, the appearance of the top six and bottom six techniques were examined using an overall preference scale.

Using the questions that made up the seven categories with the rating scale (CHAT), techniques were given a nominal score of 2 (++) if they appeared in three of more questions that made up the category and a score of 1 (+) if they were mentioned in two of the questions that made up that category. The techniques were also given a score of 1 if they were mentioned in the social validity category. The purpose of this analysis is to track techniques of interest and allow for further discussion about preference.

Table 1.7.0 Top 6 therapeutic holding techniques

Technique	++	+	Social validity score	Overall score
34	5	1	1	12
28	5	-	1	11
33	2	1	-	5
40	1	3	1	5
37	2	-	-	4
5	1	1	1	4

Table 1.7.0 identified that technique 37 as being unique to this group. The other four techniques matched other group findings and analysis.

Table 1.7.1 Bottom 6 therapeutic holding techniques

Technique	++	+	Social validity score	Overall score
35	3	3	1	10
1	2	2	1	7
36	2	-	-	4
32	1	2	1	5
3	1	2	1	5
10	1	2	-	4

Table 1.7.1 identified technique 32 as being part of this group, this is not consistent with other tables which identify technique 32 as being in the rater 'non preferred group' *see tables 1.7.2 and 1.7.3*

B4) Selection of 'preferred' and 'non preferred' methods (top ten and bottom ten)

To identify 'preferred' and 'non preferred' techniques the author selected the top ten and bottom ten techniques in the overall cumulative scores. Independent sample T tests were used to compare the techniques. This was done by creating two groups rater 'preferred' and rater 'non preferred' therapeutic holding techniques. The overall scores were compared, followed by the seven categories (risk, effectiveness, physical safety, psychological safety, technical robustness, trainability, social validity). Independent T tests, are used to enable the mean scores of two different groups to be compared (Pallant, 2010 and Robson, 2010) and determines if the means of the two groups differ.

The overall scores across the seven categories for the rater 'preferred' and rater 'non preferred' groups were compared using an independent sample T test. There was a significant difference between the 'preferred' and non preferred groups (t=-14.9, df=18, $p<$.001). The mean scores for the 'preferred' group were much lower (Mean=1168.6, SD=58.2), than the 'non preferred' group (Mean=1743.3, SD=106.9).

The seven categories (risk, effectiveness, physical safety, psychological safety, technical robustness, trainability, social validity) for the 'preferred' techniques and 'non preferred' techniques were compared using independent sample T tests.

There was a significant difference in risk scores (t = -9.05, df = 18, $p <$ .001). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=408.0, SD=39.3), compared to the 'non-preferred' techniques (Mean=772.3, SD=41.9).

There was a significant difference in effectiveness scores (t = -5.50, df = 18, $p <$ .001). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=285.1, SD=25.6), compared to the 'non-preferred' techniques (Mean=372.1, SD=42.9).

There was a significant difference in physical safety scores ($t = -5.20$, $df = 18$, $p < .001$). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=104.4, SD=19.4), compared to the 'non-preferred' techniques (Mean=172.2, SD=36.0).

There was a significant difference in psychological safety scores ($t = -7.08$, $df = 18$, $p < .001$). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=110.2, SD=23.4), compared to the 'non-preferred' techniques (Mean=177.5, SD=18.8).

There was a significant difference in technical robustness scores ($t = -8.11$, $df = 18$, $p < .001$). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=124.3, SD=25.3), compared to the 'non-preferred' techniques (Mean=222.1, SD=28.5).

There was a significant difference in trainability scores ($t = -6.63$, $df = 18$, $p < .001$). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=116.7, SD=15.4), compared to the 'non-preferred' techniques (Mean=190.5, SD=31.6).

There was a significant difference in social validity scores ($t = -5.78$, $df = 18$, $p < .001$). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=20.2, SD=4.9), compared to the 'non-preferred' techniques (Mean=39.7, SD=9.4).

C) Selection of 'preferred' and 'non preferred' methods (between the two studies)

To identify 'preferred' and 'non preferred' techniques, the author selected techniques which were identified as 'strongly liked' and 'liked' to identify a grouping of thirteen 'preferred' techniques and techniques identified as 'disliked' and 'strongly disliked' to identify a grouping of 'non preferred' techniques. The seven categories (risk, effectiveness, physical safety, psychological safety, technical robustness, trainability, social validity) and the overall score for the 'preferred' techniques and 'non preferred' techniques were compared using independent sample T tests.

There was no significant difference on the risk scores between the two groups (t=-1.52, df=20, p> **.**05).

There was no significant difference on the physical safety scores between the two groups (t=-0.26, df=20, p> **.**05).

There was no significant difference on the psychological safety scores between the two groups (t=-1.68, df=20, p> **.**05).

There was no significant difference on the technical robustness scores between the two groups (t=-1.9, df=20, p> **.**05).

There was no significant difference on the trainability scores between the two groups (t=-1.3, df=20, p> **.**05).

There was no significant difference on the overall scores between the two groups (t=-1.8, df=20, p> **.**05).

There was significance with the effectiveness scores between the two groups (t=-2.5, df=20, $p<$ **.**05). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=318.8, SD=36.4), compared to the 'non-preferred' techniques (Mean=366.4, SD=53.5).

There was significance with the social validity scores between the two groups (t=-1.9, df=20, $p<$ **.**05). An analysis of the mean scores showed that the 'preferred' techniques were lower (Mean=24.5, SD=8.5), compared to the 'non-preferred' techniques (Mean=33.4, SD=13.1).

C1) Comparing results between Study 4 and Study 5

To check the emerging themes from Study 4, achieve triangulation and identify similarities and differences of opinion, independent sample T Tests were also carried out on two new groups from Study 4. These were the thirteen 'preferred' techniques identified by participants as being ones they 'strongly liked' and 'liked' (one new group) and nine 'non preferred' techniques identified by participants as being the techniques they 'disliked' and 'strongly disliked' (one new group). This enabled descriptive statistical analysis to take place.

Using Excel each category was summed for all the techniques. The maximum score for each category used the following calculation =

Number of questions in the category X number of participants X maximum score.

Table 1.7.2 two new groups created to allow measurement to take place.

	rater 'non preferred' group Technique	rater 'preferred' group Technique
1	34	1
2	5	3
3	12	14
4	13	2
5	17	4
6	22	17
7	24	15
8	32	18
9	33	10
		21
		35
		36
		37

There is a difference in the techniques that make up the two groups for this analysis. Techniques 34 and 5 are the only two techniques ranked in the top ten (*see Table 1.5.3*). Techniques 35, 10, 1, 2, 3 and 4 are the only techniques ranked in the bottom ten of *Table 1.5.3*. Three techniques from the rater 'preferred' group are ranked in the top ten of by mean and standard deviation in *Table 1.5.3* (techniques 17, 18 and 21).

Table 1.7.3 Rater 'non preferred' group between the two studies

		Techniques								
Category	Max Score (min=0)	34	5	12	13	17	22	24	32	33
Risk factors	1320	**645**	621	380	**385**	558	513	458	543	618
Effectiveness	720	**445**	376	**301**	306	376	329	328	406	431
Physical safety	600	149	106	154	110	**194**	151	103	**70**	108
Psychological safety	480	199	**204**	167	113	193	174	128	**111**	156
Technical Robustness	480	**286**	216	145	**125**	220	201	175	204	248
Trainability	480	**244**	159	174	125	177	164	**94**	132	193
Validity	120	44	**55**	37	24	41	39	18	**15**	28
Total	4200	**2012**	1737	1358	**1188**	1759	1571	1304	1481	1782

In *Table 1.7.3,* the summed scores indicate that no one technique stood out and achieved high summed scores in each category. Also, the summed scores given by participants using the likert scale were all moderately low and none were close to the maximum score.

Table 1.7.4 Rater 'preferred' group between the two studies

		Techniques								
Category	Max Score (Min=0)	1	3	14	2	4	17	15	18	10
Risk factors	1320	428	469	507	**405**	423	558	524	**567**	379
Effectiveness	720	284	301	320	**262**	291	**376**	324	370	280
Physical safety	600	112	98	160	119	120	**194**	143	185	90
Psychological safety	480	**68**	81	172	96	121	**193**	158	165	112
Technical Robustness	480	**82**	109	192	106	119	220	168	**221**	120
Trainability	480	115	**98**	176	137	117	**177**	158	167	122
Validity	120	**13**	16	33	20	29	**41**	29	30	21
Total	4200	**1099**	1172	1560	1145	1220	**1759**	1504	1705	1124

Table 1.7.4 continued Rater 'preferred' group

Category	Max Score (Min=0)	21	35	36	37
Risk factors	1320	532	420	453	482
Effectiveness	720	355	299	330	352
Physical safety	600	172	**58**	93	104
Psychological safety	480	161	121	146	143
Technical Robustness	480	212	145	196	201
Trainability	480	173	104	154	151
Validity	120	32	14	20	20
Total	4200	1637	1161	1392	1453

The summed scores for *Table 1.7.4,* are lower than *Table 1.7.3.* With both tables there is a spread of scores. This is more noticeable with the preferred group of techniques, where there is 660 points different between technique 1 and technique 17.

8.3   Discussion in relation to Study 5

This study confirmed the hypothesis that there is a relationship between the techniques which are 'preferred' based upon the participants believing that the therapeutic holding technique does not carry any risk to the child or young person, is easy to apply and is comforting to the child or young person (involving 'hugging', 'wrapping' of the child or young person). At the opposite end of the scale the hypothesis is that there is a relationship between the techniques which are 'non preferred' based upon the participants perceiving the therapeutic holding technique to carry some risk and perceived to be painful to the child or young person, possibly causing psychological harm was also confirmed.

The specific research question for study 5 was 'Can Healthcare Professionals differentiate between 'preference' and 'non preference' of therapeutic holding techniques using a rating scale?' This study attempted to further the notional ideas about preference identified in Study 4 to an empirical concept through the development of a rating scale to validate preferences for techniques. There are differences in results between the two studies, which should be viewed positively in that this could mean that the scale can discriminate between techniques based upon the factors of physical safety, psychological safety, trainability, child and young people risk factors, technical robustness, effectiveness and social validity.

This discussion will focus on:-

- Reliability and validity of the scale

- Differentiating between the therapeutic holding techniques

- Likes and dislikes compared to a more statistical approach.

Reliability and validity of the scale

In keeping with recommendations concerning the purpose of exploratory sequential designs, a rating scale was developed that built upon the qualitative findings in this thesis. The design was based upon the premise that exploration was needed because existing measures or scales were not available. Cronbach's alpha was used to explore internal consistency amongst six of the seven categories (one category- social validity, was omitted because it had only contained one item). The overall Cronbach's alpha score of **.891** demonstrates that this tool has preferable internal consistency, in that the correlations between the different questions within the tool produced similar scores. "Values above **.7** are considered 'acceptable' and values above 0.8 are considered 'preferable' "(Pallant, 2010: 100) and indicated that the scale has a good overall internal reliability. The overall Cronbach's alpha **.891** suggests that the categories which make up the scale are all measuring the same underlying attributes.

Cronbach's alpha values are sensitive to the number of items in the scale and how the items are worded. The overlap with some questions being included in more than one category may have had an impact upon this value. Tavakol and Dennick (2011) recommend that alpha should be calculated for each of the concepts rather than for the entire scale. If their recommendation had been followed, not all categories would have had a value above **.7**; in particular the categories of psychological safety, child/young person risk factors, technical robustness and effectiveness. The effectiveness category had a Cronbach's alpha score of **.318**, which suggests that the correlations between the six questions did not produce similar scores. The questions which made up this category are:-

- Q11) The child/young person must consent to the clinical procedure and they only require the therapeutic holding technique to physically help them to remain compliant ?

- Q18) This technique is not robust?

- Q22) This technique will not be effective when applied to an infant (under 1 year old)?

- Q23) This technique will not be effective when applied to a toddler (1-3 years old)?

- Q24) This technique will not be effective when applied to a child (3-11)?

- Q25) This technique will not be effective when applied to a young person (12-18)?

It is possible that the lower Cronbach's value is because these questions were not related to the notion of 'like' or 'dislike' and were more specific questions where, for four of the questions, age was the contributory factor to the judgement being made about the technique. The introduction of age may mean that participants were trying to judge the techniques based upon a different value, not just the technique. Further research on this aspect is needed with a larger sample of participants.

The Cronbach's alpha for the four questions which made up the trainability category had in contrast an excellent internal consistency (**.922**). The four questions which completed this category were:-

- Q8) The safe application of this technique on a regular (daily/weekly) basis requires an expert skill level from the healthcare practitioner?

- Q9) The safe application of this technique on a regular (daily/weekly) basis requires a high level of healthcare practitioner fitness?

- Q10) This technique would require a high level of practice (monthly) by healthcare practitioners to maintain competency?

- Q19) In the event of the technique requiring more than one healthcare practitioner, the technique requires a high level of pre rehearsed coordination between healthcare practitioners requiring regular practice and communication.

These four questions are consistent in that they constantly refer to the techniques and have may not introduced any new values for the participants to judge. It may be that the participants' like the technique a lot, but on the understanding that the child was held by a member of healthcare staff experienced in the regular use of it.

This suggests that individual questions within the rating scale need to be re-examined and amended or completely changed because the introduction of new values other than the therapeutic holding technique may be affecting judgement and require sophisticated value judgements rather than 'simple' appraisal of techniques. The categories with low

Cronbach's alpha could be taken to infer that these questions which relate to the categories are measuring much more than 'simple' rater approval. For example, the questions around age relevance need to be explored further because the rater may like technique X a lot but not for older children. This thesis has already identified that healthcare staff associate therapeutic holding with the cuddling of infants and children and that there is a deficit of techniques available for the young person.

Emotionally participants may not be able to judge techniques based on the questions asked because at present these are questions that participants do not consider when implementing a therapeutic holding technique themselves or asking parents to do so. Study 4 established that participants use emotion instead of factual guidance to guide their practice. A checklist may help resolve this situation and establish a higher baseline for performance (Gawande, 2011).

Validity

Face validity was achieved by piloting the rating scale with 1 technique to ensure that the tool looked appropriate, asked the right questions and measured judgements in the same direction. Using an adaptation of a tool already published (Martin et al, 2008) which was designed to measure physical techniques used to manage behaviour, ensured that there was confidence that the adapted tool would measure what it was designed for. The researcher and her supervisor (one of the co-authors of the 2008 tool) adapted the questions in 2010 to suit the requirements of this study. The change of questions from the original tool to this rating scale was based upon logic (Kumar, 1996), and justified based upon knowledge of the phenomenon, the healthcare staff implementing the techniques and the therapeutic holding situations, not statistical evidence. Robson (2011: 311) recommended the transformation of the questions into "negations of positive constructs", to reduce bias with responses to questions on a Likert scale, which was implemented. This research also followed recommendations from Gorard (2013) in that colleagues were asked to check the data and results to ensure the correct answers were identified and reported. On completion of this study and publication of the results it will be possible to undertake further research to establish logical and statistical links between the questions and the objectives by using a larger population sample and repeated small scale studies on groups of techniques rather than the whole forty.

"Measurement should never be looked upon as a perfect process. Instead, measurement is better thought of as a process that yields *estimates* of true values" (Ruane, 2005: 71).

The selection of words within the rating scale and tired or inattentive participants can affect the results. Therefore the rating scale was piloted before the research commenced and a record of the times taken for participants to complete the tool was kept and could be used as a guide to inform future related research. The sample of the twelve participants motivated and knowledgeable in the use of therapeutic holding techniques was an attempt to keep bias to a minimum. The large number of data (16,320 overall pieces of data) was intended to assist with minimising bias and increasing validity (Pallant, 2010).

Limitations

A limitation to quantitative research is that the results can be limited as they provide numerical descriptions rather than detailed narrative and generally provide less elaborate accounts of human perception (Creswell, 2009). On the other hand, because this research follows an exploratory sequential mixed method design this issue has been reduced. Likert scales are based upon the assumption that each statement on the scale has an equal 'attitudinal value' in terms of reflecting an attitude towards the phenomenon. This assumption is also the main limitation of this scale because the statements do not have equal attitudinal value (Kumar, 1999). All the Likert questions in the scale were worded negatively. It was impossible to totally eliminate the possibility of ambiguity in the wording of the questions (Kumar, 1999) which is a limitation. The limitations of Cronbach's alpha have been identified by several authors including Bacon et al (1995) and Vehkalahti (2000) who suggest that alpha is neither precise nor a useful decision tool. Despite some limitations, Cronbach's alpha is the most widely used measure of scale reliability (Peterson, 1994), especially within nursing (Polit and Beck, 2010). The scale has high face validity and a strength is that this is pilot research, the first attempt at evaluating techniques. A limitation is that there is no test re-test reliability built in to this study, it is not known if the same people would make the same judgements at a later date (i.e. 3 months after the original judgements were made).

This study reduced the scale in numbers of items from the original 39 questions to 25 but to date there are no factor analytic studies of this scale or of the previous scale (Martin et al, 2008). Further research, such as a factor analytic study, opens up the possibility of testing whether the questions relate to the categories that we think they do. This is important further research to be undertaken because at present this relationship is guesswork. A factor analysis may also lead to a shortened scale and also allowed for the possibility of parallel forms of the scale (CHAT) to be developed. Overall, the scale would appear to be robust and could provide a basis for future studies which address the gap this thesis has identified in appraising techniques.

Differentiating between the therapeutic holding techniques

This thesis has reiterated that children are being held for clinical procedures and medical examinations every day. There are limited studies which look at the techniques being used by healthcare staff. There is only one randomised control trial investigating holding techniques (Sparks et al, 2007) which is often ignored by authors publishing on the subject. The literature search identified publications which introduce the authors' preference for a holding technique (Pretlow, 1977; Kurfis Stephens et al, 1999, Caws and Pfund 1999, Willock et al, 2004; Brown and Klein, 2011). Coyne and Scott (2014) claim that nurses are using what they term 'restraint' techniques instead of what they view to be 'holding' techniques. Coyne and Scott (2014) base this difference on their opinion that the only differences between restraint and holding are the 'degree of force used' and whether the child gives consent. The literature search has identified that there has been no research to identify what techniques are being used by healthcare staff and the claim by Coyne and Scott (2014) is not based on empirical evidence.

An examination of the standard deviation within this study suggests through the wide dispersion of values from the mean for each technique, (*See Table 1.5.3*), that participants did not have a consensus about their scores. This study attempted to look for connections between the data. There is some agreement that the techniques viewed as cuddling, wrapping the child (techniques 1, 3 and 10) and applicable to the consenting child (techniques 9 and 35) are rated more positively within the statistical tests used, although no one technique stood out.

It is likely that familiarity with techniques was a factor, for example the techniques, which participants were unfamiliar with, scored highly and therefore were viewed negatively by participants, in particular technique 5 which is not used within the service and technique 40 which is a technique advocated by dental nurses but not known to the participants in this study. Technique 28 was identified as having the highest rank of the forty techniques and appeared in the top five for most of the categories that made up the rating scale. In Study 4 (*See page 136*) the same participants did not express any preference for or dislike of this technique – they had a neutral view. The procedure for a lumbar puncture (technique 28) carries risk to the child or young person's physical safety and it may be that the participants are using the assessment scale to assess the risk within the procedure instead of the risk which may be involved in holding the child in this position. This suggests that individual questions within the rating scale need to be re-examined to ensure that the assessment is only about the technique themselves and not the procedure.

There was not always agreement between the participants. *Table 1.7.0* depicts a modal analysis where technique 37, a technique for an older child (and which is similar to technique 36 in the bottom 6 category of this analysis) is identified for the first time. There are many possibilities to explain this result. The first is that this thesis has identified that few techniques are being taught to student nurses during their training and that if any techniques are being taught they centre around swaddling, venepuncture and cannulation of children (*see Study 3*). Study 2 identified that participant's view therapeutic holding as cuddling and wrapping the child. This is a view being iterated by Coyne and Scott (2014) in their practice opinion paper. Technique 37 does not fall into the image identified by participants in Study 1 and 2 as what they believe therapeutic holding to be.

There was not always agreement with the two studies which suggests that there is a difference between preference rating and statistical analysis. The 'strongly dislike' emotional response to technique 5 by the participants in Study 4, did not follow through to Study 5. In this study, the technique was ranked 7th when describing the mean (*Table 1.5.3*). The standard deviation also suggests a variation in scores for this technique, which can be traced through identifying the top 5 techniques in the seven categories that made up the tool; technique 5 was not always in the top 5 (for example in the category physical safety *see Table 1.5.4,* and effectiveness, *see Table 1.6.4*). Brown and Klein

(2011:74) believe that the technique they describe as the "superhero cape burrito" to be more effective than just wrapping children in a sheet or blanket, the authors do not provide statistical evidence to support their claim.

This thesis has noted that few professionals advocate techniques published by their peers, instead introducing their own variations, such as with Brenner et al (2007) and Jeffery (2008). This thesis does not explore this in any detail. It is possible that because there is no statistical evidence to support the promotion of techniques, no documentation (Coyne and Scott, 2014) there is the belief that it is a 'grey area' and everyone putting 'their own play on it' *(See Study 1)*; the evidence from Studies 1, 4 and 5 may suggest that healthcare staff are only trusting techniques that they are physically taught and therefore develop familiarity with. Further research may identify this premise as being a factor; this will have an impact upon future research. A larger study with more participants is required to bridge these gaps. The huge number of techniques explored (forty) brought in variability, therefore this needs to be narrowed down for future research. Study 4 and 5 have raised the possibility that the act of publishing an opinion paper or practice paper suggesting therapeutic holding techniques to be used is not effective in influencing practice. It may be that a systematic review of techniques and evidenced positive outcomes will be the only effective means of introducing techniques within HEIs and practice.

In summary, Study 5 used a rating scale as an attempt to differentiate between therapeutic holding techniques using descriptive statistics. Forty therapeutic holding techniques were measured by the same participants who took part in Study 4. It appears that 'the factor' making the difference between the 'liked' and 'disliked' techniques, identified in Study 4, is based solely on familiarity of the technique. The rating scale did identify techniques judged as having a low level of optimism and viewed negatively by participants and techniques judged as having a high level of optimism and viewed positively by participants. Therefore the differences between the two studies should be viewed positively, because these differences may demonstrate that the participants attempted to judge each technique by answering the questions based upon knowledge not familiarity. Study 4 suggests that participants at present may ignore the findings of Study 5 and apply their emotional judgement to the selection and use of techniques, which means that as it stands this study will not address the gap in decision making about technique selection and monitoring effectiveness. There were two research

questions identified in chapter 2.5 "What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding? and "What holding techniques are preferred by healthcare staff and why?" Through a mixed methods approach to collect and analyse data triangulation was achieved. The five studies within this thesis have offered comprehensiveness by addressing a range of questions and providing stronger inferences. This has identified that the proficiency and judgement that healthcare staff learn (through training and through clinical placements) can be appropriate when aided by the appropriate tool (such as a checklist or measurement scale). Interpretations appear to be a problem, although there is more agreement around the holding of younger children.

This study was developed around a 'mixed bag' of techniques, in that there were techniques used for infants, children and young people and some techniques were generalised and some specific to a procedure, which may have impacted upon the results. To achieve evidence based outcomes, and address the gap in introducing evidence based techniques, the scale could be developed firstly around the less controversial techniques (based on cuddling/wrapping children) and then repeated on the techniques identified in Study 4 and 5 as having low preference (ie techniques 28, 34, 5, 40). The author recommends that this study is repeated as a factor analytic study using a larger sample to test the psychometric properties of the scale with the distinctive areas, for example questions relating to small children, older children and with techniques specific to clinical procedures.

Chapter 9   Conclusion:

What theory explains the assumptions, practices and preferences in relation to therapeutic holding of children and young people?

This final chapter will attempt to draw together the theories, and make some suggestions that will help explain the assumptions, practices and preferences in relation to the practice of holding children and young people. By exploring holding practices from the perspective of nurses and healthcare professionals, theories generated may make a difference to this practice and move therapeutic holding to a more evidence-based practice. The aim of this research was explore holding practices from the perspective of nurses and healthcare professionals. This included techniques currently in use to help a child or young person stay still during the administration of treatments, prevent treatment interference or to undertake an examination which can sometimes be invasive. The objective of this thesis was to answer two key questions;-

> **"What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?"**

> and

> "**What holding techniques are preferred by healthcare staff and why?"**

Chapter 1 discussed therapeutic holding within a brief historical context. This chapter introduced readers to the concept that the introduction of research and evidence based practice may have led to a theory-practice gap.

Chapter 2 set out to establish a historical background about holding practices. This historical context was used to draw attention to the problem and provided evidence of cultural resistance in nursing where many nurses do not question whether traditional practice is best practice, leading to apathy and inaction (McCaughan et al, 2002; Young, 2003; Penz and Bassendowski, 2006). It also appears possible to speculate that ambiguities in terminology, practice and techniques led to a lack of clarity in research literature. This chapter identified that research into holding would appear to be a 'Cinderella' area.

In Chapter 3, it was identified that there had been numerous calls for change to the practice of therapeutic holding, with inaction (Seabra, 2009) and no published studies to look at the prevalence of holding used by healthcare staff. Chapter 3 outlined that there is a relatively unscientific body of knowledge shaped more by 'custom' than a coherent research framework. It could be argued that research in this field could be described as 'pre-paradigmatic' (Kuhn, 1962). The literature review identified that there is an absence of high quality evidence published on therapeutic holding, with relatively few papers published which are research based, whereas there are numerous opinion papers available. Many of these opinion papers and reviews lacked precision and had flaws in their methodology. The data sources were subjective and often haphazard leading to a failure to distinguish between the characteristics of 'holding' a child for procedures/examinations and the characteristics involved when 'restraining' a child within a mental health unit due to their behaviour. For example: Selekman and Snyder (1995), Allen (2000, Brenner (2007) and Leroy and ten Hoopen (2012). This literature review also identified that the practice literature papers published are abundant with expert opinion on what the authors perceive to be good practice; the advice offered was often idealistic and not evidence based, for example: Jeffery (2008), Jeffery (2010), Hull and Clarke (2010), Brenner and Noctor (2010) and Coyne and Scott (2014). The impact of the practice literature being theory led and idealistic is that there is a theory-practice gap (Sharif and Masoumi, 2005 and Jeffery et al, 2007) which has led to a bias in how the discussion has been presented, a lack of a balanced overview of the phenomenon, a lack of systematic reviews and which has also led to "a noticeable gap in research looking at the complexities of holding the older child and adolescent" (Brenner and Noctor, 2010:19).

Chapters 4 - 8 discuss the Studies. A mixed methodology approach was used to explore conceptual and contextual understandings from different perspectives to give breadth and depth to the phenomenon. An exploratory sequential design was used to collect and analyse qualitative and then quantitative data. To explore the theory-practice gap, the research questions were met in two stages:- in stage one, Studies 1, 2 and 3 examined assumptions and practices to establish theories about 'what is happening on the ground' with regard to the practice of holding children/young people using Grounded Theory. In stage two, Studies 4 and 5 explored technique preference using quantitative approaches to establish theories about what is known about the techniques in use.

The importance of this research to practice is that the theories generated can help with the shift in assumptions healthcare staff, the child and their parents may have about holding techniques and practices to improve the experience of all involved in the process. Darzi (2008) suggested that experience was a fundamental dimension of quality. The experiences that matter to the child/young person and their parents are a successful procedure or medical examination. If they have a bad experience during the holding process, this is a bad outcome, even if the child or young person is physically unharmed and the procedure is carried out. It is the child/young person and their parents that will also benefit from this thesis because this research has developed a way of thinking, describing and doing, which addressed the uncontested issue of holding children in a pragmatic way which lecturers, healthcare staff and student nurses can use and which impacts on the quality of the care they give.

Recently, 'Positive and Proactive care: reducing the need for restrictive interventions' (DOH, 2014) was launched for discussion, although this document is mainly about face down restraint with the intention to inform new regulations about restrictive practices, it is possible that child health authors will suggest that this document also applies to the holding of children without there being any debate. This may drive the holding practice underground to a point where safe practice cannot be officially taught and there is no best practice.

To investigate the key aims and answer the research questions, this final chapter will summarise the evidence provided in this thesis and make some suggestions in order to make a difference to this practice and move therapeutic holding to a more evidence based practice. *Table 1.8.0 on the next page*, offers a visual display of theories developed throughout this thesis using the following headings: - conceptual Issues, practice issues and techniques. These headings will be discussed in more detail within this last chapter.

Table 1.8.0 A summary of the evidence identified in this thesis.

Theories developed throughout this thesis

Conceptual Issues

- The lack of differentiation between techniques used in mental health settings and acute settings has led to few professionals talking about the same thing, the same issues or have a shared understandings of terms

- The literature does not distinguish between techniques used to manage a child's or young person's behaviour within a mental health setting and the application of techniques to help a child or young person remain still during a clinical procedure or medical examination

- The literature has not taken into account the differences between holding a child for a clinical procedure and holding a young person for a clinical procedure

- The ideology underpinning healthcare professional views on therapeutic holding may have prevented discussion around the situations when the child is resistant to being held

- The term therapeutic and the beliefs participants hold about this term may be adding to the confusion

- That participants hold paradoxical views on therapeutic holding and restraint

- That the practice of holding children has moved from being 'uncontested' to indifferent

Practice issues

- The term therapeutic holding is not used by participants

- The introduction of evidence based practice prevented any detailed exploration of therapeutic holding, because most nurses and educators lacked the skill to turn a practical technique into one that had an evidence base

Techniques

- Few healthcare staff have the skills and confidence to use holding techniques, therefore parents are not only being asked to hold their child, they are being asked to take on the role of expert

9.1   Conceptual issues

Throughout this thesis it became apparent that participants were forming opinions and reaching conclusions based upon speculation rather than data driven evidence. For example in Study 1, the participants used a range of definitions for therapeutic holding and restraint and most believed that therapeutic holding was gentle and consensual.

> *"It's offering them comfort, love"*

and suggested that they believed that restraint was forceful:-

> *"Similar to therapeutic holding but a lot more forceful".*

None of the participants interviewed in Study 1 (n=11); Study 2 (n=31) and in Study 3 (n=9) used the term 'therapeutic holding'.

> *"I don't think I have ever used the term therapeutic holding or even used any term".*

Table 1.8.1, summarises the conceptual theories identified in this thesis. These include key headings of inconsistency of terminology and the term therapeutic holding not being used by participants (found in Studies 1, 2 and 3), attitudes and thoughts about policy.

Table 1.8.1
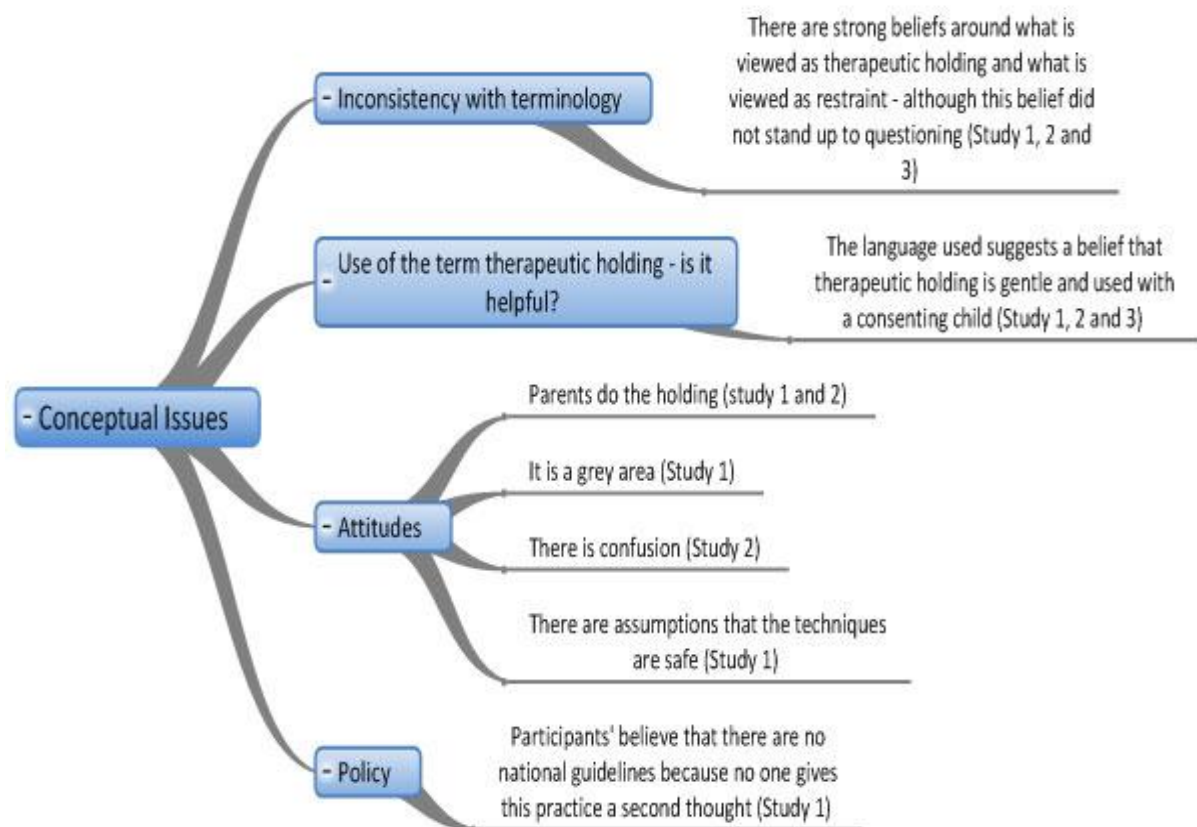
Inconsistency with terminology

The core category in Study 1 was 'the impact of there being no consistency over the terms used to describe holding practices', the core category in Study 2 was 'values and behaviours' and the core category in Study 3 was 'a lack of cohesive approach to nurse education, despite the need to hold being a daily practice,' which linked all the theories together. It is clear that these categories play an important role in understanding the experiences of all the participants in the studies and contribute towards the explanations detailed within this thesis. With regards to the theory-practice gap, this thesis has demonstrated that inconsistency over the terms used to define holding practices or in describing what the practice involves, has a negative impact upon practice in that there has been no reflection by participants on how to improve techniques, no debriefing and no documentation. It may be that some healthcare practitioners have developed a lack of confidence in their ability to hold a child who may object; therefore, reliance on parents to do the holding avoids this situation. This research has also identified that the number of healthcare professionals who have been taught therapeutic holding skills as students is diminishing, which has led to a certainty that therapeutic holding is 'cuddling' a child and a void in that there are few therapeutic holding skills in use for young people or those who may struggle during the process. The overall care category is that of 'indifference'.

Use of the term 'therapeutic holding' – is it helpful?

This study also identified that there is a belief that therapeutic holding, as well as being comforting adds to the child's experience and is safe:-

> "Just making the experience more pleasant".

To continue to use the term 'restraint' or 'therapeutic holding' suggests that there is a consensus of academic and professional opinion when there is none. A change in terminology alone will not resolve the confusion and uncertainty identified. Also a change in terminology will not open the discussions to improve this practice. 'Restraint' has a negative connotation and 'therapeutic holding' is a term not recognised or used in HEIs or clinical practice. Therefore these two terms need to be deleted from policies.

Approaches

Authors continue to offer their own professional opinion about what therapeutic holding entails and how it should be defined; often borrowing from opinions published within mental health and learning disability journals. For example, Wilson and Hockenberry (2012) have introduced a time limit to their definition of therapeutic holding, which is an argument put forward but not introduced within the UK in the 1990's, for the restraint of adults whose behaviour challenged mental health or learning disability services where restraint was part of a staff response. The quote by Allen (2000: 166) "move towards a restraint free environment of care" was aimed at mental health nursing provision and the philosophy of using seclusion and restraint to manage challenging behaviour. Allen questioned whether restraint and seclusion were appropriate interventions to use with children within these services. Brenner (2007) and Coyne and Scott (2014), who are academics, are also arguing for a 'restraint free environment' within acute children's services. The issue is that the restraint they refer to (the holding still of children for clinical procedures) is not the same restraint that Allen was referring to (physical contact to either restrict movement or mobility or to disengage from harmful behaviour). This thesis offers an alternative interpretation that instead of moving towards a 'restraint free environment of care', healthcare professionals need acknowledge that holding practices are needed and acknowledged. This will lead to discussions to identify how success is measured, not only a successful procedure with the compliant small child, but success with a young person or a non-compliant child, when the procedure is perceived to be more stressful, more painful or more complicated. Reviewing success by meeting a time limitation could create dangerous practices. The child, young person, parents and healthcare staff should all be involved in deciding these issues.

Study 1 identified the following attitudes which suggests that healthcare staff hold different attitudes to academic staff and furthers the assertion that there is a theory-practice gap :-

"I think it is just something that people have always ever done".

"We are just a bit accepting of it we are just told a certain way and accept it and do it…no one really tends to ask any questions".

"Sometimes you can't do that (liaise about how a child likes to be held) in an emergency situations or not planned situations so we just do our best with the policy and the standards that are in place".

9.2   Implications for policy

"No-one gives this practice a second thought".

This research identified that few nurses were aware of or referred to the RCN guidelines (RCN, 2010) to inform their practice. Some participants, who were aware of the guidelines, appeared by their responses to the questions asked in this research, to misunderstand the advice given by the RCN. The RCN guidelines also identified that many nurses are not confident in using therapeutic holding skills because of a lack of training and recommended that this was addressed. Studies 1, 2 and 3 identified that this advice has not been taken up by those who participated in this research, which may be typical of many HEIs and children's services across the UK:-

"Many nurses do not receive specific training in techniques of restrictive physical intervention and therapeutic holding and as a result lack confidence in using these techniques. Greater emphasis needs to be placed on enabling nurses to acquire knowledge and skills through the provision of locally based training programmes. It is recommended that organisations undertake an organisation-wide risk assessment to address particular risks in each clinical area and thus identify staff training needs" (RCN, 2010: 5)

This suggests that the RCN guidance is not effective, useful or influential with regards to the therapeutic holding practices carried out by nurses and therefore should be reviewed.

"No-one gives this practice a second thought"

"Nobody's really validated it"

"There are no national guidelines for the majority of things we do as children's nurses"

Within children's nursing the issue of developing national guidelines and specific policies does not appear to have been considered. Most Trust policies located via the internet appear to group therapeutic holding with policies to manage challenging behaviours.

'Double bind' situation

The emphasis of this study is in exploring the meanings and understandings about holding practices to bridge the identified theory-practice gap. There are unique problems with a lack of an evidence base to underpin the use of and application of holding techniques that has negatively impacted upon what is taught in the classroom and in practice. It is important to look at healthcare professionals' attitudes, views, and knowledge at this moment in time to bring about a shift from perceiving children as immature, incompetent, dependent, to seeing children as more competent and active participants in the holding process.

Healthcare professionals are often in a 'catch 22 situation' (Jeffery, 2002) in which possible choices are equally unacceptable (to hold a child or young person who does not give their consent and is objecting or to delay treatment whilst an alternate approach is considered, whilst at the same time not knowing the impact of this delay on the health of the child or believing that to not carry out the procedure could place them in breach of their Professional Code). Bricher (2000) and Brenner et al (2014) write that they are concerned that holding a child for a painful procedure can be 'taken for granted', where the practice of holding is viewed as 'the norm'. The findings documented under the previous heading of 'Approaches' and 'Policy' are therefore worrying because this thesis has identified that:-

> *"It is just something that people have always ever done"*

> "*No-one gives this practice a second thought".*

Therapeutic holding is a 'double bind' situation (Bateson et al, 1956), where healthcare staff, the child/young person and their parents are receiving mixed messages. This may have contributed to the culture of therapeutic holding being covert and not considered part of the treatment per se and the identified reticence to discuss practices openly. Children and young people are entitled to good care and the application of therapeutic holding should be approached from the viewpoint of quality of care.

This study did not explore the issue of when and why 'best interest' is used within the holding processes, and would recommend that this became a research study in its own right. The phenomenon of therapeutic holding is fraught with difficulties; there are

challenges and controversies regarding every aspect including terminology, justification for use of holding techniques (this includes assessment processes to help healthcare staff identify possible resistance), training, the appropriateness of techniques, the information given to the child/young person and their parents, the preparation of the child, parents and healthcare staff involved, in whose best interest are holding techniques used and the issue of consent and documentation.

It is difficult to engage children in discussions about their healthcare without visual tools (Ruberg, Korsvold, Gjengedal, 2015). This thesis has identified that many of the common practices are not 'best practices' with a lack of assessment of techniques, with techniques being made up, and parents being asked to hold their child. Healthcare staff appear unsure about whether they can hold an older child, some have little confidence in their ability to hold and many have identified that they have not received any training. This has led to a lack of formal discussion around techniques with the child, their parents and healthcare staff which means that there is currently little demonstration being offered or practice/role-play opportunities taking place on holding techniques. It has already been established through the systematic review undertaken by Piira et al (2005) that in all the studies they reviewed where parents held their child, none of the parents were given guidance on how they could do this. This thesis confirmed that this lack of discussion and advice is still occurring within the specialist hospital which took part in this study. A transparent framework is important. It is hoped that a 3D image project being undertaken which will be made available to healthcare staff, children, their parents and students will aid decision making, selection of techniques and enable the child and young person to be active participants of the holding process:-

> "Children and young people are experts in living their own lives. Given appropriate support and the time, they are able to advise the adults around them" (The Children's Commissioner, 2014: 8)

This should also be the aim of any future research into therapeutic holding, that children and young people should be viewed as experts and therefore be able to advise healthcare staff on appropriate holding techniques and how to manage situations when the child is resisting, but the decision has been taken to go ahead with the procedure based upon the 'best interest principle'. This study is in agreement with the opinion of Leroy and ten Hoopen (2012) that therapeutic holding is not a standard part of the medical treatment and is an additional treatment, which should be specified in protocols and recorded in the patient's notes if applied. Leroy and ten Hoppen (2012) believe that

the use of therapeutic holding as a separate treatment should therefore have a separate stage of informed consent from the parents or guardians.

This thesis has confirmed that the practice of therapeutic holding is often covert and is not considered to be part of the treatment per se. The process of therapeutic holding appears to be variable, not just from how it is defined by lecturers, practitioners and within policy but to how children and young people are held and the beliefs that appear to underpin practice. Within this thesis there is 'soft' evidence from the studies which identify a lack of clarity, a lack of policy, a lack of training, and that parents are doing the holding. There also appears to be a strong element of denial that there is a problem and little evidence that nationally this is seen as an issue.

9.3   Custom and practice issues

"We have always done it this way"
"It is usually the parents that hold"
"There's lots of different practices going on not everybody as they say to use a cliché not everybody is singing from the same hymn sheet".

In this thesis practice traditions reflected by statements such as '*we have always done it this way'* suggests that traditional practices are easier to implement and may require less thought than breaking with tradition. Therapeutic holding is viewed as 'an uncontested practice' (Collins, 1999) and recent publications which examine the issues of holding a child for procedures suggest that the nurse may not be able to demonstrate accountability (Jeffery, 2010; Hull and Clarke, 2010; Darby and Cardwell, 2011).

Chapter 2.2.2 (*The child's and young person's experience of holding practices*) indicated that although there is an assumption that children find the experience of being 'restrained' more disturbing than the pain involved with the procedure (Collier and Pattison, 1997; Twycross, 1998; McGrath et al, 2002; Snyder, 2004), there have been no studies which have separated pain of being held from the pain of the procedure being undertaken. The impact upon practice is that some nurses are uncomfortable with holding and that this is why they ask parents to do the holding, to absolve themselves from any responsibility and guilt (Robinson and Collier, 1997). It is possible that these views have influenced current holding practices. This section explores this concept further and offers a reminder of the themes identified within the studies. *Table 1.8.2*

summarises what is known about the application of holding techniques and the themes which will be discussed.

Table 1.8.2

Why Parents do the holding (study 1 and 2)
- There are bad habits (study 1)
- Technicalities of holding are not being addressed (study 1)
- It is not discussed (study 1, 2 and 3)
- There is a reliance on parents to recognise when therapeutic holding may be causing harm to the child (study 1)
- Participants use techniques they are familiar with (study 4)

Attitudes
- Participants make subjective judgements (study 4)
- Custom and practice plays a large part (study 1)

Common sense
- Participants can discriminate between techniques they like and dislike (study 4)
- There is no documentation (study 1)

What is known about the application of holding practices

Impact of attitudes on practice

The impetus for this research was awareness of the lack of clarity within children's nursing on this phenomenon. The author had grounding in physical intervention skills and qualifications in teaching physical intervention skills. It was a shock to realise that the standards being achieved within learning disability services around physical intervention skills were not being considered within children's nursing (BILD 2010) and that colleagues had a 'casual approach' towards holding practice. Therefore the purpose of this research was also to look at the impact of attitudes about the techniques upon practice in an attempt to understand this 'casualness' and identify what participants'

believe are good and poor practices (based upon their likes and dislikes of the identified therapeutic holding techniques). The participants who took part in Study 4 were confident that their likes and dislikes about the techniques were based upon their expert opinion, and were all confident that their professional background and experiences were appropriate, and gave credence to their views. There is a growing body of knowledge especially from the field of behavioural sciences that we make judgements based upon biases. Kahneman (2011) believes that in these situations, participants would fail to allow for, and not recognise the possibility that, their experience lacked the quality and evidence required to make truly informed judgements. Study 5 confirmed Kahneman's belief in that there was little agreement between the two studies. There are no studies which look at how 'likes' and 'dislikes' impact upon which techniques are used by healthcare practitioners. Although this is a small phase of research, the theories identified will add to the knowledge and discussions on this subject, in particular the new knowledge that has identified that techniques selection is based upon familiarity and whether the technique involves 'cuddling'.

> "*The techniques I liked most were all those which involved cuddling/wrapping the child*"

> "*I am unfamiliar with technique 5, therefore I do not like it*"

This leaves a gap in provision for a young person who does not want to be cuddled or is too big to be cuddled/wrapped in a blanket and the child or young person who does not want to be held in this way. It has been identified in this research that participants will view techniques that they are unfamiliar with and/or which the child or young person is resistant to in a negative, emotional manner and view techniques for these situations as carrying more risk; therefore a more robust assessment to elicit opinions is required to aid future discussion.

Common sense

To suggest that the use of therapeutic holding techniques is 'common sense', implies that the ability to perceive, 'understand' and judge the holding situation in a manner which is common to all those involved and viewed similarly by all, without the need for debate is acceptable. This research has identified that there is a lack of comparability and a lack of completeness in data on therapeutic holding. It is possible that few people are talking about the same thing, the same issues; or have a shared understanding of

terms. There also appears to be no distinction globally. The practice of holding has been identified as 'uncontested practice' (not disputed/discussed) but in reality it is possible that some healthcare professionals have now become 'indifferent' towards the practice of therapeutic holding, where some healthcare staff and academics have become unconcerned, detached, demonstrating an disinterest towards this issue and this should become part of the debate. Therapeutic holding should not be regarded as 'common sense,' this is a dangerous and damaging premise because it suggests that there is no need for training or discussion. It is recommended in this thesis that nursing culture place the same value on written dissemination and research about therapeutic holding that professional groups do, approve initiatives which encourage written documentation about actual holding practices, and base judgements on specialised knowledge also referred to as intelligent practice.

Why parents are doing the holding

Parents are not only being asked to hold their child more frequently, with expectations that they will act as 'experts' in the holding process, making decisions about acceptability, safety and risk. The participants' stories offer a sense that therapeutic holding needs to be revisited by academics and healthcare professionals. An exploration of participants' perception of holding techniques identified that healthcare staff prefer techniques they are familiar with, in particular 'cuddling' and 'wrapping,' and therefore are unable to think about the needs of the young person as well as the needs of the child who requires holding in a more technical and robust manner. The lack of national guidelines, the lack of clarity on 'limited force', the inconsistent use of techniques, the belief that therapeutic holding is 'cuddling' and the role given to parents to cuddle their child may have led to the skill of holding body parts, where medical procedures take place, becoming a practice that is no longer recognised or acknowledged as being a skill, and healthcare professionals not seeing themselves as the 'experts' within this process.

The gap between what is taught in the classroom and in clinical practice

Theory-practice gaps can be seen in many areas of nursing. This thesis identified that there is a lack of cohesion within HEIs about how therapeutic holding is threaded throughout the curriculum which has impacted upon practice. There are unique problems which this thesis has identified:- the published literature and lack of an evidence base to underpin the use of and application of holding techniques may be negatively impacting

upon what is taught in the classroom and in practice and there appears to be no evidence of student nurses and healthcare staff using the knowledge they have already acquired. *Table 1.8.3* summarises several of the concepts which emerged.

Table 1.8.3

What is known about the identified gaps - around what is taught to student nurses in the classroom and in clinical practice.

- There is a lack of a cohesive training approach (study 3)
- Assumptions are being made that students are taught in practice by lecturing staff (study 3)
- There is an inconsistency in the use of terminology (studies 1, 2 and 3)
- Lecturers and clinical staff are comfortable in teaching techniques which involve swaddling / cuddling / wrapping a young child (studies 2 and 3)
- Clinical mentors are not checking the student nurses prior knowledge on this subject (study 2)
- Student nurses are having 'ad hoc' experiences in relation to learning about and using therapeutic holding skills (study 2 and 3)
- Few nurse lecturers and clinical mentors were taught therapeutic holding skills during their own training (study 1, 2 and 3)

It may need the updating of policy and the involvement of the child and their parents for a paradigm shift to take place.

9.4   Techniques

"You know one assumes that since the technique is out there that somebody or other has already assessed the risks of what you're doing…so we know they're safe because they're tried and tested".

In 2008, the author became aware of the work being undertaken by Martin et al (2008) to evaluate the risks associated with physical intervention techniques. This prompted the author to review the standards developed by Valler-Jones and Shinnick (2005) and realise that they were not robust enough to evaluate the techniques being taught, in terms of being safe and acceptable, when considering a young person who may be non-consental, resisting and being 'aggressive' towards the nurses. Many therapeutic holding techniques are developed over time by nurses who gain experience by being involved in the practice in the first place (Valler-Jones and Shinnick, 2005), this thesis has also identified that parents are being asked to hold their child, that there is no documentation about what techniques are used and there is currently professional conflict about the use of techniques. This led to the large component of this thesis researching the practicalities surrounding the use of techniques, the routine situations where they are used and discussions about preferences and discrimination.

Techniques which continue to be used within ward areas and departments of the service which took part in the 5 Studies are those which involve cuddling the child. Some techniques have disappeared from being documented within publications within the UK. It is not known whether this is because these techniques are part of what is viewed as 'uncontested practice' (Collins, 1999) or whether they are not used within clinical practice in the specialist area where this research took place. A review and catalogue of therapeutic holding techniques in use within the UK would contribute towards meaningful discussion and in particular identify age appropriate techniques.

Study 5 identified that few professionals advocate techniques published by their peers and put forward a theory that this was because of the belief that many techniques are developed over time by nurses, that it is a 'grey area', with 'everyone putting their own play on it'. Further research is required to identify fully whether this premise is true and also to evaluate whether a published systematic review of techniques leads to evidence based practice.

Table 1.8.4 summarises what is known about the techniques and which studies explored that problem.

Table 1.8.4

- What is known about the techniques

Majority of participants' like and use techniques that cuddle / wrap the child in a blanket (study 1, 2, 3 and 4)

There are different opinions between the professional groups about where to take blood from and therefore which holding technique to use (study 4)

Attention to details and the requirements of the clinical procedure may not be discussed by professionals (study 4)

Participants like techniques they are familiar with (which appear to be those that involve cuddling) (study 4)

Participants dislike techniques where there may be a perception of pain associated with the technique or the use of force (study 4)

The development of a rating scale had overall internal reliability (study 5)

The wide dispersion of values suggests that participants did not have a consensus about the scores they gave the techniques (study 5)

There is some agreement with holding techniques viewed as cuddling and wrapping a child, and which are used with a consenting child (study 5)

Techniques which the participants' were unfamiliar with (the majority being for the older child) had little agreement between participants (study 4 and 5)

It is possible that the procedure and the holding technique are being rated together (study 5)

A rating scale did identify techniques judged as having a low level of optimism and techniques judged as having a high level of optimism (study 5)

The lack of formal discussion around a technique which possibly caused harm to a child (*See Study 4, Unfamiliar Techniques*) and the evidence that this technique is still in use today without healthcare professionals being aware of previous concerns, supports the assertion that healthcare practitioners have become 'indifferent' to the practice of therapeutic holding. Further research needs to be undertaken to establish a practice development model where experts and healthcare practitioners are taught holding techniques and then asked to reflect on them. This would establish a framework to discuss concerns, literature, differing professional opinions as well as develop a mechanism to review and risk assess holding techniques through practice and discussion. The group should be multi professional so that specific requirements of the procedures undertaken by the nurse, doctor, phlebotomist, anaesthesiologist, dentist, neuroscientist and radiologist are also considered within this process. Play specialists should also be included in this process. This process would also resolve the issue about whether therapeutic holding involves consent and would identify an agreed framework, term and process for situations where the child does not consent but where the medical procedure is still deemed necessary and it is assessed that the child needs to be held still.

The preferences identified by the participants needs to be explored in more detail. It can be viewed positively that the participants preferred the techniques identified to wrap or cuddle the infant and child. It would be useful to repeat this study with a larger group of participants from all professional groups who work with children such as dentistry, anaesthesiology, medical professionals, X-ray, neuroscientists as well as nursing. The agreement of the 'experts' is not the only criterion that should be considered within future research. The fact that they agree about methods could mean that they agree about punitive approaches. Based on this data, it seems that some methods were rejected because healthcare staff were concerned about use of deception, or that methods were intrusive. Further research which focused upon the issue of deception and what could be viewed as 'intrusive techniques' could clarify the issues raised by this research.

It is important that healthcare practitioners understand the factors that influence their selection of techniques, and at the same time they need to be able to comprehend fundamental factors known about certain patient groups, for example the child with autism who may not like to be touched, and balance this with the technique selection process. This requires further research and is an issue highlighted in 2010, by Gerrard et al. Therefore Study 5 needs be repeated as a factor analytic study using a larger sample

to test the psychometric properties of the CHAT scale with the distinctive areas, for example techniques applicable to small children, older children, the child with autism, the child with sensory difficulties and lastly with techniques specific to procedures.

The technique advocated by Brown and Klein (2011) requires a greater in-depth study. The views offered by participants who 'strongly disliked' this technique because it was dishonest (pretending that the situation is better than it is – 2 participants), poor social validity (1 participant) and poor technical robustness (1 participant) are contrary to the perspective of the American authors who suggest that this technique is easier to execute, more successful and takes advantage of a child's imagination rather than being dishonest. The American authors suggest that this technique is ideal for laceration repair and foreign body removal. Further research trialling this technique with healthcare staff, children and their parents within the Emergency Department would offer a more robust comparison. A larger group of healthcare professionals may also identify similar factors of deception, mechanical restraint and unfamiliarity to the small participant group interviewed for this phase of the research. If the technique was part of an empirical study where data is collected about the experiences of the child and the person's doing the holding, using a form of measurement to look at safety, effectiveness and social validity as well as observation; this may offer useful practical information and help introduce the concept of evidence based techniques.

The RCN (2010), Jeffery (2010), Hull and Clarke (2010) and Coyne and Scott (2014) state that the differences between restrictive physical intervention and therapeutic holding is the degree of force and the intention; yet this is a theoretical assertion. There has been no empirical research comparing 'restrictive physical intervention techniques' with 'therapeutic holding techniques' thus there is no evidence to support or disprove this belief. The repetition of Study 5 may contribute towards clarifying this belief.

9.5   Creating a paradigm shift

The claims by Kuhn (1962) about the 'Structure of Scientific Revolutions' are relevant to the history and evolution of holding practices. The phenomenon is at what has been termed the 'Pre-Paradigmatic Stage' where there are competing theories published, each of which has a different conception of what the basic problems are. To bring about a paradigm shift in the basic assumptions healthcare practitioners have about the practice

of holding children and young people and create consensus, there is a need for the emergence of the next stage of Kuhn's scientific revolution, that of 'normal science', where the studies in this thesis are copied and built upon. This thesis has asserted throughout that the holding of children and young people must move towards an evidence based practice. To do so a paradigm shift about the assumptions in existence about holding practices needs to take place through scientific research to bring about better belief systems.

What is needed is a systematic and programmed area of research on this phenomenon. This thesis has 'nudged' the agenda so that a move from 'custom and practice' to empirical research can take place. Studies 1, 2 and 3 are robust qualitative studies in their own right and offer an insight into what is happening within the classroom and within clinical practice. These studies have identified that there are competence and confidence issues for healthcare staff which has led to inconsistency in how the child is held for procedures. It is the older child, the young person and children with learning disabilities who may be receiving an inequitable service because healthcare staff do not know what techniques to use or lack the confidence to use them.

To move towards evidence based practice HEIs should have a teaching model as its basis. A problem based learning approach would allow for reflection and theorisation by the students. Students will therefore be presented with theory, demonstration of holding techniques and be able to practice in a simulation setting. Structured and immediate feedback would also be built into the teaching. Simulation, which includes role play and case studies, has been shown to increase student effectiveness. In order for cohesion to take place the same teaching model should be taught to healthcare staff in clinical practice as well as to student nurses within HEIs. It is important therefore that a teaching model is developed and evaluated by nurse lecturers and healthcare staff from a number of HEIs and clinical practice areas. Discussions are taking place about teaching at Birmingham City University with a view to the theory and practice of therapeutic holding being taught as an inter-professional session to child health nurses, student nurses learning about diagnostic radiotherapy and healthcare professionals undertaking training in operating department practices. It is intended that the findings of this thesis will be presented at the university conference and at a Grand Round within the specialist service.

This thesis has identified that there is a problem in acknowledging the issues that surround the phenomenon. What is needed is a systematic and programmed area of research around policy, practice, training and extending the qualitative research explored in this thesis to other populations. For example, holding adults for clinical procedures and preventing treatment interference. The second stage of the thesis (study 4 and 5) only 'scratched the surface' of exploring the techniques. The rating scale had some problems, but has an overall internal reliability which suggests that it could still be used in future research. Study 4 and 5 should be an entire PhD thesis in their own right.

The author has transferred her specific research based knowledge into actual clinical practice by taking a pragmatic stance, which asserts that the value of any theory can only be calculated by how well it addresses real practical needs and how well it works in practice (Blumer, 1969). 3D images of holding techniques and a website based upon findings from this thesis are also in the process of being developed (http://comslive.health.bcu.ac.uk/index.php). The aim of this collaborative project is to provide lecturers and healthcare staff with a repository of interactive images and information about holding techniques to aid decision making and selection of techniques. The written and verbal information that supports the techniques will be in the nine languages most commonly used by patients, in order to facilitate a deeper understanding with the child/young person and their parents. In the near future, the author will be devising an on-line survey to evaluate how well the visual display of techniques informs the child, the parent/guardian and the healthcare professional and aids with communication use. The on-line survey will include open and closed questions. Descriptive statistics will be applied to the quantitative data and Grounded Theory to the qualitative data. This website will be an invaluable tool for helping students and healthcare staff visualise holding techniques and will also be part of the teaching model described above.

Further research to develop more robust techniques for children with a learning disability has already been initiated. At the time of writing, this research is in its first year of data gathering. Nine healthcare staff have been interviewed about their experiences of holding a child with Hunters syndrome (it is the intention to interview up to six more). This data will be collated into themes explored through two focus groups which all healthcare and administrative staff who work on the unit will attend. The focus groups will also explore appropriate techniques. In 2015, a proposal will be submitted applying for funding of a PhD student for three years to investigate whether there is a consensus

about techniques that could be used with young people; to develop and evaluate a training programme in partnership with Birmingham Children's Hospital. There are 4 major aims of this proposed PhD: to assess the extent to which the items within the Children's Holding Assessment Tool (CHAT) are measuring the same concepts, to identify a consensus about techniques that could be used with young people, to develop and evaluate a training programme in partnership with Birmingham Children's Hospital. This is necessary because this phenomenon must now be understood within 'normal science'. This means that there must be a move towards the production of high quality evidence, a move towards the publication of results and the need for appraisal and critique of techniques.

9.6 In conclusion

This thesis set out to explore meanings and understandings about what is known about nurses' and other healthcare professionals' application of holding practices and the techniques currently in use to help a child or young person stay still during the administration of treatments, prevent treatment interference or to undertake an examination which can sometimes be invasive. The value of this exploratory sequential design is that it enabled the examination of relationships and behaviour within the phenomenon of holding children from an unbiased and in-depth perspective. The explanations discussed in Chapter 9 ultimately came from the participants who were interviewed for the separate studies that made up this research. This research on therapeutic holding is 'fit, works, relevant and modifiable' to the care of children and young people when being held for clinical procedures.

What is happening on the ground with regard to holding practices?
The findings of this thesis reveal that:-

- There are few lecturers, healthcare staff and student nurses being taught actual holding techniques, other than those associated with cuddling or wrapping a small child. This suggests that there is a gap in effective techniques available for use with the young person.
- Staff view techniques they are familiar with as being safe and acceptable (once again these are the techniques used to cuddle or wrap a small child).
- This perspective of familiarity is also seen within the literature published, where authors discuss their own views on a technique and advocate techniques they are familiar with, ignoring techniques published by their peers. This is the first time this theory has been expressed.

- The published literature has failed to take into account the nuances between holding techniques used with children and those which could be used with the young person.
- The lack of differentiation between techniques used in mental health settings and acute settings, has led to few professionals talking about the same thing, the same issues or have a shared understandings of terms.
- 40 techniques have been identified and documented as being used by healthcare staff in the clinical area. It is now known what holding techniques are used within this specialist service and that preference for the techniques selected are based upon familiarity.
- A pilot structured rating scale to measure the techniques had some success in measuring the techniques in terms of trainability and physical safety.

"***What are the assumptions and practices made by healthcare professionals in relation to therapeutic holding?***"

It has been shown therefore, that emotions and beliefs about therapeutic holding have impacted upon teaching and practice, and have led to a lack of discussion, a lack of documentation on these practices (whether successful or unsuccessful) and a lack of consistency in the way children are being held. It was identified that parents are not only being asked to hold their child more frequently, with expectations that they will act as 'experts' in the holding process, but also, to make decisions about acceptability, safety and risk. Some nurses acknowledged that they involve parents because they do not have the knowledge and skills to hold the child, and yet there were practitioners in this study who believed that their holding practices are as good as necessary to satisfy the specific requirements of the child, young person and their parents and thus meet the standards set by their professional bodies. In many cases the knowledge and skills for safe and effective holding practices appear to have disappeared from education and clinical practice. The literature review and the studies in this thesis identified that there are few examples of high quality evidence published for the holding techniques currently in use, that there are no studies which investigate prevalence in the use of techniques. Worryingly this thesis has identified that there is a lack of differentiation between techniques used within mental health and acute settings, which has led to few professionals talking about the same issue or have a shared understanding of this phenomena. Therefore it appears, for the time being, that the assumptions and practices

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identified are currently inadequate for the purpose of improving the experience of the child/young person, their parents and healthcare staff involved in the holding process.

"***What holding techniques are preferred by healthcare staff and why?***"

Healthcare staff demonstrated that they prefer to use holding techniques they are familiar with, in particular 'cuddling' and 'wrapping'. The quality and effectiveness of judgements about the techniques were also tested using an assessment scale (Study 5). The tests for statistical significance within this study confirmed the hypothesis:- that there is a relationship between the techniques which are 'preferred' based upon the participants believing that the therapeutic holding technique does not carry any risk to the child or young person, is easy to apply and comforting to the child or young person. This thesis has identified that most of the holding techniques preferred by healthcare staff are adequate for children, whilst at the same time most appear to be inadequate for young people, especially those who require holding techniques for blood to be taken because there is disagreement amongst professions about which is the best site. The techniques in use at this time also appear to be inadequate for the complexities of holding the older child and young person.

This thesis has identified that therapeutic holding is currently an under researched area and one which is poorly understood. This thesis has proven that the practice has moved from 'uncontested' to 'indifferent' and therapeutic holding techniques are inadequate to hold the older child and young person still for the administration of treatments, prevent treatment interference and to help the older child and younger person stay still for examinations which can sometimes be invasive.

Recommendations

Further research is needed to look at the reasons why healthcare professionals do not like to give this practice a specific name and what term healthcare staff would prefer to use when discussing the need to hold a child or young person with the child/young persons, parents, colleagues, within their documentation and as a reference within policies. Given that current literature identifies different terms to define and describe the holding of a child or young person still for procedures/examinations (See Chapter 1.1.3

which details the definitions and terminology that has been published to describe the technique used to restrict a child's movement or immobilise a limb); a starting point could be a quick survey of practitioners registered as children's nurses, students on child nursing courses/radiography courses, allied healthcare staff working with children and lecturers, of their preferred terminology using a Likert scale. This information could inform policy, the current RCN guidelines, and lead to national debate. This research could then be broadened out to look at European practices and then the rest of the world.

Further research should be undertaken to ask a group of lay people their preferences over the same techniques. This would allow the concept of social validity to be explored more thoroughly. A group of children and young people should also be invited to state their preferences over the same techniques which would explore the issue of perceived effectiveness. It is also important to explore the techniques which did not fit into the 'strongly liked' or 'liked' categories more thoroughly (identified in Study 4). This Study has identified that the techniques which did fit into this category involved cuddling an infant/child and the use of blankets to wrap a small child. There are no techniques for the older child or the child who offers some resistance to being held. Therefore research looking into safe, effective and socially valid techniques for these groups is required.

The older child, the young person and children with learning disabilities may be receiving an inequitable service as a result of the competence, confidence and consistency issues explored. To ensure that holding techniques are suitable for purpose, there needs to be the development and evaluation of an inter-professional teaching model. Discussions are in place to introduce a model within several HEIs, including Birmingham City University. This could be as a series of controlled training outcome studies to evaluate the impact of staff training within the specialist area and an evaluation and extension of the Studies. Study 4 requires further research about the actual techniques being used to hold children still. Study 5 requires further research with a larger sample of participant's to investigate individual questions within the rating scale (CHAT) to ensure that the rating scale can evaluate the techniques and not other values. Studies 1, 4 and 5 suggest that healthcare staff are only trusting of techniques that they are physically taught and therefore have developed familiarity with. Further research is required to explore this hypothesis.

Study 5 was developed around a wide range of different techniques which brought in variability. This needs to be narrowed down for future research into techniques recommended for certain procedures, less controversial techniques (for example those associated with cuddling the child), more controversial techniques (for example the Superhero Cape Burrito recommended by Brown and Klein (2011) and techniques recommended towards certain age groups of children and young people. It is important to explore the development of holding techniques for specific groups of children and young people through seeking funding for further research.

This thesis has identified a lack of empirical research which examines therapeutic holding techniques. At present there are two tools available, Martin et al (2008) which evaluate physical intervention techniques and the CHAT rating scale which had some success in helping participants differentiate between techniques. However, study 5 identified that individual questions within the rating scale should be re-examined. Given that there is a scarcity of reliable and credible tools available to evaluate techniques a factor analytic study using a larger sample to test the psychometric properties of the scale is recommended.

The methodology of a mixed method (exploratory sequential design) with an underpinning theoretical perspective of Grounded Theory and pragmatism worked well within this research. This research has demonstrated that there are pockets of 'intelligent practice' and pockets of 'uninformed practice'. Effort has been made to intellectualise the practice of holding children still for clinical procedures through empirical research. Through two stages of research, this thesis has identified that there are gaps in adequacy with regard to what is happening on the ground with the practice of therapeutic holding and with the techniques healthcare staff prefer to use. The 3D App and Website are practical solutions to address the problem.

Lastly, the child health nursing profession is in its infancy academically (hence all the opinion based literature) therefore the outcomes of this research will assist the profession to move forward academically, create the paradigm shift that needs to take place to facilitate progression towards evidence based practice and bridge the theory-practice gaps and ultimately improve patient care.

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Appendix 1

Example Invitation letter

Tel: 0121 331 6055

Email: andrea.page@bcu.ac.uk

Hello

I am a senior academic within the Faculty of Health, based at the City South Campus. I am currently enrolled at this University to undertake my PhD which involves undertaking research on the **therapeutic holding of children and young people for clinical procedures**. A definition of this is "Positioning a child so that a medical procedure can be carried out in a safe and controlled manner".

The reason why I have chosen this topic is that the literature identifies that there has been very few studies done looking at policy, procedure and training regarding the holding of children for clinical procedures.

You have been invited to take part in this research because you had experiences of holding children for clinical procedures when you were on placement at Birmingham Children's Hospital.

You will be asked to volunteer to participate in this research and this will involve you meeting with me to discuss your views on how the student nurse experience can be improved. This interview will last about one hour.

Do I have to take part? It's up to you whether or not you participate. Your participation or nonparticipation in this research will not affect your academic records or affect opportunities for placement.

Please ask if anything is not clear or you would like more information. If you have any questions or concerns you may contact me via the email address at the top of this letter.

What happens now – if you would like to know more and /or would like to be considered for this research, please email me before (date). Please confirm at this time that you have had a clinical placement at Birmingham Children's Hospital and identify the ward/area. I will be selecting a small number of people from this group to participate.

Thank you,

Andrea Page

Version 2. October 2011

Participants Information Sheet:

Thank you for thinking about taking part in this research project.

· ▪ · ▪ · ▪ · ▪ · ▪ · ▪ · ▪ · ▪ · ▪ · ▪ · ▪ · ▪ ·

Research Title:

How do student nurses, qualified nurses and nurse lecturers perceive policy, procedure and training on therapeutic holding techniques used to hold children still for clinical procedures?

What is this research about?

This is a supervised study which has been designed to explore perceptions about therapeutic holding.

Why have you been invited to take part in this research?

You have been invited to take part in this research because you have experiences of holding children for clinical procedures through your placement(s) at Birmingham Children's Hospital.

Do you have to take part?

It is up to you whether or not you participate; the research is entirely voluntary. If you decide to take part you can change your mind at any time without giving a reason. If you decide not to take part this will not affect your studies in any way. In addition this research will not affect your academic records in any way.

Are there any expenses and payments for this research?

It is not expected that you will have any expenses for taking part in this research, as I will meet you at a convenient place to you and at a time suitable.

What will you have to do if you agree to take part?

You will be asked to meet with me at a convenient place such as the University. The interview will last approximately 1 hour. Refreshments will be provided.

What information will be collected?

- Demographic information – your year of study at Birmingham City University.
- A Question to ensure that you meet the inclusion criteria (a placement at Birmingham Children's Hospital).
- Questions relating to Therapeutic Holding (best practice and training).

How will data be collected?

The interviews will be recorded (audio tape) to help me accurately remember the information that you give me.

<u>What happens to the information that you give me?</u>

The research will be strictly confidential. Please be assured that the data will be made anonymous and you will not be identifiable in any way. All the information you provide will be coded so that none of the information will be associated with you. The data files will be stored in a safe place for the duration of the research in accordance with the Data Protection Act 1998 and will be destroyed five years after the study has been completed.

No personal information will be used apart from general demographic questions such as what year of study you are in. All the information you provide will be coded so that none of the information will be associated with you. These questions are asked to ensure that the research group is representative of the larger population and will not be used to trace you in anyway.

<u>Are there any ethical dilemmas, such as are there disadvantages or risks to taking part?</u>

It is essential that you do not feel coerced into taking part & feel able to leave the research project at any point. Observing 'the principle of confidentiality' means keeping information given by or about a participant in the course of a professional relationship secure and secret from others. As a researcher I will ensure that I do not disclose identifiable information about you. Confidentiality will be maintained, as no personal details will be recorded, just your views relating to this research. I will also separate data from any identifiable sources and use codes to protect information. The data will be anonymous and no part used as a formal assessment of your knowledge and abilities. It is possible that you may become upset or you indicate that you are unhappy with your experiences of holding children. In these situations I will be able to offer you an opportunity to discuss your thoughts and talk about support systems available. It is also possible that you may describe techniques which are no longer considered suitable. In these situations we will talk about options available to access appropriate training on more suitable techniques. Remember the interview will be tape recorded (to help me accurately record the data for this research). If you are unhappy about this then please do not contact me to be part of this research.

<u>What are the possible benefits of taking part?</u>

I will be using the information to develop and improve the training given to student nurses on therapeutic holding techniques. A possible benefit includes being part of research that may help others, for example by being involved in research that could lead to the standardisation of practice in this area.

<u>What if there is a problem?</u>

If you experience a problem as a result of taking part in this research please contact me and I will try to resolve the situation. If I am unable to do this or you prefer to speak to someone else please contact either my Director of Studies or the Health Research Office.

Researcher: Andrea Page, Rm. 489 Seacole Building, City South Campus. Tel No: 0121 331 6055. <u>Andrea.page @bcu.ac.uk</u>

Director of Studies: Professor Maxine Lintern, Rm. 263 Seacole Building, City South Campus. Tel No: 0121 331 6158. <u>Maxine.lintern@bcu.ac.uk</u>

Health Research Office: Research Administrative Officer, Rm. 461 Seacole Building, City South Campus. Tel No: 0121 331 6192. HealthResearchOffice@bcu.ac.uk

What happens when the research study stops?

You will have the opportunity to receive feedback on my progress through access to a website which I will be setting up.

What if relevant new information comes available?

If this occurs I will seek advice from my Director of Studies.

Has this research been reviewed?

This research has been reviewed by the Faculty of Health Research Committee at Birmingham City University. A favourable ethical opinion was given on *DATE*

Does this research have insurance?

This research has been approved of by the Universities Research and Indemnity Committee.

What happens next?

If *you would like to know more and /or would like to be considered for this research, please email or telephone me before (date). Please confirm at this time that you have had a clinical placement at Birmingham Children's Hospital and identify the ward/area.*

I will be selecting a small number of people from this group to participate. If you are selected, I will contact you and we will make a convenient appointment. If you need any further information please email me andrea.page@bcu.ac.uk.

Thank you

Version 3 December 2011

Consent Form

How do student nurses, qualified nurses and nurse lecturers perceive policy, procedure and training on therapeutic holding techniques used to hold children still for clinical procedures?

For consent to be considered informed participants must have sufficient information about the research project, including any possible harm that may arise from such participation, to arrive at a reasoned judgement about whether or not to take part.

Participant's initials

1. I confirm that I have read the invitation letter and participants information sheet for the above research and have had the opportunity to ask questions

2. I understand that participation is voluntary and that I am free to withdraw at any time without any prejudice.

3. I understand that the interview will be tape recorded for the purposes of this research only and that the researcher may take some additional notes during the interview. The tapes will be effectively destroyed five years after the end of the research.

4. I agree to take part in this research and to be contacted to arrange an interview date/time

5. I agree to the researcher using anonymous quotes as part of this research

Name of Participant

Participants signature: Dated:

Researchers signature: Dated:

Version 3 Dec 2011

Birmingham Children's Hospital **NHS**
NHS Foundation Trust

DIRECTORATE RESEARCH AND DEVELOPMENT

Research and Development Office
Direct Line: 0121 333 8707
Fax No: 0121 333 8715

Professor Paula McGee
Birmingham City University
Westbourne Road
Edgbaston
Birmingham B15 3TN

12th December 2011-12-12

Dear Professor McGee

Re: Andrea Page

I am happy to confirm that Andrea Page has discussed her research project with the R&D Department and we support the research in principle, subject to gaining all the necessary approvals.

Yours sincerely

Miss Katie Roebuck
R&D Business Innovations Manager

1 of 1

Address for Correspondence
Professor Paula McGee
Faculty of Health
Birmingham City University
City South Campus
Westbourne Road
Edgbaston
Birmingham B15 3TN

Tel: 0121 331 6127
Email: paula.mcgee@bcu.ac.uk

21.12.11
Mrs A. Page
Department of Clinical Skills
Seacole Building

Dear Andrea

Re: Proposed research – Therapeutic holding of children for clinical procedures – an exploration of best practice guidelines within nursing education (child field) and clinical practice.

Thank you for your revised application which shows that you have addressed the issues raised by the Faculty Ethics Committee. I am now happy to take Chair's action and issue a favourable opinion. This means that the project may go ahead subject to the following conditions with a recommendation.

Recommendation
The participant information contains a few minor errors. I have highlighted suggested changes in blue that I hope you will find helpful.

The Committee's opinion is based on the information supplied in your revised application. If you wish to make any substantial changes to the research please contact the Committee and provide details of what you propose to alter. A substantial change is one that is likely to affect the
- safety and well-being of the participants;
- scientific value of the study;
- conduct or management of the study.

The Committee should also be notified of any serious adverse effects arising as a result of this research.

The Committee is required to keep a favourable opinion under review in the light of progress reports.

I hope the project goes well and wish you every success.
Yours sincerely

Professor Paula McGee
Chair, Faculty Ethics Committee
Cc Professor Maxine Lintern

28 September 2011

To whom it may concern

Dear Sir/Madam

Re: University Sponsorship Agreement

Title of Project:	Therapeutic holding of children for clinical procedures -an exploration of introducing best practice guidelines within nursing education (child field) and clinical practice
Name of Student Researcher (s):	Mrs Andrea C Page
Full Title of Course:	N/A
Name of Academic Supervisor (Chief Investigator):	Dr Maxine Lintern

I can confirm that the Faculty of Health, Birmingham City University, has agreed to take on the role of Sponsor under the Department of Health Research Governance Framework.

I can also confirm that legal liability for death or injury to any person participating in the project is covered under the University's insurance arrangements.

Yours faithfully

Lucy Land

Chair

Research Insurance and Indemnity Committee

Appendices 3

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
The impact of there being no consistency over the term used to describe holding practices.	The beliefs about therapeutic holding and restraint impact upon practice	Thought processes	Therapeutic holding is a form of comfort	Safe Reassurance Beneficial Kind Not threatening Do what you think is morally right Not doing any harm Helpful holding
			Restraint is abusive	Against policy Fighting Against the person's will More staff are required
		Uncontested practice	Therapeutic holding is common sense	Common sense Always done it this way Not questioned Necessary

Appendix 3 Identification of core categories –Study 1 (5 pages)

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
The impact of there being no consistency over the term used to describe holding practices.	The language used to describe therapeutic holding and restraint impacts upon practice	Social acceptance	Therapeutic holding is safe /Therapeutic holding is beneficial	Therapeutic holding is safe Support Cuddling Hugging Safe and secure Comforting Wrapping Child is too young to understand
			Restraint is not safe	Against will Overpowering Force Force them into a position Stopping Pin down Manipulation

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
The impact of there being no consistency over the term used to describe holding practices.	The technicalities of the holding techniques are not being addressed	Experiences	Use of blankets	Wrapping
			Application	Holding tight Squeezing Holding securely Stop pulling away Keeping arms still Just holding hands Sitting on parents lap Being hugged Common sense Judge by reaction of child/parents
			Inconsistency	Tweaking Pick up bad habits Learn over time with observation Different practices Passed down You don't know that everyone knows what to do
			Part and parcel of the procedure	Part and parcel of what we do Always done it this way
			Grey area	Grey area You cannot address every situation They look safe because the child looks comfortable They are safe because the RCN says they are

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
The impact of there being no consistency over the term used to describe holding practices	The consequences for practice is there is a lack of evidence of what clinical staff actually do in practice	Experiences	Reflection	No one gives it a second thought Not known wide enough No one has complained/said there was a problem If it ain't broke it don't need fixing Accept it and do it I have never heard from staff that there are problems Historical
			No clear guidelines	Not recorded No validation No guidelines for anything we as children's nurses do They are safe because the RCN says they are We put our own play on it Not everybody is singing from the same hymn sheet Doing own thing probably.
			Parents directed to hold	Need a safe person to hold (parents) We are strangers to the child We show the parents a poster so that they know what they should be doing Get mum to rehearse at home Kind of directing mum to cuddle in a particular way

| | | | 341 | Parents supposed to be the care giver the safe haven
Parents are used to judge the effectiveness of technique
Parents asked to judge whether technique should be stopped |
| | | | Parents on board | We give the parents the control
We try to get the parents on board
I would never do anything against the parents wishes
If a child is non compliant we'd have them sitting on mum's lap
If parents are sort of looking a bit stressed giving you the vibes |

Appendix 4

What	when	Where	Why	How	Consequence
There is a belief that therapeutic holding is a gentle process (offering love) *(Theory: The beliefs about therapeutic holding and restraint).* The words used by the participants include:- "*Safe* *Reassurance* *Beneficial* *Kind* *Not threatening* *Do what you think is morally right* *Not doing any harm* *Helpful holding*	This belief is reinforced if during the procedure the child/infant is too small to resist. If the technique is not perceived as painful If the child does not resist/ is compliant	All departments interviewed	Because - Of their belief in the word therapeutic There is no concordance over terms used They are not sure where consent fits into this process Parents need to hold as the healthcare staff are strangers Definitions stress that parents do the holding:- Hockenberry and Wong (2004), Hockenberry, Wilson and Winklestein (2005) and Homer and Bass (2010), Wilson and Hockenberry (2012) Images of holding show parents doing the holding Kurfis	By:- Asking parents to do the cuddling Parents are supportive Using terminology that reinforces belief	Question practice when clinical practice does not fit Parents do the holding

			Stephens (1999), Hockenberry and Wong (2004), Hockenberry, Wilson and Winklestein (2005), Jeffery (2008) and Wilson and Hockenberry (2012) The impact of there being no concordance over the term used to describe holding practices.		
There is a belief that restraint is forceful. *(Theory: The beliefs about therapeutic holding and restraint).* The words used by the participants include:- *"Against policy* *Fighting* *Against the person's will* *More staff are required* *Common sense* *Always done it this way* *Not questioned* *Necessary"*	If during the procedure the child resists, cries, wriggles or is not compliant Or the procedure is considered painful or it is imperative that the child is held very still	All departments interviewed	No discussion, clarity or understanding of the two terms Child does not consent or withdraws consent The procedure is painful The child needs to be held very still The impact of there being no concordance over the term used to describe holding or what the practice involves	Parents look distressed.	Lack of documentation when the child struggles, becomes distressed / procedure is unsuccessful (Robinson and Collier 1997, Collins 1999, Lambrenos and McArthur 2003, Tomlinson 2004, Jeffery 2008 and 2010). There is also confusion about whether the child is simply 'trying it on' and that they may need the discipline provided by the holding process, but because it is discipline it

					is viewed as restraint (GNC 1982). Piaget suggests that children under 7 years of age would see any holding as a response to their being naughty – nurses taught this during their training may also believe that this is what they are doing The nurse is bigger and stronger than the child and using brute strength (McGrath 2002)
The language used to describe therapeutic holding and restraint is inconsistent *(Theory: Language used to describe therapeutic holding and restraint).* The words used by the participants include:-	When looking at policies, sharing ideas, describing practice, talking to the child/parents about what needs to be done BUT SOMETIMES	All departments interviewed	Literature does not agree on a term or definition Policies are vague Not clarified within nursing education, not mentioned in medical education, not discussed between theory	Inconsistent terms and definitions, vagueness to answer research questions, uncertainty and lack of conviction when probed to clarify answer	No common definition of good around the decision to hold and the actions taken (Langley et al 2011). Skill not clearly defined (Brenner and Noctor 2010, Bray et al 2010)

"Support *Cuddling* *Hugging* *Helpful Holding* *Comforting* *Wrapping* *Against will* *Overpowering* *Force* *Force them into a position* *Stopping* *Pin down* *Manipulation"*	there is no 'when' – in that very few healthcare staff seem to discuss /document or reflect upon this practice		(University) and practice Impact of no concordance terminology or holding practices.		Techniques not evidence based. (Mulrow 1987, Schon 1995, Valler-Jones and Shinnick 2005, Shinnick-Page et al 2008). No discussion about situations that went well / did not go so well (Jeffery 2008).
Therapeutic holding is something that is learnt with time and observation *(Theory: The technicalities of the holding techniques are not being addressed).* The words used by the participants include:- *"Tweaking* *Pick up bad habits* *Learn over time and with* *observation*	On the wards	All departments interviewed	Professional ignorance Not taught as part of nurse training Uncontested practice Impact of no concordance terminology or holding practice.	Learn if with a nurse/mentor who knows what to do. Use a poster to describe techniques (9 photos using a doll) developed in 2006	Guesswork (Pearch 2005, Valler-Jones and Shinnick 2005, McLean 2011)

Different practices *Passed down* *You don't know that everyone knows what to do* *Part and parcel of what we do* *Always done it this way"*					
There is a lack of evidence of what staff actually do in practice *(Theory: Quality features practice).* The words used by the participants include:- *"They look safe because the child looks comfortable.* *They are safe because the RCN says they are.* *Learn over time and with observation* *Different practices* *Passed down* *You don't know that everyone knows what to do* *Part and parcel of what we do* *Always done it this way*	In emergencies the practice is different Different practices between departments	All departments interviewed	Grey area/ part and parcel The current policy is tweaked Different practices You don't know that everyone knows what to do Nurses prefer to pass down info orally (Wollin and Fairweather 2007) Tend to see parents holding children in the text books /reference to parents holding not staff	Use common sense. Procedures passed down / learnt with observation You can't address every situation Always done this way	There are variations in practice (Shinnick-Page et al 2008) Lack of confidence (RCN 2010) Reinforces view that traditional practices are easier to implement and may require less thought than breaking with tradition (Martin 2002)

Grey area *You cannot address every situation* *No one gives it a second thought* *Not known wide enough* *No one has complained/said there was a problem* *If it ain't broke it don't need fixing.* *Accept it and do it* *I have never heard from staff that there are problem Not recorded* *No validation* *No guidelines for anything we as children's nurses do* *We put our own play on it* *Not everybody is singing from the same hymn sheet.* *Doing own thing probably. Historical"*			The impact of there being no concordance terminology or holding practices.		
Parents do the holding. *(Theory: Quality features in practice).*	For all procedures where child /young person assessed as	All departments interviewed	"Who would want a stranger to hold them" Therapeutic holding is seen	Assumption that play specialists have educated them or will educate them	The immobilisation of limb has become part of the clinical procedure – separated from the

The words used by the participants include:- *"Need a safe person to hold (parents)* *We are strangers to the child* *We show the parents a poster so that they know what they should be doing* *Get mum to rehearse at home* *Kind of directing mum to cuddle in a particular way* *Parents supposed to be the care giver the safe haven* *Parents are used to judge the effectiveness of technique* *Parents asked to judge whether technique should be stopped"*	needing to be held due to their age or cognitive ability		being the cuddling / holding – staff do not recognise the immobilisation of the limb as being a hold (it's part of the clinical procedure) Healthcare staff lack competence / training Awareness that not had any training and using unsubstantiated techniques The impact of there being no concordance terminology or holding practices		therapeutic holding or restraint (Leroy and Hoopen 2012) There are inconsistencies in the holding techniques (Shinnick-Page et al 2008) There are variations between departments in advice, use of documentation

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
Values and behaviours	The language used to describe therapeutic holding and restraint impacts upon practice and is not discussed within training	No one uses term therapeutic holding to describe the practice of physically holding a child for a medical procedure to be undertaken safely. If healthcare staff had received training (many allied professionals believe nurses receive this as part of their nurse training) this issue may not occur.	Therapeutic holding is safe /Therapeutic holding is beneficial Restraint is not safe	Positive language, inconsistent language application "cuddling", "comfort", "Gentle reassurance" Negative language "Against will" "Power" "Force" "Stopping" "Pin down" Manipulation Fear Risk

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
Values and behaviours	Uncertainty impacts upon practice and training	Belief systems When asked to define therapeutic holding and restraint the predominant belief was that therapeutic holding is a 'gentle process', (offering love) and that restraint is 'forceful' Training issue	Therapeutic holding is nice / beneficial	Positive language, support, nurture, "nice" "cuddling", "comfort", "Gentle reassurance" Theory /practice gap Therapy Consent
			Restraint is not nice	"Not what would expect from a therapeutic hold" "not comforting"

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
Values and behaviours	Technicalities of more complex holding are not being addressed Discrepancies	Standard procedures known to healthcare staff such as 'wrapping' are those they are most familiar and happy with Wrapping / cuddling a small child does not raise any ethical issues : hence why it is taught/ Demonstrated	Familiarity Consistent response	Treatment Wrapping Cuddling "Just hold" "Might hold" "Hold tight" Knowledge Guidelines Agreement Training Common sense "Grey area"

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
Values and behaviours	Do not know the technicalities therefore get parents to hold Discrepancies	Don't know techniques themselves/not sure of policy Conflict over the amount of force used No mentors had received therapeutic holding training during their training. Definitions stress that parents do the holding	Vagueness Inconsistency Assumptions	Strangers Parents Social validity Intention Safe Reassurance Expectations

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
Values and behaviours	There is a discrepancy between what the mentors suggest happens and the student nurses experience	Experiences of mentors, students and nurse lecturers are different	Vagueness Inconsistency Assumptions Lack of skilful training	Inconsistent language application Knowledge Parents Guidelines Agreement Training Questioning practice/ theory gap Skilful training Uncontested Inconsistencies Social validity Confusion Manual handling Therapy Behaviour Physical intervention Intention Reassurance "grey area" harm "common sense" Trust Wrapping "bad habits" "experience" trauma Vagueness expectations

Core category	Selective coding	Axial Coding (relationships)	Open coding (conceptual categories)	Open Coding (labels)
Values and behaviours	There are different views on what when and where students nurses should be taught therapeutic holding	Experiences and views of mentors , students and nurse lecturers are different	Vagueness Inconsistency Assumptions Lack of skilful training	Application Knowledge Guidelines Agreement Training Questioning, practice/ theory gap Skilful training Consent Social validity Therapy Behaviour Physical intervention Intention Bad habits Emergencies Planned Experience Expectations Treatment

Examples of concepts that emerged:-

Positive language (safe, gentle, reassurance) "nice", "nurture", "cuddling", "comfort", Negative language (force, risk, against will, fear, trauma, harm), confliction, "pin down", "not comforting". Inconsistent language application, knowledge, parents, guidelines, agreement, training, questioning, practice/ theory gap, skilful training, uncontested, inconsistencies, consent, social validity, confusion, manual handling, therapy, behaviour, physical intervention, intention, "strangers", "holding tight", "grey area", "common sense", trust, wrapping, bad habits, emergencies, planned, experience, expectations, power, vagueness, treatment.

What	When	Where	Why	How	Consequence
Values and behaviours No one uses term therapeutic holding to describe the practice of physically holding a child for a medical procedure to be undertaken safely. This is the same for all 3 groups of participants and fits in with the data from phase 1.	Teaching Mentors talking to children/parents/ students	Nurse lecturers Mentors	Some nurse lecturers are not aware of how to hold a child for a procedure – but they know how to wrap a child and hold a child to bathe them. 1 lecturer believes that there are safeguarding issues around cuddling a child this, suggests that healthcare staff do not understand the terms Some lecturers/mentors do not understand the term therapeutic holding - guessed that it was comforting. They use the term therapeutic as a vague reference to therapy. Only one nurse lecturer and one mentor had received training on therapeutic holding during their pre-registration nursing course.	The interviews suggest that no one has any concerns about this / had queried the practice / uncontested practice Use term holding (6 mentors) / don't use any term (6 mentors) use clinical holding (1)	This is a problem because:- It suggests that the practice is not carried out appropriately as per RCN guidelines:- yet there is a belief by many (especially other professional groups that nurses are taught holding techniques within their training) It suggests that there is no discussion /training/documentation Not taught by nurse lecturers interviewed: - some make vague references to parents holding and safeguarding issues.

| | | | No knowledge of policies (8 mentors not aware of RCN guidelines).

There is confusion, therapeutic holding is seen as holding the child tightly.

Over use of term therapeutic RCN guidelines 2008 *therapeutic* holding

In 2010 RCN use therapeutic in another way – *therapeutic* nursing interventions to promote health and wellbeing | | Student nurses do not understand term or process
SN 1 "I wouldn't say I completely understand it"
SN 2 "I'm not sure to be honest I don't know"
SN 3 "I don't know much about it really I am guessing it's holding a patient in order to in a therapeutic way so they get some sort of comfort out of it I guess." |
| There is more than one story which can be derived from the data (Corbin and Strauss 2008) | Neonates | Within terminology one mentor discussed how therapeutic holding is a concept used to describe how neonates are calmed. | Because the term therapeutic is very generic and can refer to a number of practices | *M1 "with neonates therapeutic holding is calming and it's been shown to aid development in premature neonates. a lot of the sort of comforting we do with children and parents is more for* | Different language used within hospitals between healthcare staff, with the child and their parents with when it comes to therapeutic holding

No checking on interpretation. |

				the parents benefit if their child is sedated we encourage them to you know hold their hand or stroke their head"	
Values and behaviours Belief systems When asked to define therapeutic holding and restraint the predominant belief was that therapeutic holding is a gentle process, (offering love)	This belief is reinforced if during the procedure the child/infant is too small to resist If the technique is not perceived as painful		Because of:- Their belief in the word therapeutic There is no concordance over terms used They are not sure where consent fits in to this process Parents need to hold as the healthcare staff are strangers	The descriptive detail given by all participants in response to the questions about 'what do you understand by the term therapeutic holding and what do you understand by the term restraint' included overt and covert moral judgements (Corbin and Strauss 2008)	Uncertainty as to whether therapeutic holding involves hugging/cuddling and restraint is used for more painful techniques *NL4 "holding them in such a way that that supports and nurtures comforts them rather than restrains them"* *NL6 "how you hold whoever is receiving a treatment and how effectively you deliver your treatment without somebody getting distressed".*

and that restraint is forceful This is the same for all 3 groups of participants and fits in with the data from phase 1.	If the child does not resist/ is compliant If during the procedure the child resists, cries, wriggles or is not compliant. Or the procedure is considered painful or it is imperative that the child is held very still		Child does not consent or withdraws consent The procedure is painful. The child needs to be held very still. The impact of there being no concordance over the term used to describe holding practices. No discussion, clarity or understanding of the two terms. Possibly due to this subject no longer being addressed within nurse training.		*"sort of holding someone against their will"* *SN 4 "I think it depends on how you interpret it ….say you are holding the child but sometimes a certain degree of restraint or force might need to be applied particularly if the child is being very difficult 'cause the child is crying and screaming and unhappy… because again in my mind I am just thinking therapeutic seems a nice way of holding children and it's all calm and relaxed but if you've got a child that is crying uncomfortable and the nurses are holding the child you wouldn't expect in a therapeutic holding the child to be screaming and crying and upset".* *NL7 "you sometimes*

					need to restrain a child when you are inserting an intravenous cannula or trying to take bloods from the child because the child would otherwise flare up and pull back from it that some people might try and call that therapeutic or comforting it's not therapeutic holding in that instance because the child does not wish to be comforted the child wishes to remove themselves from the situation and therefore you are restraining not comforting" Mentor 13 believes that therapeutic holding can only be a successful outcome if the child remains calm NOT becomes distressed

Values and behaviours Practical application by mentors Wrapping the child in a blanket in the most common technique mentors and nurse lecturers happy to demonstrate This is the same for all 3 groups of participants and fits in with the data from phase 2.	To prevent treatment interference during:- an Xray In PICU	Wards	To prevent treatment interference – accepted practice Wrapping is mentioned within nurse training.		Standard procedures known to healthcare staff such as 'wrapping'
Values and behaviours Parents do the holding *"we tend to try and get the parents to do it because then they are actually holding their child it is not us well we are restraining really aren't we"* *"We do not restrain, we get the parents to do this"* This is the same for all 3 groups of participants and fits in with the data from phase 1	On nephrology ward For EEG's /nerve conduction Haemodialysis ward Xrays	Wards	Don't know techniques themselves/not sure of policy further proof that not taught with training (HEIs) So that there is no conflict over the amount of force used No mentors had received therapeutic holding training during their training Definitions stress that parents do	Will wait for parents to arrive. Assumption made that parents do the holding Look at work by Coyne 2005, McGrath 2002, Piira et al 2005 and Corlett and Twycross 2006, which discusses basic tasks that parents	Not seen as a technical task Custom and Practice (Martin 2002) See data from mentor 13 "just be holding their limb" "might be holding their head"

and 2.			the holding (Hockenberry and Wong 2004, Hockenberry, Wilson and Winklestein 2005 and Homer and Bass 2010 and Wilson and Hockenberry 2012) Images of holding show parents doing the holding (Kurfis Stephens 1999, Hockenberry and Wong 2004, Hockenberry, Wilson and Winklestein 2005, Jeffery 2008 and Wilson and Hockenberry 2012)	are meant to do and technical tasks that nurses meant to do	
Values and behaviours Mentors suggest positivity in involving student nurses in the holding process Student nurses experiences are negative. Most say that they only observed and were not as involved as the mentors suggest. What student nurses observed was not as positive as	Caring for the child	Wards	Not aware of policy/procedures/not highlighted as a competency or within placement documentation Professional ignorance Uncontested practice Not aware of policy/procedures/not highlighted as a competency or within placement documentation	Current mentor ship arrangements with students Learn if with a nurse/mentor who knows what to do Current mentor ship arrangements with students Students observe	There are variations in practice (Shinnick-Page et al 2008) Lack of confidence (RCN 2010) There are gaps in what students are taught and mentors do not ask about student nurses prior experiences which suggests that no one

mentors suggest. University staff do not teach subject apart from vague references (and stick to application they are familiar with – cuddling/wrapping) This is a concept which is not well developed within the literature.			Student nurses not receiving adequate training or skilful training Not taught as part of nurse training Impact of no concordance terminology or holding practices	that mentors have no apparent strategies DOH 2012 Compassion in practice, Nursing, Midwifery and care…."people also encounter care that falls short of what they have a right to expect, sometimes by a long way to go – we all have seen such care in the course of our working lives" being an uncontested practice has led to indifference (a lack of interest).	thinks about it There is a discrepancy between what the mentors suggest happens and the student nurses experience Some students have been traumatised by their experience and their experiences suggest that the RCN guidelines are not helpful ie limiting the number of attempts to hold the child Guesswork (Pearch 2005, Valler-Jones and Shinnick 2005, McLean 2011) Student nurses are trying to put therapeutic holding into context themselves because not receiving any training on this (see data

					from student nurse 3) The situation is not improving, as only 2 participants (nurse lecturer and mentor) received training as students -.therefore all healthcare staff are carrying on with uncontested practice rather than challenging and improving it University staff are not questioning the practice of holding/challenging even if students mention this to them as an issue during post placement tutorials

Values and behaviours Views on who, where and key content of teaching course on therapeutic holding and the role of HEI's in preparing students. This is a concept which is not well developed within the literature, therefore the author will keep to lower levels of explanation to ensure that she is not far removed from the data (Corbin and Strauss 2008)	Different views on when students should be taught	Different views on where students should be taught therapeutic holding	Confusion and vagueness over responsibilities, application, what can and cannot do Not specific enough references in policies/guidelines over use of the word therapeutic (RCN 2010) therapeutic nursing interventions to optimise health and wellbeing (page 46) Darby and Cardwell (2011) lack of competence due to no formal training – recognition that it is no longer taught in HEIs.	View that this is taught within nurse training- which has never been checked out. Lecturers want an emphasis on legal and ethical issues Student nurses want to know what is and what is not acceptable, how to prepare the child/their parents, guidelines on how much force to use and to know what is the difference between therapeutic holding and restraint	Some students have been traumatised by experiences if not taught in consistently and thoroughly Domain 3: Nursing practice and decision-making of Standards for pre-registration nurse education Student nurses are holding children without being taught what to do No student/lecturer/mentor has questioned the practice of holding , their training/lack of training or the competency of the person showing them what to do

Appendix 7 Study 3 copy of all responses from HEIs (9 pages)

University	Response to Question What do you understand by the term therapeutic holding ?	Response to Question Is this a term that you use to describe the practice of holding children for clinical procedures?	Response to Question What module or session do you teach where this term is mentioned?	Response to Question What do you understand by the term restraint/do you use this term?
HEI 1	The use of minimum force to help a child undergo a procedure, where they are developed enough, with their consent. This should be agreed with parents and explained prior to the procedure.	Yes	I refer to therapeutic holding in many <u>clinical skills sessions</u> that I teach, in one of the second year modules we have <u>a guided study and feedback session</u> which is based on the RCN guidance. This issue is also covered in our <u>legal and ethical sessions</u>	The forceful immobilisation of a Child/Young Person in their own best interests or to protect staff, where de-escalation techniques have already failed. The degree of force required should only be what is necessary. •Is this a term that you use within your teaching? YES
HEI 2	The support of a child , usually for a procedure	Yes, and use the term restraint	Most likely to come up on sessions re <u>ethical/ legal issues</u>	The support of a child who may not wish it to be undertaken, would only be used when the procedure is for in the greater good of the child •Is this a term that you use within your teaching? NO
HEI 3	Holding the child still	No, and use the term holding still	We discuss the subject within <u>the professional practice modules</u> and particularly in the <u>mandatory training</u> sessions such as Moving and Handling in Children's nursing as an awareness point. We familiarise them with the RCN guidelines (2010)	Now referred to as Restrictive physical intervention and used to prevent harm. •Is this a term that you use within your teaching? YES
HEI 4	Holding a child with their consent	Yes, also use the term restraint	<u>Nursing Care of Children with acute health care</u> needs in a session on procedural distress Lecturer and a play specialist	Holding with the purpose of overpowering the individual. •Is this a term that you use within your teaching? YES
HEI 5	I believe this to involve a range of skills including communication and the use of appropriate holding techniques only when required in order to facilitate the completion of a	No Clinical Holding for Procedures also use restraint	<u>Skills session</u> year 1 Block 1. Do not stress any particular techniques, advise to discuss in practice, stress about raising concerns prior to event. Do discuss some techniques and show photographs, session also concentrates	Restraint is associated with holding against a person's express wishes necessitating some degree of force or immobilisation. •Is this a term that you use within your teaching? YES

Appendix 7 Study 3 copy of all responses from HEIs (9 pages)

	clinical procedure safely and effectively.		on ethical dilemmas and consent.	
HEI 6	Holding children for the purpose of therapeutic/painful/diagnostic procedures.	Yes but also use clinical holding supportive holding	Children who are ill 1 (old curriculum); Principles of Children's Nursing (new curriculum). The session is 'Physical care of children: Legal and ethical issues'.	Deliberate restriction of a person's movements when there is a significant risk of harm to self or others. •Is this a term that you use within your teaching? Only in order to differentiate between restraint and other holding situations for therapeutic holding, and make sure students understand the different terminologies and definitions
HEI 7	A term used to describe supportive holding and positioning of infants/children during clinical interventions/procedures	Yes and no also use clinical holding and comfort holding	Skills teaching module Skills session looking specifically at venepuncture and cannulation and how to support the limb and comfort holding in the neonatal setting	A term used to describe physical holding of a child to prevent them from harming themselves or others •Is this a term that you use within your teaching? YES
HEI 8	It's the holding of a child or young person by either another person or persons, in order to perform a procedure such as taking blood or a lumber puncture. Therapeutic holding requires consent and is carried out to enable the procedure to be completed quickly and safely	No Use a variety of terms including immobilising and restraint	Students are directed to reading on therapeutic holding within the suggested reading list of RCN publications which is included in the year one uniprofessional module which I lead. Students are however, taught about consent to treatment, assent, children's rights, listening to children, advocacy, Gillick/Fraser competence, medication administration etc, so they are taught the theory behind not pinning children down and forcing treatment upon them	It's the holding of a child or young person by either another person or persons, or the use of restraint equipment to hold a person to maintain and ensure their safety. Consent should be obtained, however, in cases where the child is being held in order to maintain their safety and the safety of those around them - for example, restraint due to a violent outburst – consent is not always possible. •Is this a term that you use within your teaching? Yes
HEI 9	Securely holding a child in order to effectively carry out a therapeutic procedure	No Holding Restraint	Proactive approach taken in year two We teach theory - principles of holding rather than specific techniques. In practice they are taught specific holds	The holding of a person without their consent •Is this a term that you use within your teaching? NO

Appendix 7 Study 3 copy of all responses from HEIs (9 pages)

University	Response to Question What do you teach student nurses to prepare them for placement	Response to Question Who teaches on this subject of therapeutic holding	Response to Question Do you teach practical holding skills and how do you ensure they are safe / effective?	Response to Question What in your opinion should be taught on subject of therapeutic holding?
HEI 1	The law and consent The law and refusal to treatment The difference between holding and restraint Some clinical skills sessions will demonstrate techniques such as distraction, swaddling etc Level 1 violence and aggression training In 2nd & 3rd year of training	Most CYP lecturers will touch in issues of holding, we have one lecturer with a masters in law who teaches these aspects	Yes Demonstrate swaddling, distraction Refer to RCN guidelines	The law Other ways of gaining cooperation Parental involvement Demonstrations of techniques that are acceptable Child's best interests Ethical issues Case studies Incident reporting Documentation National and local policy and how these are interpreted
HEI 2	Most likely to come up on sessions re Ethical and legal issues	Not identified because subject not explicitly taught	No	What it is , how to do it appropriately , the legal , ethical and professional issues, the theory behind the best techniques of therapeutic holding , family centered care while carrying therapeutic handling , trust policies

Appendix 7 Study 3 copy of all responses from HEIs (9 pages)

HEI 3	We familiarize our students with the 2010 RCN guidelines and I raise awareness during mandatory moving and handling sessions but may be included in other practice and therapeutic skills modules	Nursing lecturers	No	Safe principles. Related professional, ethical and legal implications. Use of simulation and case scenarios could be beneficial in terms of this subject.
HEI 4	Only for therapeutic holding with consent. We have photos of how children can be positioned including astride their parents back or sitting side on, with a hand behind the parents back, however we also discuss that this should be discussed prior to the procedure and that some children prefer to watch. 2nd year	Myself (senior Lecturer and advanced nurse practitioner) and a play specialist	Yes Only for therapeutic holding with consent. We have photos of how children can be positioned including astride their parents back or sitting side on, with a hand behind the parents back, however we also discuss that this should be discussed prior to the procedure and that some children prefer to watch. Approaches are based on experience and considered safe and appropriate as consent is gained also refer to Hospital policy and RCN guidelines	Moral and ethical issues and human/children's rights, long term implications of traumatic procedures

HEI 5	Do not stress any particular techniques, advise to discuss in practice, stress about raising any concerns prior to the event. Do discuss some techniques and show photographs, session also concentrates on ethical dilemmas and consent Year 1	Myself (senior lecturer children's nursing)	Yes General discussion, may show some techniques/photos dependent on individual sessions and student requirements Difficult, stressed to all students that techniques shown are only potential holds and that technique should be discussed in practice prior to each hold. Also refer to NMC code, RCN guidelines, Children's Act	Stress on importance of local policies, individualised assessment and care, consent, ethics, distraction/ sedation and alternatives
HEI 6	Gain child's permission where possible. Used as a last resort where alternative strategies have failed General principles of supportive/therapeutic holding, allowing for a range of movement without causing pain or putting pressure on joints or pressure points. The role of parents/carers. The 'rights' context. Record keeping. Debriefing. MDT approach. Beginning of year 2	Myself (Programme Director) Child Field of Practice Lecturer	No teach general principles using RCN Guidance on Restrictive Physical Intervention and Therapeutic Holding for Children and Young People (2010); Consent and working with Children, DH, 2003. Taught within a context of human/children's rights e.g. UN Convention on Children's Rights	Rights, ethics, law, general principles, guidance, reflection, observation in practice.

HEI 7	Teach practical techniques venepuncture and cannulation with regard to supporting the limb and child. Also comfort holding in the neonatal setting throughout	Members of child health team	Yes Only those related to venepuncture and cannulation with regard to supporting the limb and child. Also comfort holding in the neonatal setting Refer to RCN guidelines local Trust policies	Preparation of the child and family, effective communication, consent issues, supporting the child by including the family, distraction techniques, therapeutic holding techniques for more common procedures, including comfort holding for neonates
HEI 8	Self directed Students are directed to reading on therapeutic holding within the suggested reading list of RCN publications which is included in the year one uniprofessional module which I lead. Students are however, taught about consent to treatment, assent, children's rights, listening to children, advocacy, Gillick/Fraser competence, medication administration etc, so they are taught the theory behind not pinning children down and forcing treatment upon them. Personally, I don't teach anything in relation to therapeutic holding or restraint. Colleagues in my department may include restraint within skill based sessions, but currently,	Not identified because subject is directed reading	We teach principles of holding rather than specific techniques All holds have been approved by BILD. As an educational institute we cannot observe holds in practice, hence the students are taught good principles of holding Local NHS policy RCN Guidance British Institute of Learning Disabilities (2002) Factsheet on physical interventions. Department of Health (1993) Guidance on Permissible Forms of Control in Children's Residential Care Department of Health (2002) Guidance for Restrictive Physical Interventions: How to provide safe services for people with learning disabilities and spectrum disorder	Ethics – in particular beneficence and non-malefience and when does therapeutic holding cease and become abuse. Legal Aspects in relation to the ethical issues above. Also looking at policy (Trust) and RCN/NMC guidelines and the children's NSF for any areas which would be relevant. Manual handling – one of the difficulties with therapeutic holding is that nurse may be in a static position for a period of time while the child is held still which means that restraint is potentially high risk for the nurse. Risk assessment Basic techniques – in particular, holding for lumbar puncture as

	I'm not involved in the teaching of this. There is no teaching on therapeutic holding as far as I am aware – it's classed as self-directed reading. There is formal lecture on consent, record keeping and policy and the rights of the child which covers the child's right to refuse treatment. Ethics of medication administration is in a separate lecture.			this is the one which seems to cause most people anxiety as they worry about the child moving at the wrong time.
HEI 9	We teach principles of holding rather than specific techniques.	Nursing lecturers, play specialists when possible	No	Prevention to avoid Holding

Appendix 7 Study 3 copy of all responses from HEIs (9 pages)

University	Response to Question How necessary is this training	Response to Question Where should this training take place, and why	Response to Question Did participant receive any training as a student?
HEI 1	•Essential, when students talk about the issues they see in clinical placements I am sometimes horrified. For example, a student told me about a 7 year old being pinned to a bed for an inhaler, who then stopped breathing	•In university we are able to provide the tools to make good decisions in this area, but students needs the experience in clinical practice to realise what the boundaries are and how to safely hold	No
HEI 2	It is important and should be accorded the same importance as mandatory sessions such as manual handling with students not being able to go into placement unless they have attended sessions	Principles taught in University with opportunity to practise in a safe environment , on placement the skills should be reiterated by staff who work with students •Good to a have the opportunity to learn in an environment where practising / asking questions is encouraged then have the opportunity to consolidate these skills in practice	No
HEI 4	Very	Concepts discussed with students prior to being taught it as a skill on placement	YES
HEI 5	Essential.	Theory in University but practice in placement. Unsure how to simulate this effectively to be fully taught in university but there is a lot of issues to expect them to be fully explored in placement.	No
HEI 6	Very	Need to link theory/practice closely and ensure support/discussion in clinical areas is in place.	No
HEI 7	It is important to ensure that students are aware of good practice in this area and are then able to act as advocates for the child/family if they find themselves in a position when poor practices are routinely being used	As with most things on a professional programme, students need theory and practice in order to achieve competence.	No

Appendix 7 Study 3 copy of all responses from HEIs (9 pages)

HEI 8	It's important as it a key aspect of children's nursing. However, we have limited time and resources and cannot teach student's everything within the 4 walls of a university. It is also not the responsibility of the university to teach students every skill they might need. Placement providers also need to take responsibility for teaching skills to students. As far as I am aware, therapeutic holding is not one of the NMC essential skills clusters (although it could be interpreted as such) and unless it becomes one explicitly, it will never be a priority as we have to concentrate on those aspects of care which the NMC state are required for registration and not on those skills which are desirable	I think it should be taught in a university setting. To ensure consistency of information given and students can discuss poor practices observed in placement in a safe setting	No
HEI 9	Very necessary to educate of its use where necessary	Holding a child for taking blood would be useful in advance of placement as students are expected by their mentors to be able to assist in this from the outset. Obviously the theory side is the responsibility of the university. However, the opportunity to learn therapeutic holding, practice those skills, consolidate them and learn advanced techniques should come from the practice providers.	No

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

Therapeutic/clinical Holding Rating Tool

CONTEXT

'Therapeutic Holding' - this means immobilisation, which may be by splinting, or by using limited force. It may be a method of helping children, with their permission, to manage a painful procedure quickly or effectively. Therapeutic holding is distinguished from restrictive physical intervention by the degree of force required and the intention (RCN 2010, page 2).

There are two elements to the skill of therapeutic holding:-

Element 1 – this involves the restriction of movement and is particularly relevant for babies and younger children who may find it difficult to sit still and involves sitting the baby or child on the lap of a healthcare practitioner or their parent so that they are unable to wriggle free and can be distracted from being able to observe the procedure taking place.

Element 2 - is the immobilisation of the part of the body or limb where the clinical procedure is to take place. These actions or procedures are designed to restrict movement using limited force.

For some children and young people this element involves them sitting between two healthcare professionals/parents or lying on a bed so that they are unable to wriggle free, kick, hit out and can be distracted from being able to observe the procedure taking place (Page, A., Service Evaluation 2012 unpublished).

NB The verbal consent of the child or young person concerned and of their parents should be sought for the use of therapeutic holding. If consent is not given therapeutic holding techniques may still be used, such as in an emergency where the requirement for essential treatment is necessary, or in situations where a judgement has been made to act in the child or young person's best interests. This must be recorded.

The following assumptions have been employed in the development of this tool:-

- Healthcare practitioners are of average fitness.
- Healthcare practitioners have no predisposing injuries.
- The need for therapeutic holding has been chosen as other techniques have been unsuccessful or the child will be unable to complete the procedure without some form of therapeutic holding.
- Appropriate assessment of children should incorporate a developmental perspective considering their skills in a variety of domains, such as emotional understanding, expressive and receptive language, as well as overall cognitive status. A

measurement of the child or young person's fear should also be taken through observation of behaviour, physiological measurement, and/or through self report.

- Healthcare practitioners have sat and explained the procedure to parents/and child to ensure it is clear why therapeutic holding is considered necessary, what they are going to do to restrict movement and if necessary maintain immobilisation, how long they may need to use therapeutic holding for and where they are going to perform the procedure.
- Supporting the child or young person through a clinical procedure requires the healthcare practitioner to be competent in the therapeutic holding technique (in order for them to be able to apply or advise parents or others such as student nurses on how to restrict movement).Healthcare practitioners must also be able to assist with distraction techniques and continually assess the child or young person during the intervention.

Healthcare practitioners must reassure the child or young person throughout the procedure and act as the child/young person's advocate. This may mean stopping the procedure to give more pain relief, stopping the procedure to allow the child a break, or stopping the procedure to reassess the effectiveness of the hold and/or the decision to carry out the clinical procedure.

GENERAL TERMINOLOGY

- Safety: - A therapeutic holding technique is deemed 'safe' when it is assessed as needing to be applied to a consenting child/young person or an actively child or young person for a specific clinical procedure and can be repeatedly used on a regular basis without moderate/serious injury to healthcare practitioner or the child/young person.
- Trainability: - 'Trainability' relates to the ease of teaching of the therapeutic holding technique.
- Child/young person risk factors: - Any physical or behavioural characteristic of the child or young person which may increase risk of harm when applying the therapeutic holding technique.
- Technical robustness: - A therapeutic holding technique is deemed to be 'not robust' if small adjustments (movement or pressure) to the therapeutic holding technique (either intentionally or unintentionally) are likely to result in unintentional injury or unexpected pain to the child or young person being held.
- Effectiveness: - A therapeutic holding technique is deemed 'effective' if it can be consistently applied and demonstrated to work with the specified age groups.
- Generalisation: - a safe and effective therapeutic holding technique can be applied to a variety of settings
- Usage: - therapeutic holding techniques which are used daily or weekly are deemed to be used on a regular basis.

Social validity: - addressing the issue of whether the therapeutic holding technique would be acceptable to non healthcare practitioners.

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

SCORING

Indicator	**Likelihood**
10 Certain, practically certain	99 in 100
9 Almost sure	9 in 10
8 Very probable	8 in 10
7 Probable	7 in 10
6 Good possibility	6 in 10
5 Fairly good possibility	5 in 10
4 Fair possibility	4 in 10
3 Some possibility	3 in 10
2 Slight possibility	2 in 10
1 Very slight possibility	1 in 10
0 No chance, almost no chance	1 in 100

Dichotomous questions (yes/no answers) are scored **0 or 1.**
The Juster Purchase Probability Scale (Juster 1966, Colton and Covert 2007) will be scored from 0 to 10.

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

METHOD

- All therapeutic holding techniques will be selected and subject to this risk scoring process. There are 25 questions with a minimum score of 0 and a maximum score of 250.
- The panel members will complete this exercise individually. Each technique will have a visual illustration (photograph), the purpose and characteristics reviewed.
- The researcher will remove any evaluation of risk factor comments removed as these are the researchers own views and may prejudice the panel members thoughts.
- All panel members will then independently use the rating scale and discuss their scores on an item by item basis (their views will be tape recorded).
- Once this process has been completed for each therapeutic holding technique the scores and comments will be taken to the risk manager at BCH for guidance on what would be deemed low risk, medium risk and high risk.

<u>SAFETY:-</u>

General definition: - A therapeutic holding technique is deemed 'safe' when it is applied to an actively t child or young person and can be repeatedly used on a regular basis without moderate/serious injury to healthcare practitioner or the child/young person.

Q1) Repeated regular (daily/weekly) use of this technique on a training course (with passive/no resistance from participants being held) is likely to cause injury to healthcare practitioner

Definition of injury includes minor, moderate and major. 'Minor injuries' involves reddening skin swelling bruising which is not visible after 24 hours. 'Moderate injuries' involves bruising and minor lacerations which may require immediate first aid. 'Serious injuries' includes breaking of bones, tissue damage requiring external medical treatment, fatality.

0   1   2   3   4   5   6   7   8   9   10

Q2) Repeated regular (daily/weekly) use of this technique in a real world setting (with resistance from the child/young person being held) is likely to cause injury to healthcare practitioner

Definition of injury includes minor, moderate and major. 'Minor injuries' involves reddening skin swelling bruising which is not visible after 24 hours. 'Moderate injuries' involves bruising and minor lacerations which may require immediate first aid. 'Serious injuries' includes breaking of bones, tissue damage requiring external medical treatment, fatality.

0   1   2   3   4   5   6   7   8   9   10

Q3) Repeated regular (daily/weekly) use of this technique in a real world setting (with resistance from the child/young person being held) is likely to cause injury to the child/young person being held

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

Definition of injury includes minor, moderate and major. 'Minor injuries' involves reddening skin swelling bruising which is not visible after 24 hours. 'Moderate injuries' involves bruising and minor lacerations which may require immediate first aid. 'Serious injuries' includes breaking of bones, tissue damage requiring external medical treatment, fatality.

0   1   2   3   4   5   6   7   8   9   10

Q4) Use of this technique in a real world setting (with resistance from the child/young person being held) is likely to restrict respiration (breathing) of the child/young person being held

Definition 'A therapeutic holding technique may be deemed to compromise breathing if its application restricts movement of the ribcage, diaphragm, and accessory muscles of respiration or airway'.

0   1   2   3   4   5   6   7   8   9   10

Q5) This technique uses a locking movement

Definition 'Any technique which when applied to a joint (e.g. head, arm, wrist, digit, knee, leg) uses flexion to extend the joint to maximum in one direction and does not allow the child or young person to move the joint without the healthcare practitioner releasing pressure'.

0   1   2   3   4   5   6   7   8   9   10

Q6) Resistance by the child/young person against this therapeutic holding technique will result in them experiencing pain

Explanation 'This relates to pain experienced by the child or young person as a direct result of having their movements restricted or limb immobilised' (and not to the clinical procedure being undertaken or the anxiety the child or young person may experience about being held).

0   1   2   3   4   5   6   7   8   9   10

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

Q7) This therapeutic holding technique will lead to a medical fear in the child/young person

Explanation 'Differentiating between a child/young person's experience of fear of the clinical procedure, fear of being held and pain is critical'. Fear is a negative emotion that is thought to arise as an alarm to a dangerous and/or life threatening situation. Fear in children is common, representing normative developmental processes. Medical fears have been identified as a common subcategory of fear in children and, unlike other types of fear, may increase with age. Fear can also increase pain perception. The relationships between children's fear prior to needles, their fear and pain during the holding process and the clinical procedure are difficult to disentangle. However, this risk should still be considered.

0   1   2   3   4   5   6   7   8   9   10

TRAINABILITY
General definition: - 'Trainability' relates to the ease of teaching of the therapeutic holding technique.

Q8) The safe application of this technique on a regular (daily/weekly) basis requires an expert skill level from the healthcare practitioner

Definition 'An expert level of skill requires a high level of physical coordination, and consistency of application of technique'.

0   1   2   3   4   5   6   7   8   9   10

Q9) The safe application of this technique on a regular (daily/weekly) basis requires a high level of healthcare practitioner fitness

0   1   2   3   4   5   6   7   8   9   10

Q10) **This technique would require a high level of practice (monthly) by healthcare practitioners to maintain competency**

Definition 'Practice more than five repetitions of the technique in the preceding month'.

0   1   2   3   4   5   6   7   8   9   10

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

CHILD/YOUNG PERSON RISK FACTORS
General definition: - Any physical or behavioural characteristic of the child or young person which may increase risk of harm when applying the therapeutic holding technique.

Q11) The child/young person must consent to the clinical procedure and they only require the therapeutic holding technique to physically help them to remain compliant

0   1   2   3   4   5   6   7   8   9   10

Q12) Medical obesity (A BMI of 30 or greater) in the child/young person would increase the level of risk associated with this technique to the child/young person

0   1   2   3   4   5   6   7   8   9   10

Q13) Anorexia (A BMI of less than 17.5) in the child/young person would increase the level of risk associated with this technique to the child/young person

0   1   2   3   4   5   6   7   8   9   10

Q 14) A physical disability in the child/young person would increase the level of risk associated with this technique to the child/young person

0   1   2   3   4   5   6   7   8   9   10

Q15) Tactile defensiveness in the child/young person would increase the level of risk associated with this technique to the child/young person

Definition 'Tactile defensiveness is defined as an individual who avoids unplanned physical contact and reports it to be aversive'.

0   1   2   3   4   5   6   7   8   9   10

Q16) Difficulties in balance (ataxia) in the child/young person would increase the level of risk associated with this technique to the child/young person

0   1   2   3   4   5   6   7   8   9   10

Q17) A visual impairment in the child/young person (*legally blind* indicates that a person has less than 20/200, less than 10% vision) would increase the level of risk associated with this technique for the child/young person

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

0   1   2   3   4   5   6   7   8   9   10

Q 18) This technique is not robust

Definition' A technique is deemed to be 'not robust' if small adjustments (movement or pressure) to the procedure (either intentionally or unintentionally) are likely to result in intentional, or unintentional injury or severe pain to an individual'.

0   1   2   3   4   5   6   7   8   9   10

Q19) In the event of the technique requiring more than one healthcare practitioner, the technique requires a **high level of pre rehearsed coordination between healthcare practitioners requiring regular practice and communication**

0   1   2   3   4   5   6   7   8   9   10

Q20) A lay individual (such as a parent) witnessing this technique would make a formal complaint about it

0   1   2   3   4   5   6   7   8   9   10

Q21) Use of this technique would not comply with the principles of good practice in Moving and Handling

0   1   2   3   4   5   6   7   8   9   10

EFFECTIVENESS
General definition: - A therapeutic holding technique is deemed 'effective' if it can be consistently applied and demonstrated to work with the specified age groups.

Q22) This technique will not be effective when applied to an infant (under 1 year old)?

0   1   2   3   4   5   6   7   8   9   10

Q23) This technique will not be effective when applied to a toddler (1-3 years old)?

0   1   2   3   4   5   6   7   8   9   10

Q24) This technique will not be effective when applied to a child (3-11)?

0   1   2   3   4   5   6   7   8   9   10

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

Q25) This technique will not be effective when applied to a young person (12-18)?

0   1   2   3   4   5   6   7   8   9   10

Appendix 8   Juster probability scale of measurement titled 'Children's Holding Assessment Tool (CHAT) for assessing the therapeutic holding techniques used within Birmingham Children's Hospital in 2012' (10 pages)

Additional comments: - such as a documentation about agreements, disagreements, major changes in score, specific comments about purpose, characteristics, safety, effectiveness or number of people required (for example do any changes need to be made about the current descriptions being risk assessed?).

Question classification and scoring template

SAFETY   PHYSICAL SAFETY:
Questions 1- 5

PSYCHOLOGICAL SAFETY
Questions 6 7 11 20

TRAINABILITY
Questions 8 9 10 19

CHILD/YOUNG PERSON RISK FACTORS
Questions 11 12 13 14 15 16 17 22 23 24 25

TECHNICAL ROBUSTNESS
Questions 18 19 21 22

EFFECTIVENESS
Questions 11 18 22 23 24 25

SOCIAL VALIDITY
Questions 20

Based on the work published by Martin, McDonnell, Leadbetter and Paterson (2008).

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