UNIVERSITY OF SOUTHAMPTON

FACULTY OF HUMAN SOCIAL AND MATHEMATICAL SCIENCES

School of Psychology

Twins: exploring implications for their interactions with parents and classroom placement at school.

by

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Thesis for the degree of Doctorate in Educational Psychology

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ABSTRACT

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TWINS: EXPLORING IMPLICATIONS FOR THEIR INTERACTIONS WITH PARENTS AND CLASSROOM PLACEMENT AT SCHOOL.

Kate Abigail Brant

The present thesis considers possible influences on the development of twins in both the home and school environment. The first chapter critically assesses the available evidence on whether parenting twins is associated with differences in parent-child relationship and in associated behavioural and emotional outcomes for twins. The second chapter presents the experiences of parents and school staff of the decision-making process about classroom placements of twins for reception-class entry.

A systematic review was conducted to assess whether there are differences between twin and singleton groups in early infancy. The review focused specifically on assessing differences in parental affect, parent-child interactions and how this could affect the quality of parent child relationship and children's emotional and behavioural outcomes. The results from this review highlight that parents of twins experience greater and a more prolonged period of stress when their children are in early infancy as well as greater mental health difficulties and reduced feelings of parental efficacy. The review also reports inconsistencies in the identified literature regarding differences in parent-child interactions between twin and singleton groups. However, there are consistent findings within the identified literature which reported that twin and singleton infants' relationship quality with their parents and emotional and behavioural outcomes do not differ. The results from the systematic search are discussed in relation to emotional sensitive responsiveness and the potential protective factor of the twin relationship.

A qualitative study which involved 12 interviews conducted with parents (i.e. with 11 mothers and one parent-pair) and 15 with school managers. Thematic analysis following Brown and Clark's (2006) six steps identified a number of important shared and distinct

themes. The importance of twins' individuality was emphasised by both parents and school managers. When deciding on placement, parents and school managers considered a balance between the twins' needs for support and independence. Parents' experiences of their interactions with the school relating to their twins' school placement were often linked to their perceptions of their relationship with the school, especially as parents felt it was an important decision. Thus, the perceived negative experiences of interactions with schools during the decision making process were reflected in more negative perceptions of the school and the home-school relationship during that time. However, these views could change over time. In addition, practicalities of classroom placements were reported by parents; school managers also reported school factors which could influence the decision. School managers used their experiences to inform their views. Their perception of who should make the decision (e.g. school, parents, or collaboratively) influenced their communication with parents, their perception of twin sets as different, and how they balanced children's support and independence at transition to school. Extracted themes are discussed in relation to the development of identity and autonomy, attachment theory and parent trust in schools. Effective home-school collaboration during the decision-making process is recommended for good practice.

Table of Contents

Table of Contents

Table of Contents

Table of Tables

Table of Figures

Academic Thesis: Declaration Of Authorship

I, Kate Brant declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

Twins: exploring implications for their interactions with parents and classroom placement at school.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission

Signed: .....

Date: .....

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Abbreviations

BDI = Beck Depression Inventory

BIHD = Before Infant Hospital Discharge

CBCL = The Child Behaviour Checklist

CES-D = Centre for Epidemiological Studies Depression Scale

EP = Educational Psychologist

HOME = The Home Observation for Measurement of the Environment Inventory

ICQ = Infant Characteristics Questionnaire

MCA = Months Corrected Age

MoM = Mothers of Multiples

MoS = Mothers of Singletons

MoT = Mothers of Twins

NBAS = Neonatal Behavioural Assessment Scale

NCATS = Nursing Child Assessment Teaching Scale

PAA = Preschool Assessment of Attachment

PCERA = Parent-Child Early Relational Assessment

PoM = Parents of Multiples

PoS = Parents of Singletons

PoT = Parents of Twins

PPQ = Perinatal PTSD Questionnaire

PSI = Parenting Stress Index

PSS: NICU = Parental Stressor Scale: NICU

PSS:PBC = Parenting Stress Scale: Prematurely Born Child

Abbreviations

STATI-S = State Trait Anxiety Inventory

Chapter 1 Evaluating differences in early parent-child interactions and outcomes between pre-school singletons and twins.

1.1 Introduction

Children have many transitions in their lives, with the first key transition often being from the home to school. Children's experiences within their home environment, specifically the quality of their relationship with their parents, can influence their wellbeing during their transition to school (O'Connor, 2018).

The twin situation can present different challenges for parents compared to raising single born children (Thorpe, Golding, MacGillivray, & Greenwood, 1991), such as increased financial demands (Damato, 2005) and potential increases in medical needs for the mother and infants (Chauhan, Scardo, Hayes, Abuhamad, & Berghella, 2010). Research has also indicated that there are potential differences in the parent-child relationship when comparing twins to singletons (Theroux, 1989).

It is important to better understand the potential differences in twin childrens' home environment, specifically their attachment relationship with their caregiver, in order to consider whether this might influence their ability to cope with the significant transition of moving from the home to school environment.

1.1.1 Parent-infant interactive behaviours and associated relationship quality.

Infants and young children are reliant on their caregivers to meet their needs to nurture and support their development (Bowlby, 1969). Caregiver sensitivity and responsiveness to the infants' signals are critical to promote healthy development (Ainsworth, Blehar, Waters, & Wall, 1978). Synchrony between interacting partners, such as caregiver and their child, reflects how the two interactors adapt their behaviour based on their partner's response and the environment (Fogel & Branco, 1997). Parent-infant synchrony was described by Feldman and Eidelman (2004, p.1134) as, "The close match between parent's and infant's affective behaviour that is sensitive to microshifts in the infant's state and signals," and is affected by the moment-by-moment responsiveness and sensitivity to infant's cues. Differences in parent-infant synchrony have been linked to

differences in parent-child relationships and attachment styles (Feldman & Eidelman, 2004). Attachment relationships have been defined as, "The relational tie that one person (or animal) forms to another specific individual" (Ainsworth, 1969, p. 970). Infants develop a secure attachment when they experience their caregiver as predictably and appropriately responsive and available which provides them security during stressful times (Alhusen, Hayat, & Gross, 2013). If the infant does not perceive that the caregiver is responsive or available then the development of an insecure attachment is more likely (Alhusen et al., 2013) with specific responses from the caregiver shaping different types of insecure attachment styles. If an infant has a caregiver who is persistently unresponsive, it can lead to the infant developing an avoidant attachment style whereas if the caregiver's responses are inconsistently responsive, an ambivalent attachment style is likely (Ainsworth et al., 1978). A disorganized attachment is associated with caregiver responses characterised by frightened or frightening behaviour (Main & Soloman, 1986).

Maternal sensitivity, the ability of the mother to respond sensitively to their infants' cues, is fundamental in the development of a secure attachment relationship (Ainsworth et al., 1978). Isabella, Belsky and Von Eye (1989) used a longitudinal design observing mother-infant interactions at 1, 3 and 9 months and then classifying infant attachment style at 12 months. By classifying observed mother-infant interactions as either synchronous, neutral or asynchronous they showed that mother-infant synchrony at 1 and 3 months was predictive of secure infant attachment at 12 months. Additional analysis highlighted that infants with insecure avoidant attachments were more likely to have mothers that would respond with interactions which were intrusive or overstimulating across the three time points, such as talking loudly and quickly when infants were sleeping or in drowse state. Infants with an insecure anxious attachment classification were more likely to have mothers who were inconsistent and unresponsive to cues across the three time points. This research was replicated using the same methodology and analysis with consistent results (Isabella & Belsky, 1991).

1.1.2 Parenting twins: impact on parent-infant interactive behaviours and associated relationship quality.

The task of parenting twins or multiples has been argued to present unique challenges, be more demanding and accordingly might be less rewarding to parents (Thorpe et al., 1991). It is possible that twin infants are less likely to develop a secure attachment with their caregiver due to the additional pressures that caregivers are faced

with and the possible impact on parent-infant synchrony (Feldman & Eidelman, 2004). This might be especially important as attachment relationships have been linked to later emotional, behavioural and social development (Cooper, Shaver, & Collins, 1998; Goldberg, Gotoweic, & Simmons, 1995; Laible & Thompson, 1998). Some researchers have questioned whether the parent-child attachment quality is at risk when parenting twins (Theroux, 1989) as there are differences in the triadic process of caring for twins compared to the dyadic process when caring for a singleton (Robin, Corroyer & Casati, 1996). Mothers of twins (MoT) have to establish two intimate relationships with their infants based on their specific needs and different interaction processes (Anderson & Anderson, 1990).

Research by Robin, Josse and Tourette (1988) highlighted the overload experienced when parenting twins. They used questionnaires, observations and parental interviews at different time points from when the infants were born to when they were 3 years old. Interpretation of the results linked feelings of overload with fewer parent-infant interactions, especially interactions focused on pleasure or play. Extending this, Robin et al. (1996) conceptualized caring for twins along a continuum of care. At one end mothers emphasise their twin infants' individuality by responding to their individual needs and at another mothers respond to their twins collectively. This 'collective mothering' involved providing equal care to each infant regardless of their needs at the time. This can include feeding, sleeping and changing. Mothers were more likely to partake in 'collective mothering' if they were experiencing greater fatigue or depressive symptoms (Robin et al., 1996). Supporting this, Rutter and Redshaw (1991) described the tension that parents of twins (PoT) experience in dividing their attention, and being responsive, to the individual needs of both infants. MoT have to frequently shift their attention between the two infants in order to respond sensitively. In contrast, mothers of singletons (MoS) can have more prolonged uninterrupted interactions with their infants. For example, MoT speak to their infants as a unit and therefore twins have less mother talk directed towards, or responding to, them individually. Twins also experience less joint attention with their mothers than singleton infants (Rutter & Redshaw, 1991).

1.1.3 Parent affect: impact on parent-infant interactive behaviours and associated relationship quality.

Parent-infant synchrony can be negatively affected by parental depression and anxiety (Feldman & Eidelman, 2004), which PoT might be more likely to experience. The

diagnostic and statistical manual (fifth edition: American Psychiatric Association, 2013) defines depression as experiencing low mood and loss of pleasure in activities over time, different to previous functioning. It defines anxiety as having apprehensive expectations more often than not over a prolonged period. If the onset of these symptoms occurs during pregnancy or within 4 weeks of delivering a child, this would be classified as a postpartum mood disorder. Chang (1990) conducted research using survey data and reported that 107 out of 271 MoT reported moderate to severe difficulties with mood fluctuations when their twin infants were between 3 and 30 months old. The largest percentage of reported difficulties were noted when the twins were 6 months old (50%) and the smallest percentage of mother reported difficulties were when their infants were 30 months old, although this was still 25.8%. Similarly, in Thorpe et al.'s (1991) study MoT were three times more likely to report depression in comparison to MoS when children were 5 years old, even when compared to mothers who had single born children closely spaced. The presence of twins was found to be predictive of maternal depression at this age. At a clinical level, MoT and mothers of multiple birth infants (MoM) are more likely to experience postnatal depression than MoS (Fisher & Stocky, 2003).

Depression can reduce the mother's ability to respond sensitively to their infants (Field, 1992) as it can slow down their ability to respond to their infant's cues (Murray & Cooper, 1997). However, McMahon, Barnett, Kowalenko and Tennant (2006) highlighted that infants whose mothers experienced depression for a brief period after birth were no more likely to be insecurely attached than those whose mothers did not experience depression. They also stated that even those infants whose mothers experienced chronic depression were only more likely to be insecurely attached if the mother's attachment state of mind was insecure. Therefore, the risk of disruption to parent-infant synchrony caused by maternal mental ill-health does not necessarily negatively impact the quality of the parent-infant relationship.

1.1.4 Infant factors: impact on parent-infant interactive behaviour and associated relationship quality.

Infant factors such as prematurity can also affect parent-infant synchrony (Feldman & Eidelman, 2004). For example, twins are more likely than singletons to be born prematurely (Chauhan et al., 2010). Lester, Hoffman and Brazelton (1985) reported that compared to infants born at term, infants who were born preterm showed less coherence in parent-infant synchrony. As twins are more likely to be born preterm, they might be at an

additional risk to experience less synchronous interactions with their parents. Moreover, the opportunity for parents to develop sensitivity to their infants' cues and develop synchrony is limited if the infants require high levels of medical attention and care due to complications at birth. Indeed, infants who are taken away after birth for medical attention or are in neonatal units for a longer period can be at risk of a reduced parent-infant synchrony (Philips & Tooley, 2005; Tully, Arseneault, Capsi, Moffitt, & Morgan, 2004). However, Brisch et al. (2005) reported premature and low birth weight infants were just as likely to develop secure attachments as term infants, except when they had additional neurological impairments. Infants with neurological impairments were more likely to be insecurely attached, although this was attributed to their mother's greater anxiety regarding their infants' needs. Therefore, the association between high-risk births and reduced parent-infant synchrony is likely mediated by parental anxiety. In summary, twins may be at risk of reduced parent-infant synchrony in comparison to singletons due to increased demands on caregivers, infant prematurity and maternal postnatal mental health difficulties.

1.1.5 Parent-infant relationship quality and associated effect on emotional and behavioural outcomes.

Differences in caregiver availability are associated with differences in children's emotion regulation strategies (Mikulincer, Shaver, & Pereg, 2003). Avoidant and ambivalent/anxious styles (Ainsworth et al., 1978) have been linked to attachment behavioural strategies different to those displayed by securely attached infants who seek proximity to relieve distress and who are successfully comforted by their caregivers. Individuals classified as ambivalent/anxious, are described to be hypervigilant to threat and cues which trigger the attachment system as they assess proximity and comfort seeking as a viable but not certain option (Shaver & Mikuliner, 2002). It is argued that as children age, attachment behaviours are gradually internalized as symbolic representations of the availability of attachment figures (i.e. as internal working models of attachment; Bowlby, 1969). As such, internal representations can later become part of an individual's response in times of threat; security based strategies can involve both declarative (optimistic beliefs surrounding ability to manage distress) and procedural knowledge (coping strategies) which can be used in times of distress (Mikulincer et al., 2003).

An individual's emotion regulation, defined by Gross (1998, p.275) as, "The process by which individual's influence which emotions they have, when they have them,

and how they experience and express them." Emotion regulation has been linked to later emotional and behaviour outcomes as an individual's understanding and modulation of their emotions influences their response (Gross, 1998). Children's emotion regulation is affected by parenting practices such as parents' interactions and relationship with their children (Morris, Silk, Steinberg, Myers, & Robinson, 2007). Young children's emotion regulation is affected more by their parents and family environment than older children who start to depend more on their peers (Eisenberg & Morris, 2002). Gilliom, Shaw, Beck, Schonberg and Lukon (2002) conducted longitudinal research to examine the parent-child attachment relationship at 1.5 years and its impact on the child's emotion regulation at 3.5 years. They reported infants classified as securely attached at 1.5 years employed greater emotion regulation and coping strategies at 3.5 years. As attachment relationships can affect a child's emotional regulation, it has also been linked with specific emotional and behavioural outcomes.

Attachment security, as well as age, was shown to be predictive for children's ability to identify negative emotions, in a sample aged between 2.5 and 6 years old (Laible & Thompson, 1998). Children classified as securely attached at age 1 had lower scores on parent reported internalizing behaviours when 2 and 3 years compared to children classified as insecure avoidant (Goldberg et al., 1995). Research using a sample of adolescents aged 13-19, found that securely attached adolescents, determined through questionnaire data, reported lower levels of psychological distress, including depression, hostility and general anxiety compared to insecurely attached adolescents (Cooper et al., 1998). Securely attached adolescents also reported higher levels of positive self-concept. In contrast, insecure-anxious attached adolescents reported the highest levels of risk taking or problematic behaviour which included educational under achievement, delinquency, substance use and sexual behaviour (Cooper et al., 1998). The above research highlights the potential impact parent-infant relationships can have on emotional and behaviour outcomes.

1.1.6 Twin and singleton differences in emotional and behavioural outcomes.

Feldman and Eidelman (2004) suggested that parenting multiple birth infants can pose a challenge for parents to respond to each individual's specific needs appropriately and sensitively. This potential risk to availability and sensitivity could impact on twin infants' ability to regulate their emotions impacting on their emotional and behaviour outcomes. However, comparatively little research has been conducted which assess the

emotional and behavioural development of multiples in comparison to singletons (Feldman & Eidelman, 2004) and findings have not been consistent. For example, Gau, Silberg, Erickson and Hewitt (1992) analysed 3716 Child Behaviour Checklists (Achenbach & Rescorla, 2001) completed by PoT regarding their children who were aged between 6 and 16 years old. They reported significantly higher hyperactive, aggressive and delinquent scores, externalizing difficulties and total problem behaviour in comparison to normative scores. Twins aged 12 to 16 years also had higher internalising scores in comparison to the normative scale. In contrast, Moilanen et al. (1999) compared 122 twins to 5455 singletons, aged between 8 and 9 years old using teacher, parent and child reports on emotional and behaviour outcomes. There were no significant differences in depressive symptoms between the two groups. Teachers reported less emotional difficulties, including depression, for twin boys than singleton boys. Twins themselves reported less depressive symptoms than singletons, although this was not significant.

Consistent with Moilanen et al. (1999), Pulkkinen, Vaalamo, Hietala, Kaprio and Rose (2003) reported no differences between twins and singletons in terms of peer assessments of aggressive, anxious, constructive and compliant behaviours when comparing 1874 11-12 year old twins to 23200 non-twin classmates in Finland. They also found no difference between monozygotic and dizygotic twins in terms of internalizing and externalising difficulties (Pulkkinen et al., 2003). However, these two studies compared different sized twin and population groups which might have affected the ability to appropriately compare group scores. Gjone and Novik (1995) also compared emotional and behavioural outcomes in a twin sample to the general population. The twin sample had lower levels of internalizing difficulties.

1.1.7 The present systematic literature review.

In summary, there are inconsistencies in the evidence within the literature that the situation of having twins can impact parent's ability to respond sensitively to their infants, impacting on the parent-infant relationship and attachment having consequences for twins' emotional and behavioural outcomes. A systematic review of the literature would assess whether there is consistent evidence for differences between twin and singleton groups in terms of parent affect and parent-infant interactive behaviour. It will also consider the evidence for the difference in the quality of the parent-infant relationship, which according to previous literature is likely to be affected by early parent-infant interactive behaviour, such as parent sensitivity. The review will then consider whether there is evidence that this

parent-infant relationship has consequences for twin's emotional and behavioural outcomes. The literature highlighting potential difficulties have not always had a direct comparison to singleton groups and therefore, even though they highlight difficulties faced by PoT, it is not clear whether this has an affect over and above being a parent. Therefore, the systematic review also aims to explore the literature which has a direct comparison of twin and singleton groups to assess whether there are significant differences.

The current review focuses on early parent-infant interactions and considers how these might affect children's emotion regulation in the early years. The review will include research focusing on parenting children before school entry as research suggests parental influences on emotion regulation are greatest in the early years (Eisenberg & Morris, 2002) and emotion regulation skills in early childhood can impact children's later emotional outcomes (Denham et al., 2003). The current review has the following research questions:

1. Are there differences in parental affect between PoT and PoS?
2. Are there differences in parent-child interactions between twin and singleton groups?
3. Are there differences in the quality of the parent-child relationship between twin and singleton groups?
4. Are there differences between twin and singleton emotional and behaviour outcomes as a consequence to parent-child interactions and relationship?

1.2 Method

1.2.1 Criteria for considering studies for this review.

1.2.1.1 Types of studies.

Peer-reviewed journal articles that report original data. Articles were excluded if they were literature reviews, book chapters, doctoral and masters dissertations. Studies had to feature comparison between singleton and twin/multiple birth groups.

1.2.1.2 Types of participants.

Infants and children before school entry: 4 years and younger. Studies were excluded if they only used measures during the prenatal period.

1.2.1.3 Types of measures.

Articles were included if they had a measure which assessed the parent-child interaction or quality of relationship.

1.2.2 Search methods for identification of studies.

1.2.2.1 Electronic search.

The systematic search used the following databases: ERIC, PSYC info, MEDLINE and CINAHL. The following search terms were used: (Attachment*, Sensitivity, Caregiving, "parent-child relationship", "mother-child relationship", "father-child relationship", "parent-infant relationship", mother-infant relationship", "father-infant relationship, "relationship quality", "early parenting", "family environment", "early social relation*", "family process*", "maternal predictor") AND (Twin*, Co-twin, "multiple birth*", Twinship, Non-twin, Singleton*, Twin-singleton) AND ("emotional wellbeing", Wellbeing, "mental health", Behaviour, Behavior, Adjustment, "Emotional development", Anxiety, Symptom). No date or language selections were applied. In ERIC no age restrictions were selected as this was not an option. There was a selection on publication with only ticking journals. PsychInfo age restriction was applied (birth to 12 years); CINAHL age restrictions were applied all children; and MEDLINE age restrictions were applied 0-18 years. These age restrictions were applied to select the target age group without excluding relevant ages.

1.2.2.2 Selection of studies.

The initial search, conducted on 1st January 2018, identified 13 articles (Appendix A). Another search was conducted on 19th May 2018 with the intention to update this and is depicted in Figure 2. Many of the discounted articles were related to twin-study designs looking at genetic versus environmental effects (N=297). There was also a large number of articles which: did not assess parent-child interaction or quality of parent-child relationship (N=167); did not directly compare twins and singleton (N=107) or whose main sample was over 4 years old (N=7).

From the references of the nine identified texts one additional article was included based on the inclusion and exclusion criteria. The 10 identified articles citations were inputted into google scholar and the 'cited by' tool was used. Five further articles were included using this method, one more than identified during the search conducted in

January, that were consistent with the inclusion and exclusion criteria, resulting in a total of 15 identified articles. However, two of the articles identified used the same data set and had the same question for their papers. One of the papers included less detail when reporting data and statistical analysis (Eidelman & Feldman, 2006) and therefore Feldman and Eidelman (2005) was included instead. This left a total of 14 appropriate papers which are summarised in Table 5 (Appendix B). The search strategy, screening process and identified articles were discussed with the research supervisor as a quality check.

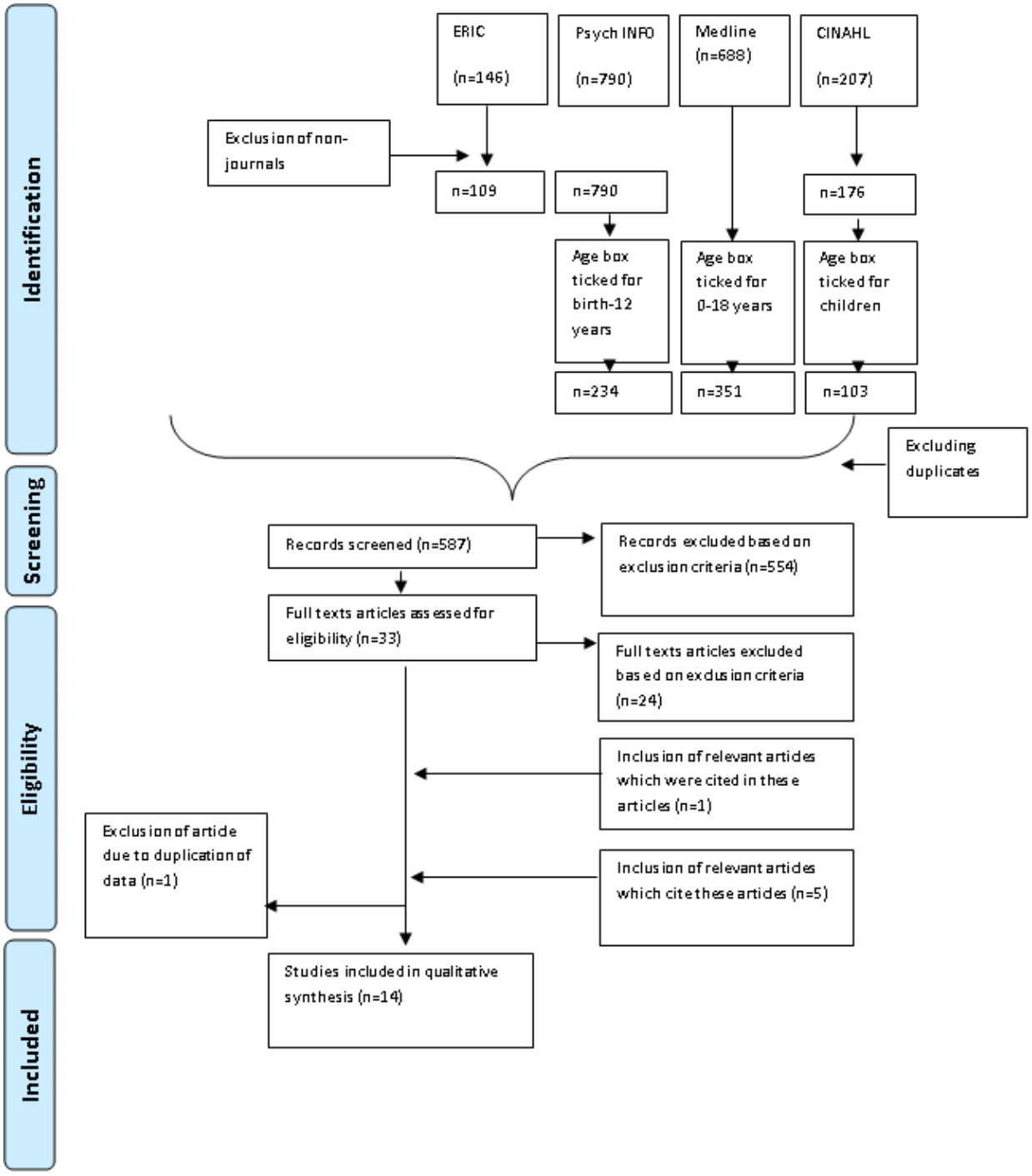


Figure 1 Flow diagram showing the results of the updated systematic search process, using inclusion and exclusion criteria on 19th May 2018 (Moher, Liberati, Tetzlaff, Altman, & Group, 2009).

1.2.3 Quality assessment.

Downs and Black (1998) quality assessment tool for quantitative assessment was used to assess the quality of the research studies included. The assessment tool was adapted due to the included studies not having an intervention design. As a result,

questions four, 14, 15, 19, 23 and 24 were removed. For question 27, a total score of two was created with papers receiving a score of: zero when they had a small sample and different sample sizes between the two groups; one when they had either a large sample size or similar sized groups; and two if they had both of these. Therefore, a total score of 22 could be obtained. Labels reflecting quality of data have been avoided as Papaioannou (2012) argued that labels and scores are not the aim of quality assessment tools. It should be that the quality assessment tool allows the researcher to understand how the strengths and weaknesses affect the validity of the study's results (Booth, Papaioannou, & Sutton, 2012). Therefore, the strengths and weakness of the studies in relation to the quality assessment tool will be discussed.

1.3 Results

1.3.1 Included studies.

The research articles identified included samples from a variety of locations; five from United States of America, two from Canada, three from Israel, two from Finland, one from Greece and one from the United Kingdom. Ten of the articles explicitly named the country where the participants in their sample came from. Four of the articles did not explicitly name the country which the sample had come from and therefore the country has been assumed based on which university and country the researchers work in.

Three of the articles (Feldman & Eidelman, 2004; Feldman, Eidelman, & Rotenberg, 2004; Feldman & Eidelman, 2005) used the same sample but used different measures, design and analysis for the different articles. Tirkkonen et al. (2016) was a longitudinal design using the same sample and data from the Tirkonnen et al. (2008) research.

1.3.2 Measures and age of sample for identified studies.

Please refer to the data extraction table (Appendix B) for further information regarding the design used for specific research. A number system has been made when referring to measures and age of sample for specific studies which relates to the data extraction table (Appendix B).

Table 1

The measures used within the included articles to assess different focus dimensions.

Dimension	No. of	Measures used	Articles

	Articles		
Parental affect and efficacy.	10	Parenting Stress Index (PSI: Abidin, 1995)	1;4;11
		Parental Stressor Scale: NICU (PSS:NICU: Miles, Funk, & Carlson, 1993)	8
		The Beck Depression Inventory (BDI: Beck, 1978)	6
		The Centre for Epidemiological Studies Depression scale (CES-D: Radloff, 1977)	2;7;8;11
		The State Trait Anxiety Inventory (STAI-S: Spielberger, Gorusch, Lushene, Vagg, & Jacobs, 1983)	7
		The Perinatal PTSD questionnaire (PPQ: Quinnell & Hynan, 1999)	7
		The Parenting Stress Scale: Prematurely Born Child (PSS:PBC: Holditch-Davis et al., 2009)	7
		The Parenting Daily Hassle Scale (Crnic & Greenberg, 1990)	11
		The Worry Index (Miles & Holditch-Davis, 1995)	7;8
		Semi-structured parent interviews about the parental experience	3;9
		The Parental Competence and Satisfaction Scale (Johnston & Mash, 1989)	5
Parent-child interaction	12	The Parental Cognition and Conduct Towards the Infant Scale (Boivin et al., 2005)	2
		Observation within the research	1;2;3;4;5;6;7;8;9;10;11;12
		The Ainsworth coding system (Ainsworth, Bell, & Stayton, 1971)	6
		The mother-child coding system (Holditch-	9

		Davis, Docherty, Miles, & Burchinal, 2001)	
		The Parent-Child Early Relational Assessment (PCERA; Clark, 1985)	11
		The Coding Interaction Behaviour Manual-Newborn (CIB; Feldman, 1998)	3;4;5
		The Nursing Child Assessment Teaching Scale (NCATS; Sumner & Spietz, 1994)	2
		A modification of the Beckwith Mother-Infant Behaviour Checklist (Beckwith, 1973; Beckwith, Cohen, Kopp, Parmelee, & March, 1976)	12
		The coding system for Spontaneous emotional coordination (Kokkinaki, Vasdekis, Koufaki, & Trevarthen, 2017).	10
		The Home Observation for Measurement of the Environment inventory (HOME; Caldwell & Bradley, 2001) to assess the interactions and learning environment within the home.	1,3,7,8,12
		The Maternal Scaffolding Scheme (Hoffman, Crnic, & Baker, 2006)	11
Parent- child relationship quality	2	The strange situation (Ainsworth & Bell, 1970)	6;13
		The preschool assessment of attachment (PAA; Crittenden, 1992)	13
Child Adjustment	5	The Child Behaviour Checklist (CBCL; (Achenbach & Rescorla, 2001)	3;14
		The Infant Characteristics Questionnaire (ICQ; Bates & Lounsbury, 1979)	3
		The Revised Infant Temperament Questionnaire (Carey & McDevitt, 1978)	6
		The Neonatal Behavioural Assessment Scale (NBAS; Brazelton, 1973)	4;12

Table 2

The age of the infants included in the studies at different time points, as appropriate.

Study number	Authors	Age at data collection
1	Beer et al. (2013)	Before infant discharge from hospital & 3 Months Corrected Age(MCA)
2	Boivin et al. (2005)	5 months
3	Feldman and Eidelman (2004)	Neonatal, 3, 6, 12 and 24 months
4	Feldman et al. (2004)	Before Infant Discharge from Hospital (BIDH), 3, 6, 12 months
5	Feldman and Eidelman (2005)	6, 12 and 24 MCA
6	Goldberg, Perrotta, Minde and Corter (1986)	6 weeks, 3, 6, 9, 12 months
7	Gondwe, Yang, White-Traut and Holditch-Davis (2017)	After birth, BIDH, 2, 6 and 12 MCA
8	Holditch-Davis, Schwartz, BIack and Scher (2007)	BIDH, 6 and 18 MCA
9	Holditch-Davis, Roberts and Sandelowski (1999)	1week to 3 months after infant discharge from hospital
10	Kokkinaki and Markodimitraki (2017)	2, 3, 4, 5 and 6 months
11	Lutz et al. (2012)	BIDH, 4, 9, 16 and 24 MCA
12	Ostfeld, Smith, Hiatt and Hegyi (2000)	Term age, 1 and 8 MCA
13	Tirkonnen et al. (2008)	18 months
14	Tirkkonen et al. (2016)	4 years

1.3.3 Quality assessment.

The data extraction table (Appendix B) reports the total scores for the different included studies obtained using the adapted Downs and Black (1998) checklist. The total scores for the included studies were not high and there were several factors identified which might affect the interpretation of research findings.

The demographics of the participants were different within the included research. Specifically, six of the articles focused on premature infants and other articles often included infants who were premature even if this was not the focus of the research. Prematurity brings its own challenges to parenting (Ionio et al., 2016) and this might affect the validity of results in relation to full term twins and singletons.

Some of included research did not differentiate between twins and higher order multiples, including them within a group of multiple birth infants. These studies were still included within the current review as the majority of authors reported the number of twins and triplets within this group, with the triplet subset being a small proportion of this group. However, research has suggested that there are differences between twin and triplet groups (Feldman & Eidelman, 2004; Feldman et al., 2004; Feldman & Eidelman, 2005), and therefore putting them within the same group might have affected results. As well as this, not all of the research reported the number of twins and higher order multiples within the multiple birth group (Gondwe et al., 2017; Lutz et al., 2012) and this should be considered when the research findings are discussed

The majority of the research used a small sample of twin and singleton infants, for example, in Beer et al. (2013) they compared 17 twin and 17 singleton infants. Therefore, there is limited power for the findings reported in these studies. Furthermore, some of the studies only included one of the multiple birth set within the research (Gondwe et al., 2017). This might be problematic based on the research surrounding differential parental attachment between twin sets (Minde, Corter, Goldberg, & Jeffers, 1990).

However, there were several aspects of some of the papers that support the validity of the findings. For example, researchers matched the twin and singleton groups on specific variables such as prematurity and birth weight (Feldman & Eidelman, 2004; Feldman et al., 2004; Feldman & Eidelman, 2005).

As well as this, a large majority of the papers used observational measures within their design and most of these were conducted within a naturalistic setting, the home

environment. Conducting the research in these environments would increase the ecological validity of the study's findings.

All of the above factors should be considered throughout the discussion of research findings.

1.3.4 Synthesis of results.

The articles identified included different aged children and therefore children at different developmental stages. They also included different procedures with some conducting home observations, others the strange situation, and some including questionnaires. Across the studies that conducted home observations, different measures of the quality of parent-child interaction were used. Therefore, there is considerable heterogeneity in the data across the identified studies and because of this a meta-analysis was not conducted. Instead the studies were discussed using a narrative synthesis in relation to: the difference in parental affect, behaviour and interaction towards their children when comparing twin and singleton groups; the difference in the quality of the parent-child relationship when comparing twin and singleton groups; and differences in twin and singletons emotional and behavioural outcomes and their association with parental factors.

1.3.5 Parental affect.

1.3.5.1 Parenting stress.

Three of the articles reported the parental stress in PoT and PoS. These all found that PoT had higher parenting stress than PoS (Beer et al., 2013; Feldman et al., 2004; Lutz et al., 2012). Feldman et al. (2004) reported that PoT had higher parenting stress when their infants were 3 months old in comparison to PoS, although the authors reported that the levels of parenting stress for both groups of parents were within the average range according to Abidin (1995). Lutz et al. (2012) reported MoM had significantly higher parenting stress when their infants were 16 and 24 months old in comparison to MoS. Further support came from Beer et al. (2013) who reported a quarter of MoT in their sample had parenting stress in the clinical range. In addition, during parent interviews conducted by Feldman and Eidelman (2004), when their infants were 12 months, MoS reported that the months prior to birth were the most stressful time whereas MoT reported

that the months prior and after birth were the most stressful period. Together the findings suggest that there is a prolonged period of stress for PoT in comparison to PoS.

Parental stress had important implications for parent-child interactions. Parenting stress at 3 months was negatively correlated with maternal sensitivity across the different time points: newborn, 3 months, 6 months and 12 months (Feldman et al., 2004). In addition, Lutz et al. (2012) reported mothers who experienced more parenting stress engaged in less positive interactions when their infants were 16 and 24 months old.

1.3.5.2 Parent mental wellbeing.

One of the studies directly assessed the difference in maternal wellbeing between MoM and MoS. Gondwe et al. (2017) reported significantly greater post-traumatic stress symptoms in MoM in comparison to MoS at birth and before infant hospital discharge (BIHD). The authors also reported that MoM had greater reported levels of anxiety at BIHD as well as greater depression and anxiety when their infants were 6 months in comparison to MoS. Although MoS' stress, anxiety and depression decreased over time, this was not the case for MoM (Gondwe et al., 2017). Therefore, this suggests that MoM are at a greater risk of higher and more prolonged difficulties with mental health in comparison to MoS.

Maternal mental health was also associated with mother-child interactions. Boivin et al. (2005) reported a significant main effect of maternal reported depression and maternal hostile behaviour towards their infants. In addition, Lutz et al. (2012) reported a significant main effect of maternal reported depression and reported parenting stress. This is important for parent-child interactions (Feldman et al., 2004; Lutz et al., 2012).

1.3.5.3 Parental efficacy.

Two studies reported that MoT had lower maternal efficacy than MoS. Feldman and Eidelman (2005) reported that MoT had a lower maternal sense of competence than MoS when their infants were 6 months old. This was supported by Boivin et al. (2005) who found that MoT felt less effective than MoS when their infants were 5 months old.

Maternal sense of competence was related to mother-child interactions. Levels of maternal competence was positively correlated with maternal sensitivity when infants were 6, 12 and 24 months (Feldman & Eidelman, 2005). This was supported by Boivin et al. (2005) who reported a negative association between maternal self-efficacy and maternal

hostile behaviour towards their infants. Maternal efficacy was also related to maternal mental wellbeing; maternal efficacy was negatively associated with maternal reports of depression (Boivin et al., 2005).

Although MoT seemed to feel less effective and competent than MoS, their perception of the effect they have on their infants was not reduced nor was their satisfaction with their relationship with their infant. Boivin et al. (2005) reported no significant differences in MoT and MoS perceived parental impact when their infants were 5 months old. Feldman and Eidelman (2005) reported no significant differences in maternal satisfaction between MoT and MoS when their infants were 6 months old. This highlights that although MoT might feel less effective than MoS, their beliefs about the effect that they as parents had on their infant's development was not reduced. This might have implications for wellbeing and stress although this association was not assessed in the identified articles.

1.3.6 Parent-child interactions.

1.3.6.1 Parental sensitivity and responsiveness.

Five of the studies directly assessed PoM' and PoS' parental sensitivity and responsiveness. There were inconsistencies with the findings from these studies. Four of the studies found lower sensitivity and responsiveness in MoT in comparison to MoS, although two of these used the same sample. Beer et al. (2013) reported that MoT showed significantly lower responsiveness to their infant at 3 months than MoS. Feldman et al. (2004) reported that maternal sensitivity was significantly different between MoT and MoS when the infants were 3 and 6 months old, with MoT being less sensitive. This was further supported by Ostfeld et al.'s (2000) research which found MoS were more likely to engage in responsive talking when their infants were 1 and 8 months old in comparison to MoT. MoS were also less likely to ignore their infants crying than MoT. In addition, Holditch-Davis et al. (1999) reported that multiple birth infants were talked to and looked at less often by their parents than singleton infants. Multiple birth infants also spent less time interacting with their parents than singleton infants. Furthermore, parent-infant synchrony was found to be lower in MoT than MoS, although this difference was not significant (Feldman & Eidelman, 2004).

Studies reporting differences in parental sensitivity and responsiveness were not always supported. There were no significant differences between MoT and MoS maternal

sensitivity when infants were newborn and 12 months as reported by Feldman et al. (2004). Feldman and Eidelman (2005) found no significant differences between MoT and MoS at 6, 12 and 24 months. In addition, Ostfeld et al. (2000) highlighted that while there was a difference in responsive talking, there were no significant differences between MoT and MoS in emotional responsivity to their infants. In addition, Kokkinaki and Markodimitraki (2017) found that twin infant-mother interactions were more frequently and accurately matching their emotions and more emotionally attuned in comparison to singleton infant-mother interactions.

These inconsistencies in findings suggest that MoS and MoT are not necessarily different in their responsiveness and sensitivity towards their infants. However, there seems to be a pattern in the research where MoT find it harder to be physically responsive to their infants in comparison to MoS but their emotional and verbal responsiveness is not always significantly affected.

1.3.6.2 Parent behaviour.

Four studies directly commented on parent of twins' (PoT) and parent of singletons' (PoS) behaviour towards their infants. Three of the four reported that PoT engaged in less positive behaviours with their infants in comparison to PoS. Boivin et al. (2005) reported that MoT were significantly more likely to behave in a reactive-hostile manner than MoS when their infants were 5 months old. In addition, maternal positive involvement was found to be higher for MoS than MoT when their infants were 6 and 18 months old (Holditch-Davis et al., 2007). Ostfeld et al. (2000) explained that singleton infants were more likely to experience positive interactions as MoS had higher acceptance of the child and maternal involvement than MoT when their infants were 1 and 8 months old. In contrast, Holditch-Davis et al. (1999) reported that most parental behaviours between MoT and MoS were no different when their infants were between 1 week and 3 months old. When looked in combination, this highlights that there are inconsistencies in the findings as to whether there are differences in parental behaviour between PoT and PoS.

1.3.6.3 Twin interaction and behaviour.

Four of the studies commented on the infant's behaviour and interactions with their parents. Twins themselves were found to be less responsive to their caregiver BIHD and were less effective at interacting at hospital in comparison to singleton infants. However there were no differences between twins and singletons when the infants were 3 months

old (Beer et al., 2013). Similarly, twin infants spent more time in a drowse inactive state at the first time point than singleton infants but this difference decreased at the second time point (Holditch-Davis et al., 1999). This was further supported by Ostfeld et al. (2000) who reported that twin infants were more likely to cry at 1 month in comparison to singletons, although this also decreased at 8 months. Twins were also less active, smiled less and engaged less in mutual gazing with their mothers in comparison to singleton infants when 8 months old (Ostfeld et al., 2000). Feldman and Eidelman (2004) also found that twin infant gaze at mothers was significantly less than singletons when the infants were 3 months old. Further support came from Beer et al. (2013) who reported that twin infant's scored significantly higher on the parent-child dysfunctional interaction scale which suggests that parent's found the interactions with their infants less reinforcing in comparison to PoS when the infants were newborn and 3 months old. Infant social involvement was also found to be significantly lower in twins in comparison to singletons at 24 months (Feldman & Eidelman, 2005). However, twin infants did not differ in their clarity of cues (Beer et al., 2013) when they did interact. These studies suggest that twin infants are less interactive with their parents than singleton infants in early infancy. Although, most of the research reports this difference reduces as the infants get older except for Feldman and Eidelman (2005). These differences in infant interaction could explain some of the differences in parental behaviour although this association has not been assessed.

However, not all research report twin infants as less interactive with their parents. Lutz et al. (2012) found multiple birth infants and infants less premature had significantly more positive interactions than other infants, including singleton infants. Kokkinaki and Markodimitraki (2017) also found that twin-mother interactions had a higher frequency of being emotionally matched and attuned than singleton-mother interactions. Therefore, twins are not necessarily less effective in their interactions with their parents. This highlights that there are also inconsistencies in the research about twins' interactions with their parents.

1.3.6.4 Parent developmental stimulation.

Six of the studies commentated on the developmental stimulation provided by parents. There are also inconsistencies in these findings. Research conducted by Beer et al. (2013) reported that twins scored lower on the NCAT before hospital discharge and at 3 months. Beer et al. (2013) suggested this could be due to less stimulating child-parent

interactions although the authors did suggests that these difference could also be due to additional reasons such as biological differences. Feldman and Eidelman (2004) reported that PoT scored significantly lower on the organisation of the physical environment than PoS at 3 months old, although this was the only difference when using the HOME inventory. Supporting this difference, Holditch-Davis et al. (2007) found that MoS provided significantly greater developmental stimulation at 6 and 18 months compared to MoT. Ostfeld et al. (2000) also found similar results, reporting that MoS were more likely to pick up, touch, pat, rock and talk to their infants than MoT. They were also more likely to talk to infants unprompted. Although Holditch-Davis et al. (1999) found no difference in the amount of time MoT and MoS spent caregiving (feeding etc.), they did find that MoT spent less time on non-caregiving activities (play etc.) when the infants were a week old in comparison to MoS. This difference, however, reduced when the infants were 3 months old.

These findings were not supported by Beer et al. (2013) who reported no difference in total caregiving domain at BIHD and when the infants were 3 months. Lutz et al. (2012) supported this by reporting that there were no differences between MoS and MoT on maternal scaffolding when the infants were 16 and 24 months. In addition, (Ostfeld et al., 2000) found no significant difference in the home environment measured using the HOME between MoT and MoS when the infants were 8 months old. MoM were actually reported to have a more positive home environment measured by the HOME when the infants were 6 months in comparison to MoS (Gondwe et al., 2017). However, this was only when the total score compared; developmental stimulation subscale was not significantly different between the two groups.

In summary, the reports relating to differences in parent developmental stimulation between the two groups are not consistent. However, there seems to be a pattern in the findings where PoT provide less developmental stimulation than PoS during early infancy but this difference reduces as children become older.

1.3.7 Quality of the parent-child relationship.

Three of the studies directly measured and commentated on the quality of the parent-child relationship using attachment measures and classifications. When looking at the mother's behaviour during the separation-reunion episode, MoT scored significantly lower on supportive presence on reunion than MoS (Feldman & Eidelman, 2004). However, no

other maternal behaviour during the episode was significantly different. There were also no significant differences between twin and singleton infants behaviour during the separation-reunion episode. Supporting this, Goldberg et al. (1986) also reported that there were no significant differences between twin and singleton infants in regards to their attachment classification. Although they reported that twin infants were more likely to be in the marginally secure group than singletons, this was not significant. Tirkonnen et al. (2008) reported that twins were significantly more likely to have a secure attachment to their mothers than singleton infants. However, twin infants' attachments to their fathers were not significantly different to singleton infants. Together this research suggests that there are no differences in the quality of the parent-child relationship between twin and singleton children.

1.3.8 Emotional and behavioural outcomes.

Six of the studies directly assessed and commentated on twin and singleton emotional and behavioural outcomes. Feldman and Eidelman (2004) reported that behaviour difficulties and internalising symptoms at 24 months were predicted by multiple birth status. However, this analysis included triplets who the authors suggested were at greater risk than twin and singleton infants for internalizing and externalizing difficulties. Except for this finding, all other studies reported that twins had more positive emotional and behavioural outcomes than singletons. Multiple birth infants were better able to match their mothers emotions than singleton infants (Kokkinaki & Markodimitraki, 2017). Multiple birth infants were also reported to be able to engage in more positive interactions than singleton infants at 16 and 24 months (Lutz et al., 2012).

Tirkkonen et al. (2016) research further supports this as mothers of 4 year old singletons reported more anxious or depressive symptoms, aggressive behaviour and externalising difficulties in their children compared to mothers of 4 year old twins; the total raw score on the CBCL was significantly higher for singletons than for twins (Tiina Tirkkonen et al., 2016). As well as this, Tirkkonen et al. (2016) results highlighted that 4 year old singletons with a type A attachment classification had the highest withdrawn score and significantly higher scores for somatic and internalising problems in comparison to other attachment classifications. However, this was not the case for twins with type A attachment classifications. Therefore, twins with insecure attachment classifications had better emotional outcomes than singletons with similar attachment classifications.

Taken together, the research indicates that twin infants do not have worse emotional and behavioural outcomes than singleton infants. It seems to suggest that twins have better emotional and behavioural outcomes in comparison to singletons even when the child's attachment with their parents was classified as insecure. Together this indicates that there might be an additional protective factor for twin infants which encourage positive emotional and behavioural development.

1.4 Discussion

This systematic review was able to identify inconsistencies in the research findings as well as identifying when research reports similar findings. It highlighted PoT have higher levels of parenting stress over a prolonged period of time compared to PoS (Beer et al., 2013; Feldman et al., 2004; Lutz et al., 2012). It also indicated that PoT have greater mental health difficulties (Gondwe et al., 2017) and lower parenting efficacy (Boivin et al., 2005; Feldman & Eidelman, 2005) compared to PoS, although their beliefs regarding their parental impact was similar for both groups (Boivin et al., 2005). There were inconsistencies in the research findings as to whether parent-child interactions were different in twin and singleton groups. Some reported that PoT were less sensitive and responsive to their infants compared to PoS (Beer et al., 2013; Feldman & Eidelman, 2004; Feldman et al., 2004; Holditch-Davis, Schwartz, BIack, & Scher, 2007; Ostfeld et al., 2000). However, not all measures of sensitivity and responsiveness were found to be significantly different within some of these studies (Feldman & Eidelman, 2004; Feldman et al., 2004; Ostfeld et al., 2000). Researchers seemed to find greater differences when they focused on physical responsiveness rather than emotional responsiveness (Ostfeld et al., 2000). Some even found more positive parent-child interactions in twin compared to singleton groups (Kokkinaki & Markodimitraki, 2017). A consideration of the quality assessment scores, assessed using the quality assessment checklist by Downs and Black (1998), could assist understanding regarding these inconsistent results. Holditch-Davis et al. (2007) and Ostfeld et al. (2000) had a lower quality score than Beer et al. (2013), Feldman & Eidelman (2004), Feldman et al. (2004) and Kokkinaki and Markodimitraki (2017). Holditch-Davis et al. (2007) also used a multiple birth group which included higher order multiples which might have increased the likelihood of finding a significant difference. Therefore, Beer at al. (2013) was the only research with a higher quality score which found consistent differences for parental sensitivity between the two groups. Of the other papers assessed to have a higher quality, Feldman and Eidelman (2004) and Feldman

et al. (2004) found both significant and non-significant findings on different parental sensitivity measures between the two groups and Kokkinaki and Markodimitraki (2017) reported more positive parent-infant interactions for twins. On balance this suggests that parent-infant interaction is not less sensitive in twins than singletons. However, the differences in the quality assessment scores are marginal (Appendix B).

Further inconsistencies were found when researchers assessed parent-infant interactive behaviour with some, but not all, finding differences between groups. It appeared that twins were less responsive and engaging in their interactions with parents in early infancy in comparison to singleton infants (Beer et al., 2013; Feldman & Eidelman, 2004; Holditch-Davis et al., 1999; Ostfeld et al., 2000) but these differences reduced over time. Again, some studies reported the opposite, where twins displayed more positive interactive behaviour than singleton infants (Kokkinaki & Markodimitraki, 2017; Lutz et al., 2012). Both Kokkinaki and Markodimitraki (2017) and Lutz et al. (2012) research had a higher quality assessment score compared with the research conducted by Ostfeld et al. (2000) and Holditch-Davis et al. (1999). Therefore, it could be argued there is not enough evidence for twins being less engaging and interactive than singletons. Research which focused on the quality of the parent-child relationship found no differences between twin and singleton groups (Feldman & Eidelman, 2004; Goldberg et al., 1986; Tirkonnen et al., 2008). There were also consistent findings that twins did not have greater emotional and behavioural difficulties than singletons (Kokkinaki & Markodimitraki, 2017; Lutz et al., 2012; Tirkkonen et al., 2016). Furthermore, the research suggests the quality of the parent-child attachment relationship does not have the same impact on emotional and behavioural outcomes for twins in comparison to singletons (Tirkkonen et al., 2016). Therefore, twin status might protect against potential adverse effects of having an insecure attachment.

PoM experienced greater and more prolonged periods of stress compared to PoS. This is not surprising considering the potential increase of environmental stressors parents face when raising two infants simultaneously. Damato (2005) discussed the greater financial demand PoM have when requiring double, for example car seats, as well as the potential impact of leaving work early due to pregnancy complications and prematurity. The task of providing sensitive care to two infants at the same time was also suggested to be an additional stressor that PoT have in comparison to PoS. Holditch-Davis et al. (1999) reported that MoT gave the same amount of time of caregiving for each infant as MoS; spending twice as much time providing care at the expense of participating in pleasurable activities such as play. Sleep can also have an impact on stress levels as research has

highlighted a correlation between maternal sleep and maternal mood including stress (Meltzer & Mindell, 2007). MoT reported higher levels of sleep problems 3 months after birth compared to MoS; 64% in comparison to 38% (Neifert & Thorpe, 1990). In addition, Williams and Medalie (1994) argued that increased perinatal complications, fatigue, managing the daily needs of twins, loss of control over time and reduced time for themselves all contribute to stress for twin parents.

Social isolation and stress can also have an impact on an individual's behavioural response to others. Feldman et al. (2004) found parenting stress was associated with maternal sensitivity which supports Crnic, Greenberg, Ragozin, Robinson and Basham (1983) findings. They reported parents with greater stress showed less sensitivity towards their infants, although this only accounted for 6% of the variance. Stress was also shown to have an association with infant behaviour; higher maternal stress being associated with less optimal infant behaviour. Therefore, the increased stress PoT experience during the early years might explain the reported differences in parental sensitivity and responsiveness (Beer et al., 2013; Feldman et al., 2004; Ostfeld et al., 2000), parent behaviour (Boivin et al., 2005; Holditch-Davis et al., 2007; Ostfeld et al., 2000) as well as infant behaviour (Beer et al., 2013; Feldman & Eidelman, 2005; Feldman & Eidelman, 2004; Holditch-Davis et al., 1999; Ostfeld et al., 2000) between twin and singleton groups.

Inconsistencies in research findings relating to parent-child interactions in twin and singleton groups might be due to the different ages of the infants used in the different studies. There seems to be a pattern where research which used infants less than a year old reported greater differences between the two groups compared with findings related to older infants. This could be due to the differing levels of stress parents experience when their children are at different developmental stages, as well as the process of adjustment that PoT go through during their children's early infancy. Beck (2002) conducted a grounded theory study which sought to investigate the experiences of PoT during their children's first year of life. Observations and unstructured interviews revealed the idea of 'life on hold' which the researchers described as, "The basic social psychological problem of mothering twins during the first year of life" (Beck, 2002, p. 599). Life on hold had four phases: draining power; pausing own life; striving to reset; and resuming own life. The first 3 months after birth were described as the most vulnerable period for PoT. Beck's (2002) research might indicate that studies looking at parent-child interactions in early infancy might be influenced by this period of adjustment. Beer et al. (2013), Boivin et al. (2005), Holditch-Davis et al. (1999), Ostfeld et al. (2000) and include participants with

infants under a year old which might explain differences in parent-interaction between the two groups were found. Feldman et al. (2004) found significant differences in maternal sensitivity at 3 and 6 months between MoT and MoS, but not when infants were newborn or 12 months. At the newborn stage, infants were still in hospital and MoT might have felt more supported. At 12 months the parents might have been in the 'resuming own life' stage (Beck, 2002) and therefore able to manage the demands of having two. This explanation is consistent with Anderson, Rueter, Connor and Koh's (2017) research which reported no differences in observed maternal behaviour between mothers of 6 to 12 year old twins and singletons.

Although studies highlighted some differences in parental sensitive responsiveness between PoT and PoS, the parent-child relationship has not consistently been found to differ between these two groups. Parent sensitivity and parent responsiveness has been shown to be important for parent-infant relationship and attachment (De Wolff & Van Ijzendoorn, 1997). However, it might be that PoT have the capacity to be sensitive but not responsive in relation to time-based synchrony. Feldman and Eidelman (2004) argued that parent-infant synchrony develops during the first 3 months after birth. Parent-infant synchrony therefore focuses on the time based response of the parent to the infant's cues but parent sensitivity also relates to the parent's ability to correctly infer the infant's signal (Ainsworth, Bell, & Stayton, 1974). A mother's ability to accurately read their infant's mental state underlying their behaviour (termed mind-mindedness) is predictive of an infant's attachment security (Meins, Fernyhough, Fradley, & Tuckey, 2001). Indeed, when considered together, the ability to accurately interpret the infant's mental state and maternal sensitive responsiveness are both predictors of infant's attachment security, independent to each other (Meins et al., 2001). It might be that the demands of being a PoT affects the parent's ability to respond quickly to the infant's cues in comparison to PoS but their ability to interpret their infants' mental state is not affected. This could explain why there are no reported differences in the quality of the parent-child relationship and attachment between twin and singleton groups even though some research found differences in parental sensitivity and responsiveness.

The included research reported emotional and behavioural outcomes were not significantly different for twins and singletons. Twins were reported to display better emotional matching and attunement in comparison to singletons in the early years (Kokkinaki & Markodimitraki, 2017) and Tirkkonen et al. (2016) reported twins' emotional and behavioural outcomes were better than singletons. Tirkkonen et al. (2016)

explained this difference was likely due to the protective factor of having a co-twin, a source of comfort and security. Gottfried, Seay and Leake (1994) research reported that twins were better able to cope with separation from their caregiver when they were with their co-twin. This might indicate that twins can act as a source of security and act as a buffer against distress. Research indicates that positive sibling relationships can be a protective factor against stressful life events and internalizing symptoms regardless of the mother-child relationship (Gass, Jenkins, & Dunn, 2007). Further research into the differences between twin and sibling relationship and whether the twin relationship is a greater protective factor might be worthwhile.

1.4.1 Strengths.

The current systematic review is, to the author's best knowledge, the first review to assess the research into the early years of twins in comparison to singletons and the later impact to their emotional and behaviour outcomes as a whole. This has identified inconsistencies in research findings and consideration as to why this might be has been discussed. It has also indicated when research has reported similar findings, for example evidence showing emotional and behavioural outcomes for twins is the same if not better than singletons.

The method used for the systematic search increased the likelihood of relevant research being identified. Search terms were created based on a scoping search relating to the key research questions. Through the scoping search, key words within relevant articles were used. Consideration was also given to synonyms and words related to key words, for example the inclusion of parent and father relating to the identified key word mother. The search was also broad as key words were searched for within the article not just the title or abstract. Articles were then excluded based on their relevance to exclusion and inclusion criteria. This method allowed the identification of relevant articles as well as minimising possible bias when making decisions to include studies.

The search was also repeated further to the initial search using the same search method. This led to the inclusion of a further relevant study (Kokkinaki & Markodimitraki, 2017). By doing this, it also highlighted the reliability of the search method as the same studies were identified from the initial search in January.

1.4.2 Limitations.

The review did not include grey literature, such as unpublished papers, theses and masters dissertations. This might enhance its susceptible to publication bias (Walkers, Hernandez, & Kattan, 2008). Published research is more likely to report significant results and therefore the results presented within the review might not represent the whole picture. This is important when considering whether there are differences in parent-child interactions between twin and singleton groups as there may be unpublished papers which did not report significant differences between these two groups which were not included.

Due to the different methods used within the included research, a meta-analysis could not be conducted. A meta-analysis would have increased the sample size between the two groups increasing the power of the results (Walkers et al., 2008). It would have also provided a better understanding when considering the conflicting results (Walkers et al., 2008) around differences in parent-child interaction between the two groups.

1.4.3 Future directions.

This systematic review has highlighted important areas for future research. It will be useful for future research looking at the difference between twin and singletons to reduce the confounding variables by using full term infants in their sample, as prematurity has been highlighted to be an additional risk within the early years (Lester et al., 1985). Other confounding variables such as means of reproduction were also not controlled within the included research and there has been research to suggest that this might affect parent-child interactions (Cook, Bradley, & Golombok, 1998).

This review has indicated that twinship might act as a protective factor allowing children to have positive emotional and behavioural outcomes even when they have less secure parent-child relationship (Tirkkonen et al., 2016). Future research could investigate how the twin circumstances might be a protective factor. Feldman and Eidelman (2004) suggested twins would not be able to co-regulate each other's emotions as a caregiver would and therefore their relationship cannot be considered an attachment relationship. However, this was in relation to children below the age of 2 and therefore the twin relationship could develop into an attachment relationship as the twins cognitive and emotional skills develop.

When considering whether it is the twin relationship which is a protective factor for twins emotional and behavioural development it would be important for research to directly compare twin and other sibling relationships, especially as research has highlighted positive sibling relationship as a protective factor against risk (Gass et al., 2007). It will be important to understand whether the twin relationship acts as a greater protective factor in comparison to the sibling relationship.

1.4.4 Implications for Educational Psychologists (EPs).

When working with children and young people, EPs take an interactionist perspective (Frederickson & Cline, 2009) which considers how an individual's skills and abilities interact and are influenced by the environment they are in. Through this EPs consider the young person's environment, including risk and protective factors, and how this can affect their current situation. Through consultations and discussions with school, as well as parents, EPs are in a good position to share the research within the current review which highlights the differences and similarities between twin and singletons groups. In particular, EPs can challenge views about twins which are not evidence based, such as twins being more likely to have an insecure attachment to their caregivers or being at greater risk for emotional and behavioural difficulties in comparison to singletons. This will allow a conversation focussing on the young person's needs related to their individual context rather than assumptions regarding the twin context.

EPs often use a consultation framework during their practice with parents and schools. The use of collaborative exploration and solutions (Wagner, 2000) is appropriate when working with PoTs based on the current findings about the additional pressures that PoTs might encounter and the impact this might have on their feelings of overload and mental health difficulties. By using consultation in this way EPs are able to co-create actions with parents which do not increase the pressures for PoTs and instead work with them to create manageable solutions based on their context.

EPs can also facilitate conversations with school staff about the twin context when twins enter reception as consideration of their twin relationship and the potential effect of classroom placement might be raised. During this time, it would be particularly useful to share with headteachers, and other key members of staff making classroom placement decision, the current review's findings regarding twins' emotional and behavioural outcomes and how the twin status might have a positive impact for twins' development in

this area (Tirkonnen et al., 2016). An EP can also help schools to consider how a child's experiences before school can impact on their wellbeing during transition (O'Connor, 2018). By schools finding out more information about individual twin children's experiences before they start school they can implement appropriate support during this transition.

1.4.5 Conclusions.

This systematic review highlights that PoT' wellbeing can be affected in the early years as they adjust to the increased demands of having two young infants at the same time; this appears to be over and above that of becoming a parent. It also highlights that there are inconsistencies within the research about whether there is a difference in parent-child interaction between twin and singleton groups. This is important to consider when thinking about the twin context. The increased demands PoT experience might affect their ability to respond with synchrony to the infants' cues but does not affect their ability to understand what their children need. This might explain why there were no reported differences in the quality of the parent-child relationship between twin and singleton infants. This review also highlights that twins' emotional and behavioural outcomes tend to be positive. This creates important questions about how a situation, which is assumed to present risks and which increase parents' stress in the early years, can lead to a potential protective factor.

Chapter 2 Parents' and school managers' perceptions and experiences of twin classroom placement decisions on reception-entry.

2.1 Introduction

Children starting school signifies a major developmental milestone for children and their parents (Fabian, 2000). When making decisions about schools and classroom placements, twinship typically raises additional considerations. PoT can have concerns regarding the equality of twins' educational experiences, comparisons of the twins by others, the twins' relationship with each other as well as whether they will be placed in the same or separate class (Segal & Russell, 1992).

The effects of placing twins in the same or separate class at the start of formal schooling as well as later in their education has been investigated. Tully et al.'s (2004) longitudinal research explored whether twins placed in the same or separate classes at two time points, aged 5 and 7 years old, had different behavioural and cognitive outcomes. Measures were teacher reports on the CBCL (Achenbach & Rescorla, 2001), the Wechsler Preschool and Primary Scale of Intelligence-Revised (WPPSI; Wechsler, 1990) and the Test Of Word Reading Efficiency (TOWRE; Torgesen, Wagner, & Rashotte, 1999). The sample consisted of twins who were in the same class (N=552) and separate classes (N=162) at both 5 and 7 years, and twins who were in the same class at age 5 and then separate classes at age 7 (N=164). Twins who were in separate classes at age 5 had significantly more reported internalising difficulties and this difference, for monozygotic twins, remained at age 7, although the effect size was small. There was some evidence for poorer academic outcomes for twins who were separated, although this only related to twins who were separated later and the effect size was small. No difference was found in externalising behaviour between the three groups.

These findings were extended by Van Leeuwen, Van Den Berg, Van Beijsterveldt and Boomsma's (2005) longitudinal research. They examined the short and long term effects on behavioural and cognitive outcomes of twins in the Netherlands who were either placed in the same or separate classes. Behavioural outcomes were measured using maternal reports on the CBCL when the twins were 3 and 7 years old (N=6738) measuring

short term effects and then at 12 years old (N=2184) for long term effects. Teachers also completed the CBCL when the twins were aged 7 (N=5686) for short term effects and aged 12 (N=284) for long term effects. Teachers reported twins' performance on the Dutch CITO- elementary test when they were aged 12 (n=843) to assess cognitive outcomes. At aged 7, twins who were in separate classes had more maternal and teacher reported internalising and externalising symptoms than twins placed in the same class. However, when controlling for maternal reported difficulties at aged 3, only the twins' internalising symptoms could be attributed to classroom placement. There was no difference in academic achievement between the two groups.

DiLalla and Mullineaux (2008) also reported that previous emotional and behavioural difficulties were an important factor for outcomes of twin classroom placement. Using a longitudinal design, they explored the behavioural outcomes of monozygotic twins (N=2022) in England and Wales either placed in the same or separate classes. Behavioural outcomes were measured by parents completing the Strengths and Difficulties Questionnaire (SDQ; Goodman, 2001) when the twins were age 4 and parents and teachers completing the SDQ when the twins were 7 years old. Parent-reported behaviour difficulties prior to starting school were an important moderator in the association between classroom placement of twins and their behaviour adaption to school. Twins who had reported behaviour difficulties before school had significantly more peer and conduct difficulties when placed in separate classes. Twins that were placed in separate classrooms had the highest parental scores for conduct difficulties, peer problems and total behaviour problems in comparison to twins placed in the same classroom.

This literature indicates that placing twins in separate classes on entry to school has no significant benefits to behaviour and cognitive outcomes with researchers highlighting the influence of difficulties prior to school affecting outcomes. Resent research has extended these findings by exploring the cumulative effect of classroom placement on academic outcomes (White et al., 2018). The research used a longitudinal design which involved collecting data when the twins were aged 7, 9, 10, 12, 14 and 16 years old. Their sample consisted of twin pairs (N=9131) from the UK and Canada. Academic achievement was assessed using teacher reports, performance on internationally recognised exams and performance on the Wechsler Intelligence Scale for Children, third edition (WISC-III; Wechsler, 1992). In addition, academic motivation was measured through child reports. No significant differences were found for most measures of academic outcomes for twins taught separately or together. A significant difference in Maths GCSE was found but the

effect size was small. The authors considered additional factors, such as setting or streaming for ability sets, could be responsible for this difference. The authors concluded that decisions regarding twin classroom placement should be made on an individual basis by parents, twins and teachers.

The current literature does not provide consistent or strong evidence that children have better outcomes when either placed in the same or separate classes with recommendations that decisions be made on an individual basis. Therefore, when making classroom placement decisions, reference to school transition literature might be more appropriate. Rimm-Kaufman and Pianta (2000) presented a dynamic ecologically informed model for children's transition to school based on existing literature. The model highlights that a child's transition to school and associated outcomes, including academic, behavioural and social, are influenced by interactions between the child, home, school, peers and their community. These relationships can influence each other and interactions can become patterned affecting children's outcomes directly and indirectly over time. The twin context, classroom placement and the impact this might have on successful transitions can be considered within this model.

Relating to this, PoT' interactions with the school are important for children's outcomes. Indeed, Rimm-Kaufman and Pianta (2000) argued that a positive home-school relationship is an outcome of a successful school transition; a positive parent-school relationship has been was associated with better social and academic outcomes for children (Perry & Weinstein, 1998). Parental trust in teachers and the school, the belief that schools will carry out their duty and be open, honest, benevolent and reliable in their provision of education (Hoy & Tschannen-Moran, 1999; Santiago, Garbacz, Beattie, & Moore, 2016), is a mediator for children's adjustment to school. For example, Santiago et al. (2016) found that parental trust in teachers was significantly related to children's prosocial behaviour as measured on the SDQ. Their sample consisted of parents (N=212) whose children were between kindergarten and the fourth grade in four elementary schools in the US. Parents' trust in teachers and the school also related to less peer problems and total child difficulties. In a different study, parents' trust in their children's teachers was related to better parental involvement in their child's education which, in turn, was related to better school outcomes in children (Hoover-Dempsey & Sandler, 1995).

Parental trust in schools can be influenced by school practices. School leaders can nurture parental trust through making policies and practices which cater to the different needs of the families in their school (Adams, Forsyth, & Mitchell, 2009). Adams et al.

(2009) looked at parental trust through questionnaire data using a sample of randomly selected parents (N=578) from 79 schools, including elementary, middle and high school, in the USA. They found that 16% of variance of parents trust was explained by school membership. In particular, parents' perception that they can influence school's decision and the identification parents have with the school were separate predictors of parental trust. Supporting this, Conn-Powers, Ross-Allen and Holburn (1990) argued that schools should support and empower parents within the transition process as this relates to better academic, social and behavioural outcomes for children.

Although the literature regarding transition emphasises the importance of parent-school collaboration, this might be less effective when involving decisions about twin classroom placement due to differing views regarding the decision from these two stakeholders. For example, Gordon (2015) explored the views of principals (N=131), kindergarten teachers (N=54), parents of twins (N=201) and twins (N=112) regarding classroom placement when starting kindergarten in USA through the use of a short survey. The survey included multiple choice questions regarding their preference for twin classroom placement and their reasons for this. Twins included in the research ranged from pre-school to 46 years old, with the researchers separating this group into age categories. The largest group were aged 5 years and younger and classified as young twins. The survey showed the difference in views between the groups, with 71% of principals stating that twins should be separated in kindergarten and only 38% of parents agreeing. Only 19% of young twins felt that they should be separated in kindergarten. Principals most often reported their preference for separations was based on twins being too dependent on each other and on their values of promoting the twins' independence and individuality. In comparison, parents reported that they did not see the benefit of separating twins at kindergarten. They felt separation was not necessary for academic achievement and were concerned that separation would lead to their children feeling worried about starting school.

In a different study, Staton, Thorpe, Thompson and Danby (2012) examined Australian parents' views about classroom placement of twins. Parents (N=156) whose twins were either in kindergarten or in year one and who had a choice about their twins classroom placement were asked to report what had influenced their placement decision through a survey. Within this sample, parents mostly wanted their children to start in the same class. Slightly more twins were separated in year one, after being together in reception, although the majority of twins remained together. Parents reported that their

placement decisions were mostly based on their views of the twins' relationship. Parents were more likely to separate twins if they felt that placing them in the same class would lead to negative interactions between the children. However, if parents felt that being within the same classroom environment would not negatively impact the quality of the twins' relationship then they were more likely to place them in the same class.

This body of research indicates that school staff and parents can have differing views about the classroom placement of twins on entry to school. Importantly, Preedy (1999) reported that 29% of British schools held rigid ideas about twin classroom placement; schools might hold organisational policies about twin classroom placement which consider twins as a homogenous group rather than individuals with differing needs (Staton et al., 2012). Such an approach, however, is not conducive to developing parental trust in schools (Adams et al., 2009). Moreover, Gleeson, Hay, Johnston and Theobald's (1990) research highlights that when teachers indicated that their schools had a policy about classroom placement, this policy was not an official written policy and was often not accessible to parents. When information regarding school practices are not shared with parents, they tend to report negative feelings about the school and feel less involved in their children's education (Shields, 2009). Instead, schools should communicate with parents transparently as informative communication between schools and parents has been shown to promote positive transition outcomes (Bulkeley & Fabian, 2006; Conn-Powers et al., 1990).

Effective home-school collaboration in making placement decisions, however, appears to be undermined by a number of challenges. Preedy (1999) reported that only one out of four schools consulted parents about the classroom placement of their twins. In addition, Staton et al. (2012) highlighted that for parents other people's views, including those of principals, were least important to them when making their decision. Finally, Segal and Russell (1992) reported that many mothers within their sample (N=63) found opposition from school staff when trying to discuss with them how to make transitions easier for their children. Together, these findings highlight potential difficulties in effective collaboration between school and parents, and in finding together the best decision based on the twins' previous experiences and needs.

In summary, the existing literature on twin classroom placement focuses on children's outcomes based on child characteristics as well as the different views of those involved in the care of the twins. This literature suggests that there is currently no significant difference in twins' externalising behaviour and cognitive outcomes when comparing twins placed together with twins placed in separate classrooms. There is a

difference, however, between school staff and parents' perspective of what is best; with the majority of parents preferring twins to be in the same class and the majority of school staff preferring twins to be separated when they start school. The current literature has used surveys with short and or closed answers which have not allowed an in depth understanding of how these views have been formed. There is also less literature which explores the process of classroom placement decisions and how decisions are made from the perspectives of both school staff and parents. Research that has explored this process has only focused on parental perspectives and these parents had a choice about their twins' classroom placement.

The current study explores in depth the experiences of both parents and school managers (SMs) by using semi-structured interviews which sought to investigate their views about classroom placement of twins and what has influenced these. In addition, the present study explores parents' and SMs' experiences of the classroom placement decision making process, whether in collaboration or not, and how they have felt about these experiences. By identifying similarities and differences between parents' and SMs' views and experiences, the findings of this research could have important implications for best practice in effective home-school collaboration during the decision making process of classroom placement of twins in order to promote positive outcomes for children on entry to school. Based on these aims, the current study sought to answer the following research questions:

1. What are SMs' and parents' views about twins' classroom placement on entry to school?
2. What do SMs and Parents perceive have influenced their views of twins' classroom placement on entry to school?
3. How do SMs describe the classroom placement decision making process for twins on entry to their school?
4. What are parents' experiences of decisions about their twins' classroom placement?

2.2 Method

2.2.1 Design overview.

In order to explore views and experiences regarding twins' classroom placement decisions from different perspectives, a qualitative design was deemed most appropriate. Qualitative methods, such as the use of interviews, allow researchers to gain an in-depth

understanding of individuals' perspectives (Howitt, 2013) and experiences of a particular situation (Willig, 2013) as well as understand what has influenced a person's views (Ashworth, 2015). Thematic analysis was used allowing themes in participants' perceptions and experiences to be identified (Clarke & Braun, 2013). An inductive approach was taken, therefore analysis was conducted without a theoretical framework (Boyatzis, 1998). However, themes were created based on relevance to the research questions (Braun & Clarke, 2006).

2.2.2 Philosophical position.

A researcher's philosophical approach can influence the research design. It can also influence how data, in this case interview transcripts, are interpreted which can affect research findings and the subsequent interpretations of these (Willig, 2013). The current study used a constructivist ontology and epistemology. This approach assumes there is an external reality to be known but social interaction and language shapes the way that knowledge of the world is acquired (Willig, 2013). The current research therefore focuses on the reality that has been constructed by the individuals themselves, through their cognitive process and interaction with others, rather than through social discourse.

2.2.3 Participants.

The sample consisted of 13 parents of twins (11 mothers and 1 parent-pair) and 15 School Managers (SMs) (N=28). The parents involved in the current study had taken part in a previous study conducted by Goymour (2017) and had twins who had just finished their reception year. Parents who were involved in the interviews lived across England and Wales. The recruitment procedure is outlined in Figure 2.

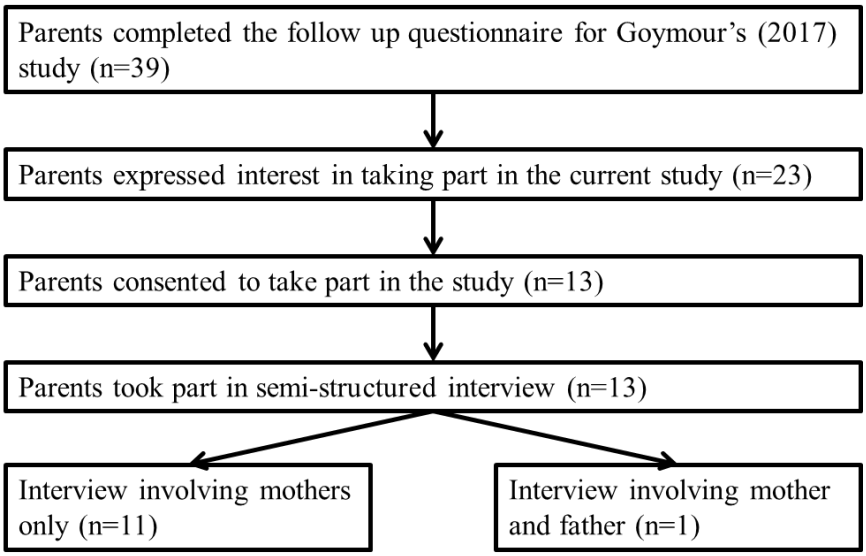


Figure 2 Recruitment procedure for parent of twins sample.

The majority of participating parents had male twins (N=8) and most of the twins were identical (N=8). The majority of parents had other children (N=8) and chose to place their twins in the same class in reception (N=8).

Table 3

Contextual information for parent interviews

Parent name	Twin name	Zygotyzy status	Gender	Other siblings	Classroom placement
Jane	Matt and Mike	Non-identical	Boys	Older	Separate
Pamela and Keith	Edward and George	Non-identical	Boys	None	Same
Emily	Mark and Owen	Non-identical	Boys	None	Same
Helen	Louis and Arthur	Identical	Boys	Older	Separate
Rebecca	Thea and Samantha	Identical	Girls	Older	Separate
Stephanie	Kylie and Sasha	Identical	Girls	Older	Same

Megan	Chris and Jack	Identical	Boys	Older	Same
Nicole	Ian and Nick	Identical	Boys	None	Same
Alice	Theo and Anthony	Identical	Boys	Younger	Same
Grace	Lisa and Penny	Identical	Girls	Older	Same
Sarah	Lydia and Patience	Identical	Girls	Older	Separate
Rachel	Robert and Connor	Non-identical	Boys	None	Same

Note. All names are pseudonyms.

Chi-square tests were run to identify whether there were statistically significant associations between contextual factors and classroom placement. Due to the low expected counts Fisher's exact test was used. There were no significant associations between: zygotyzy status and classroom placement $\chi(1) = .188$, $p = 1.00$; gender and classroom placement $\chi(1) = .750$, $p = .55$; and having older siblings and classroom placement $\chi(1) = 4.286$, $p = .08$.

Headteachers or SMs who worked in a primary or infant school with more than one class per year were contacted through purposive sampling. Fifteen headteachers or SMs gave their consent and were interviewed. Participants were drawn from the researcher's educational psychology service placement authorities, two local authorities in the South of England. The SMs were not from schools where the participating parents' twins were attending. Further information about the recruitment procedure is outlined in Figure 3.

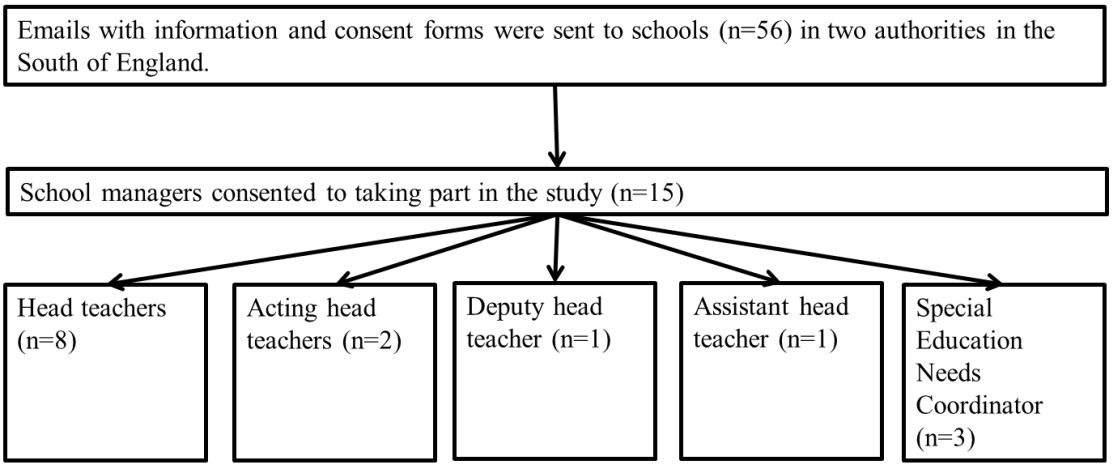


Figure 3 Recruitment procedure for SM sample.

Other members of school management took part in the study in place of the headteacher either to ease headteacher time constraints or due to headteacher absence. All SMs had an understanding of school practices and the basis of these. The school did not need to currently have twins in reception for the SMs to take part in the research. Certain contextual factors such as the role of the SM and whether their school was an infant or primary school are presented in the table below.

Table 4

Contextual information for school manager interviews

School manager number	Role	Type of school
School manager 1	Acting Headteacher	Primary
School manager 2	Headteacher	Primary
School manager 3	Headteacher	Infant
School manager 4	Assistant Headteacher	Primary
School manager 5	Deputy Headteacher	Primary
School manager 6	Headteacher	Infant
School manager 7	SENCo	Infant
School manager 8	SENCo	Primary
School manager 9	SENCo	Primary

School manager 10	Executive Headteacher	Infant
School manager 11	Acting Headteacher	Primary
School manager 12	Headteacher	Infant
School manager 13	Headteacher	Infant
School manager 14	Headteacher	Primary
School manager 15	Headteacher	Primary

SMs were working in a variety of rural and urban environments. Their schools' catchments also varied in terms of level of deprivation and affluence. The number of pupils on roll at their schools also varied.

The sample size for both parents and SMs were considered appropriate based on recommendations from Clarke, Braun and Hayfield's (2015). They recommended a sample of six to 15 participants to be sufficient. Guest, Bunce and Johnson (2006) also reported that theme saturation often occurs after 12 interviews with broader themes often identified after six.

2.2.4 Materials.

Two interview schedules, parent (Appendix C) and SM (Appendix D), were created prior to the interviews. The research questions influenced the development of the interview questions. Previous literature regarding twin classroom placement decisions was also taken into account in the development of the interview questions. The interview schedule followed the framework suggested by Robson and McCartan (2016) and included an introductory comment; list of key questions linked to the aims of the research, organised in groups; a set of follow on questions; and a closing comment. The researcher took a flexible approach to the interviews and changed wording to enhance understanding or ask follow up questions as appropriate. Questions were omitted during the interview if participants had discussed this in a previous answer.

Parent and SM interview schedules were piloted on a mother of twins and an assistant headteacher. Based on this, additional questions regarding the twins' early experiences were added to the parent interview schedule. Additional prompts regarding policy development and review were also added to the SM interview schedule.

2.2.5 Procedure.

Ethical approval to conduct the research was gained from the University of Southampton's Ethics Committee and Research Governance (Appendix E).

The parents involved in the current study had taken part in a previous study conducted by Goymour (2017). This research explored the impact of classroom placement on twins' social competence and participants were recruited through the Twins and Multiple Birth Association (TAMBA). At the final stage of data collection, between January and March 2017, parents were given the opportunity to show interest in being provided with further information about the current study. Parents who showed an expression of interest were emailed (Appendix F) with further information (Appendix G) and a consent form (Appendix H). Rapport between interviewer and interviewee is important for semi-structured interviews (Willig, 2013) and therefore the interviews were conducted where the participants felt most comfortable, two at the mother's work place and ten at the parent's home. The interviews lasted between 40 and 90 minutes and were conducted between the end of July and September 2017. The aim of the research, the purpose of the audio recorder and storage of data, as well as the participants' right to withdraw were reiterated before the interview was conducted. Participants were also reassured that they did not have to answers questions if they felt uncomfortable. At the end of the interview participants were given a debriefing statement (Appendix I) and £10 for their time.

SMs were provided with an information sheet (Appendix J) about the research and a consent form (Appendix K). Consenting SMs participated in interviews which lasted 10 to 30 minutes between July 2017 and January 2018. The interviews took place at the SM's school at a time convenient for them. Similar to parent interviews, the research aim, the purpose of the audio recorder and storage of data, as well as the participant's right to withdraw were reiterated before the interview was conducted. They were also reminded they did not have to answers questions which they were not comfortable answering. At the end of the interview participants were given a debriefing statement (Appendix L) and a £10 voucher for their time.

Both the parent and SM interviews were audio recorded. After the interviews, this was transferred to a secure computer system and deleted from the recorder. The recordings were then transcribed, where identifiable information (e.g. locations, names) were

removed. Once transcription was completed the audio file was deleted from the computer system.

Ongoing reflections about the qualitative procedure was conducted (Appendix N) in order to identify possible biases and consider how to reduce the impact the researcher had on the derived themes.

2.2.6 Data analysis.

Transcripts were analysed using thematic analysis using the six phases outlined by Braun and Clarke (2006). Parent and SM transcripts were analysed separately. The researcher first familiarised themselves with the data. This was done through transcribing the interviews and adding appropriate conventions for meaning, such as pauses, intonations and humour (Appendix M). As recommended by Willig (2013), transcripts were imported into a computer package, NVivo 12. Transcriptions were then checked for accuracy against the audio recordings. Through the process of familiarisation, the researcher started to look at the relevance of the data to the research questions (Willig, 2013).

After familiarisation, initial codes were developed by the author from the basic units of meaning within the transcripts (Clarke et al., 2015) following the approach outlined by Braun and Clarke (2006).. Codes were both sematic and latent; focusing on both what the participants explicitly said as well as implicit meaning (Clarke et al., 2015). An indicative approach was taken in order for codes to be based on the participants accounts (Willig, 2013) although Clarke et al. (2015) argued a purely inductive approach to coding is difficult as research aims are determined before data collection. A second level of coding was introduced prior to theme identification which combined related codes in a hierarchy (Willig, 2013). At this point, codes were shared with the research supervisor for quality assurance.

Themes for parent and SMs were then identified separately (Braun & Clarke, 2006). Themes were more interpretive than developed codes (Willig, 2013), “A theme captures something important in the data in relation to the research question, and represents some level of patterned response or meaning within the data set” (Braun & Clarke, 2006, p. 82). Themes were identified in an active process whereby the researcher actively constructed the themes from salient parts of the data (Willig, 2013).

Themes were then directly considered in relation to the research question. As appropriate, themes were integrated into higher order themes based on their relationship to

each other. At this stage of analysis, the researcher reviewed the themes and considers how the themes fit with the data (Braun & Clarke, 2006) which is important as, “The researcher’s decision about what is and what is not important can evolve throughout the analysis” (Willig, 2013, p.62). The initial thematic maps were shared with the research supervisor for quality assurance.

As outlined by Braun and Clarke (2006), themes were then named and further defined to allow conceptual clarity (Appendix N; Appendix O) leading to the production of the final thematic maps (Figure 2; Figure 3). These were compared in order to identify similarities and differences between the groups. Although this approach is unusual for thematic analysis (Willig, 2013), different samples can be used from the entirety of the data collected and analysed as detailed by Braun and Clarke (2006). Analytic conclusions based on these analyses are provided (Braun & Clarke, 2006).

2.3 Results

2.3.1 Parent interviews.

The six themes derived from analysis of parent interviews are presented visually as a thematic map below (Figure 4). The theme ‘importance of individuality’ and ‘practicalities’ did not have a direct relationship with the other themes. The themes ‘weight of the decision’ and ‘home-school relationship’ had a relationship such that the home-school relationship could affect parents’ perception of the weight of decision and vice versa. The themes ‘weight of decision’, ‘home-school relationship’ and ‘ balance of support and independence’ all had a relationship with the theme ‘change’ as all of the parents perceptions regarding these theme could be changed. Themes are discussed seperately.

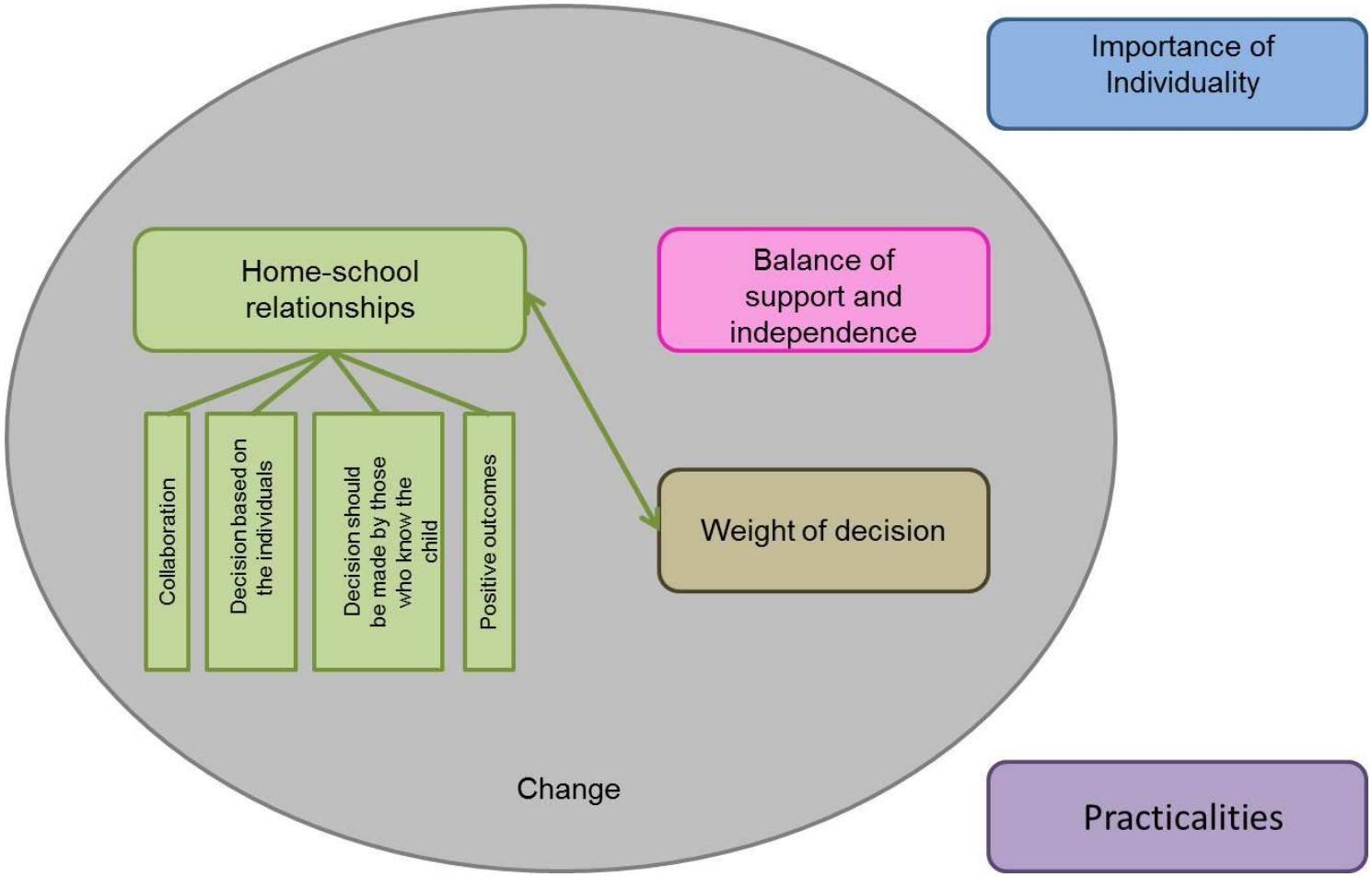


Figure 4 Final thematic map from analysis of parent interviews

2.3.1.1 Importance of individuality.

All parents highlighted on numerous occasions during their interviews how different their children were in terms of their personality, interests and development, *"But they're different ↑they are different↑ (.2). They learn at different rates↑ they have different personalities↑ (.2)...because you are two different people↑ you enjoy different things↑ (.), you know (.3)"* (Jane). These differences were always apparent, *"Um and they are quite different …Physically for a start…and they have always been different (.4) from in the womb…there was always one big one, one small one...and they're just (.3) yes different"* (Emily). These differences were linked to the children's individuality:

> *"Um and it has been very interesting seeing them (.) kind of develop their personalities and seeing how different they are (.2) and how they interact just being kind of (.) have different kind of hobbies↑ and things they like↑ (.2) and just everything about them is yes (.) quite separate (.2)"* (Sarah).

This individuality meant that parents wanted their children to be seen as separate rather than a twin unit, both by the children themselves, *"I didn't want them growing up and identifying <u>solely</u> about being a twin first"* (Jane) as well as others seeing them as individuals, *"And it's another thing for me to be keen that they know they are two individuals (.2) rather than twins"* (Helen); *"Is quite <weird> (.) and I think people tend to talk about them (.) oh the Field twins (.4) well no (.2)those are two separate children (.3)"* (Rachel).

Based on this value of individuality parents didn't want their children to be compared to one another. This could be by the school, the twins, the twins' peers or by them:

> *"Yes um and I am quite conscious of them being <u>compared</u> to each other… I think it's just a natural thing that if you are a teacher (.) or a key worker↑ (.2) and you're looking at one (.3) and then looking at the other (.) there could be that comparison made so (.) so I am quite conscious of (.)"* (Sarah).

The twins being identical could sometimes make the issue of comparison even greater:

> *"But I think probably I think the identical side of it makes it (.3) yes you didn't want (.) they probably didn't want the comparison (.) you don't want to compare one to the other all the time which is always the hardest thing (.3)"* (Helen).

Some of the parents felt that separating the twins helped develop their individuality, *"I do think (.5) I <personally> think twins should be given all the opportunities to (.4) become separate people individuals and (.) separate I (.) do think that if you've got the choice they should be in different classes"* (Rebecca). With the idea that separating them

would help others see them as individuals, *"So I thought I wanted them to be separate so that their teachers would (.) you know (.) know that that's Lydia and that's Patience (.2) and the kids would get to know them as individuals rather than being the twins (.3)"* (Sarah).

However, parents also shared how schools can develop the children's individuality regardless of classroom placement:

> *"So they seem to have made some good friends <there> but (.) um (.6)again they do (.3) although they obviously have the same teacher and everything like that they do very much treat them individually (.3) you know one gets a VIP or one does this you know"* (Helen).

It was also believed that it is the schools role to treat them as individuals regardless of whether they are together or apart, *"And teachers treating them as individuals (.) and my argument was well (.) if they are half decent teachers (.4) then that's part of (.) their job (.2)"* (Nicole); *"Make sure the teachers treat them as individuals (.2) they are individuals"* (Keith).

The majority of parents placed twins in the same class but all of them valued individuality. Although some parents wanted to place their twins in separate classes to protect their individuality, the value of individuality seemed to be an ultimate goal for all twin parents and was not necessarily related to classroom placement decisions.

2.3.1.2 Balance between support and independence.

Parents balanced the children's need for support when starting school and their need for independence when making classroom placement decisions. Depending on which, support or independence, the parents felt was more important, often lead to their classroom placement decision.

2.3.1.2.1 Support.

The age of maturity of the twins often lead parents to feel that they needed support from their co-twin for the transition, *"Um well actually both of us kind of agreed we were just like oh (.) they seem so young↑ to separate and (.4) like they were only <four> going into reception you think oh"* (Emily).

Parents also shared concern that separating the children would make the transition more difficult, *"They will look to each other when they have extremes of emotion (.4) if they really like something and they are very happy they want to share it↑ and if they are very sad they look for their brother for comfort (.2)"* (Rachel). Parents highlighted that the

twins were used to being together and therefore going to school and being apart might be too difficult, *"I just think they have spent their <u>whole</u> lives together (.2) um to suddenly say (.2) your… yes I just think it's a massive (.4)"* (Megan). Parents were particularly concerned about this if the children had found previous separation difficult:

> *"You would often (.2) find (.) she said I think she said especially Nick at that time (.5) um would sort of go and stand at the door (.) and few tears (.) and (.5) they just sort of send him back (.5) to be with Ian (.2)…Had sat in the corner by the books (.) pretty much on his own all day (.4) and didn't really want to socialise (.) didn't want to talk to anyone (.4) basically just didn't want to be there on his own (.2)…he found it <u>really really</u> hard (.3) and that broke my heart a little bit."* (Nicole).

Friendships were also considered an important support for transition and, as many of the parents indicated, the twins liked spending time together, *"Cause I suppose they spend so much time together (.) and (.3) having a laugh together"* (Megan).

Parent's felt that twins could be a support for each other if they did not know other children before going to school, *"At the end of the day they were going from the nursery to a school where they didn't know anyone at all"* (Keith). But that other friendships were important if they were going to be separated:

> *"Because they had been to the local (.) or preschool very near to the school (.5) quite a few of their friends from their preschool (.3) were going up (.) so Lydia in particular had quite a few people she already knew in her class so she was very excited (.6). Patience again (.) didn't have quite so many (.) um (.4) friends so yes she was a bit more kind of (.) um felt [the]…kind of missing Lydia"* (Sarah).

Parents considered the support twins can provide for each other not just as emotionally important, but also of developmental importance; having a twin could help you academically:

> *"He's got the little notebook and George is like (.6) now I'm going to be the police men and I'm going to tell you <u>off</u> cause your insurance certificate↑ (.2) I'm <u>writing</u> you an insurance certificate (.2) <u>how</u> do you write police? (.2) So there's Edward (.3) out of the blue spelling police (.) and George writing it (.2)"* (Pamela).

"Um (.5) and their quite good at that actually at sort of (.2) learning from each other (.) and they do more now (.2) at trying to <u>show</u> each other how to do something that one of them is stuck on (.3)" (Megan). Parents also saw the twins as helping to enhance their social skills, *"They've got sort of a couple of best friends who are only children (.)and (.2) you can see how these two are so much better at like sharing↑ (.3) and taking it in turns (h)…and how they are quite good negotiators (.4)"* (Megan).

2.3.1.2.2 Independence.

The majority of parents felt that their children were independent of each other, *"I think they just know the other one is around (.) they don't really need to(.), they're quite independent of each other (.2)"* (Sarah); *"I can bravely say they can kind of survive without each other as well (.2)"* (Alice). With some highlighting that being in a shared environment allows them to be independent, *"But they're quite happy to be separate (.4)…in that shared space↑ (.3)"* (Rachel).

Parents also emphasised the importance of independence, *"Yes (.) um but I don't want them to be reliant on each other (.2)"* (Rebecca); *"Because we didn't want, we didn't think it was healthy for them to always to be together (0.4)"* (Jane). Raising that twins can need time apart, *"And he does need time out on his own"* (Pamela); *"But they also need time apart…So I have started doing things like I'll send one to one grandparents and one to the other (.3) so they can have some space"* (Grace). Having time apart, for some, could have a positive impact on their relationship, *"Um but yes they're a lot closer now (.) but I do think that's got something to do with having that time (.2) separate at school and being able to talk to each other about what they have done↑"* (Sarah).

Some of the parents valued independence and wanted to instil this in children from an early age, *"So we had an arrangement with her that they would split them (0.4) so she used to take uh (.) one, and one used to go to music club↑ and the other would stay [behind]"* (Jane). If they felt that their children were independent this could lead them to separate them at school, *"So yes kind of took their views into account as well and yes (.5) knowing how they are and (.) kind of their independence of each other I thought separating them would be (.) the way forward for them (.3)"* (Sarah).

However, some parents felt that if their children were independent then the need to enhance their independence was not as important as the support they could provide each other by being in the same class:

> *"She said they're reasonably independent↑ they do their own thing↑ they go off and do different activities↑ you know and I think you know (.) as particularly as the year went on they sought each other out less and less (.5) and she said↑ she basically said you could do either↑ and they would [be fine]…and so based on <that> we went well we are going to keep them together"* (Emily).

"She was very much (.) and she was very much of the opinion that there was no reason to separate them (.2) she said that they (.4) get on very well together at school↑ they're very independent from each other↑" (Nicole).

Parents felt that you could still develop children's independence without separating them, *"This year they will be twins, in ten years they will be twins↑ (.3) and it is our parents responsibility to make sure that they are individual uh human beings (.) and that they will learn independence (.3)"* (Alice).

For all parents there seemed to be a balance between support and independence; support was a focus for transition and independence became more important after transition and as the children grew older:

> *"George was showing signs of not being (.9) as clingy any more↑ (.4)…he's not as clingy (.2), Edward has to go to hospital ever year…and he was quite happy to go off to school while Edward went off to the [hospital]…and then when (.) George had to go to hospital… Edward was fine and Edward went to school…so that that was a big weight of our minds↑ (.) so that was like ok we have overcome one hurdle now(.1)"* (Pamela and Keith).

2.3.1.3 Home-school relationship.

The development of a positive home-school relationship seemed to be influenced by the process of twin classroom placement and how the school worked with them during this process.

2.3.1.3.1 Decision based on the individuals.

All parents felt that the decision should be made individually as all twin sets are different, *"They have to take parents into account (.) because every set of twins is different"* (Stephanie). They felt schools should not assume that they will know their twins based on previous experience, *"I think that would be the key thing is not to assume that (.4) you know just because another set of twins does this then (.3) the parents of the other (.2) the new set will want the same (.2)"* (Helen). One parent highlighted that blanket policies do not allow schools to see twins as individuals, *"I think what makes me laugh about this blanket policies is that they (.) try and claim that it's for promoting individuality (.3) yet you've just treated every set of twins the same"* (Megan). Parents emphasised that by treating the children as twins, you are taking away the individual circumstance, *"I want my children to be treated like as my children (.) they are not other twins they are my children"* (Alice).

Parents highlighted that transition was difficult enough without having to cope with difficulties of having twins in a classroom placement that wasn't appropriate for them, *"Case by case and I think (.3) schools need to (.3) be able to work around that (.3) and just*

do what's best for the twins (.3) so that they are not traumatised (h) (.2) within the first year of their school life (.2)" (Sarah).

Parents' interviews reflected that parents felt it was important to consider twins as individuals as there are additional factors that could be important such as the maturity of the twins and family circumstances. For example, one mother described how difficult the placement decision process was as it was happening whilst her youngest son was in hospital, *"When our little boy was born…he was premature…and it was just difficult with them two, with me in hospital, with little boy in hospital (.) and it was exactly the time when the school business was going on"* (Alice). Twins might also have additional needs which could affect transition,

> *"You know the complexity of twins↑ (.2) um (.) being (.) you know a bit smaller than a lot of their peers (.2) and just their development issues which I think were purely twin related (.4)…yes so I kind of thought they've got three things (.), their age (.), their size (.), and then being twins as well (.5) kind of (.2) not going against them (.) but you know [that they had to face]"* (Sarah).

Parents also wanted schools to be flexible in their approach throughout the process based on the individual's needs in the format of a review or trial period, *"Um (.) cause ideally I would have liked to trial↑ (.2) but I know that that's not possible (.8), a trial separation(.) to see what they were like (.2) and then if that did not (.) go very well (.2) then put them together but they said they couldn't do that↑ (.2)"* (Grace); *"Reassure parents (.6) and perhaps say to them (.) um let's try it but we can always change it if it doesn't work"* (Rebecca).

2.3.1.3.2 Decision should be made by those who know the child.

Parents felt that decisions should be made by those who know them as individuals. As they know their children best, they felt they should be the ones to make the decision, *"Um I think it is having it is about always having the <confidence> that these are your children↑ and you know them well↑ and you know what's best↑ (.6)"* (Emily). Parents' views were that although schools might have experience of twins, schools do not know their children as well as they do and therefore schools should listen to parents rather than rely on their previous experiences:

> *"And I know you've got twenty years experience↑(.3) however I know my (.) I've got twins (.) and I've got my twin experience (.3) yes just speak up (.2) and don't let the*

school (.3) dictate you… cause they don't have 20 years (.) of experience of your twins…they have 20 years experience of other twins" (Stephanie).

"The parents (.5) ok we don't know the most about academics (.4) but we know our children (.4)" (Megan).

It helped parents when others supported and listened to their opinion. For example, one mother felt supported by the school when they listened to and supported her view that her twins were independent:

"But people might think (.) what they are going to be really really close and you know that (.) that mother (.2) why on earth is she trying to separate them (.3) so I felt that the teacher saying that (.) kind of backed up (.3) the fact that I kept on saying to them that they are very different and you know that they are not bothered about each other" (Sarah).

The twin community, in particular TAMBA, was often raised as supporting parental choice:

"Um (.3) and they've been quite supportive when there have been parents who've stated that the (.) school are enforcing (.2) their policy and so (.2) then all the stuff everyone starts quoting <TAMBA> (.) and sending them to these various links (h) so it's very much (.3) if you don't want that you they can't make you…but yes (.) the stuff on TAMBA was (.) was really good (.) was really really good…and (.) you felt(.) and you also knew that (.2) cause you also felt (.) I felt that if I had (.) if I was going to run into any problems (.3) they had my back↑" (Nicole).

Support from TAMBA was valued by parents when they encountered difficulties with the process:

"Someone (.) one of my friends suggested contacting TAMBA ↑…Which probably was the best step I have ever done because uh it just like you know the moral support is probably the most (.) most uh (.) important at that time and at this time (.) when you when you when you are just confused↑" (Alice).

Others who know the children as individuals can also help to make the decision. Early years staff can share how children react outside of the home environment:

"If she had said look there is an issue with <one> and actually they are really leaning on the <other>(.3) and it would be helpful to them to not have their brother there and if all of that if her advice had been I think they could benefit from being apart we <probably> would have listened to that" (Emily).

Some of the parents also asked their children what they wanted and took their views into account:

> *"I had asked Patience and Lydia as well whether they wanted to stay together…They just said they (h) (.3) Patience would have been quite happy to have Lydia in her class (.4) Lydia was fairly adamant she wanted to be on her own (.3)…or be independent …So yes kind of took their views into account as well"* (Sarah).

2.3.1.3.3 Collaboration.

Parents often told school what they wanted through the school application or direct communication with the school:

> *"But as soon as I got a letter saying yes they're in (.3) I then um (.3) wrote her um just a letter even though I had that conversation for three years with her (.3) um to say (.3) they've now got a place as we have discussed previously I would like them to be kept in the same class and she just sent me (.) a formal letter back saying that's absolutely fine"* (Stephanie).

Parents also discussed classroom placement for year one with the school, often in parents evening:

> *"I mean the teachers are brilliant↑ (.2) and all the way through the year she said at our very first parents evening in November (.2) we will have meetings (.2) so that we can <discuss> what we are going to do next year (.2) she said I know it's along way off but (.2) we'll give you our feedback and (.4) we kept having meetings with them so we could discuss [should we have them split should we keep them]"* (Pamela).

Parents used communication with the school to prepare children for the transition:

> *"I found out who was in each class↑ (.2) and I arranged a play date for Thea↑ to go with one of the friends from her class (.3) and play dates for Samantha↑ with her and (.) I kind of it's manufacturing it in a way (.5) I manufactured little (.3) just so that I could say on their first day (.) oh remember you had that play date with that person they're in your class you're going to be fine"* (Rebecca).

When there were differences between parents' and schools' views, parents felt it was important for both sides to communicate their reasons: *"This is why I want them kept together (.5) then (.) rather than just going I want them kept together↑ (.3) but this is the research I have got behind it↑ this is my MP letter saying he supports me↑ there is research into why↑ (.2)"* (Stephanie). Parents held a negative view of schools who did not provide reasons for their fixed procedures:

> *"So and I wasn't given any explanation apart from this is just what they have been doing for years and that's what they do (.5)…just want a discussion (.) why↑ (.2) I wanted to understand because I was like yes (.) I am happy to be convinced↑ that this is the best way↑, for them↑ but I want to know↑ I want to know why↑ (.2) and I was like why not↑? (.3) Oh don't worry they-we have loads of twins we have experience"* (Alice).

Parents appreciated schools who listened to their views and concerns:

> *"Um (1.2) then they did the home visit (.) and then we had like taster days (.9) and they were really receptive as well because the taster days were on different slots because I had put them in different classes (.) so we went and said can we do something (.) I can't (.) it would be difficult to have one in on their own for their first [day]… can we do it so they are both in the same environment at the same time (.2) so they were really receptive. (.2) and helped us to manage it"* (Jane).

Parents held a positive view of the school when they felt listened to, *"To be honest with you, if you are down there with an issue it gets sorted (.3) so…as far as the school is concerned the school is brilliant (.), I think the school is brilliant"* (Keith); *"It's a good school for that they do seem to (.7) know (.6)…they're very good at communicating (.6) they don't need to make a point of it because they speak to me at a regular basis"* (Rebecca). However, lack of communication lead to difficulties with the home-school relationship:

> *"It's not only about the children↑ it's about, again, (.2) how they treat me (.1) they are just about to start school and, just, (.) we just discuss and I just told you what happened before↑ (.3). And I thought that again and I said this is the reception they have six/seven years ahead in this school↑…what are they going to do next?"* (Alice).

Parent's perception that schools did not listen to them also lead to difficulties with the home-school relationship:

> *"Thinking like that's fine↑, that's fine↑ that's absolutely fine↑ everyone can have opinions↑, everyone has opinions↑, I have my opinion↑ I want my opinion to be heard (.2) and that's it…I think it is just the communication that's it (.) the only advice and I think the most important from my point of view and my personal experience (.2) just the communication (.) no matter what you want to achieve (.3) if you communicate its fine cause you make other people feel like they are respected↑ and they are heard"* (Alice).

Even though parents were often happy with the classroom placement, they wanted schools to tell them the decision sooner:

> *"Um yes I mean I wasn't bothered about what class they were going to be in (.) in terms of teachers (.2) but knowing whether they were going to be together or not (.6) um (.8) yes just so I could have then raised any concerns or (.) asked why they had gone against my wishes (.3) rather than making a big who ha after they had joined up all the ends"* (Sarah).

Parents also wanted the schools to approach them to ask them for their views, *"The school (.) at no point sort of initiated any conversation↑ which I guess (.) with us anyway I don't know whether they did with any other twin parents (.) and it would have been (.) you know (.) <nice> to have that sort of <initiated>"* (Emily).

2.3.1.3.4 Positive outcomes.

All parents were positive about the school and their children's progress at the end of reception, *"Then we had another parents evening and then we had the final report in the summer so and that was (.) consistent really the feedback was always (.2) very positive from the teachers saying that they were doing well"* (Rebecca); *"They're excelling (.2) they have gone through the excelling programme (.) both of them (.6), again (.) Penny is like a week behind Lisa (h) (.2) um (.7) yes their reading (.5) is amazing↑ (.2) and their teachers were really happy↑ (.2)"* (Grace).

Parents also seemed to recognize that school had helped children's development in areas they found difficult:

> *"They exceeded at everything (.5) apart from (.9) um PE (.) which they met at ((expected standard)) (.2) which I was more excited about than anything else I was like cool↑ good your nearly there↑ your nearly there↑ (.5) I think it was one of the thing they met (.) they met (.3) expected and exceeding yes so everything was exceeding"* (Stephanie).

Parents also highlighted that children were enjoying school, *"I don't think I have ever had a day where it was this (.2) I don't want to go to school"* (Nicole); *"They love going to school (.2)…they settled and (.) they've been brilliant↑, they love school"* (Rachel).

2.3.1.4 Weight of the decision.

Parents felt classroom placement was a big decision, *"I'd choose for them to be in separate classes↑ (0.2) and I was nervous about that↑ because I didn't know how they*

would cope↑ (.2) but I think (.3) I found it quite a difficult decision to [make] …because I wasn't sure if it was the best thing for them" (Jane); *"It was something that was always on our <mind> what are we going to do↑ (.2) it is a decision we need to <make> we always knew we'd had to make it"* (Emily).

Schools practices can also affect the weight of the decision. For example, reception being structured as several classes within one shared space often made the decision seem less important as children could have time together and apart regardless of the decision, *"I was nervous about that↑ because I didn't know how they would cope↑ (.2) but because they are in reception they have free flow…there is a lot of time that they are able to be [together]"* (Jane);

> *"So they have shared areas↑(.) so they obviously have a lot of time which is free time choosing time…were they are in and out of different classes and they have different set ups in each class for like role playing and (.) things and then these different groups they go into for different like (.) reading and writing are grouped across the classes↑ so these ability groups (.6) so they are mixing them all the time↑"* (Emily).

This instead made the decision of year one seem more important:

> *"So sort of having those conversations now and talking to the teachers about what we do for year one because year one will have less free flow (.2) and I am still keen that we split them↑ (0.3) but I am worried that it will be a bit of a bigger impact↑ (.2) because they won't see each other as much"* (Jane).

Although if twins were settled in school this could reduce the weight of the year one decision, *"Looking at them now I think they (.6) if they were to split them in year one I think they would be ok (.2) but um (.) but as long as they have half their friends with them"* (Stephanie); *"But for this year I thought now that they are a bit more established I was less worried whether they were going to be in the same class or not"* (Sarah).

There were other things that helped reduce the weight of the decision including talking to early years staff:

> *"I had a wobble and I spoke to the pre-school (.) teacher about it and I said to her do you think we have done the right thing putting them in separate classes (.2) I'm having a moment where I feel like I don't know what to do (.3) and she reassured me and said your absolutely doing the right thing you should stick with it"* (Rebecca).

Asking the twins themselves could also reduce the weight of the decision:

> *"It indicated (.) yes it did (.2) and I was very (.) I was (.) I was really torn (.2) I mean I was I was quite glad when they did sort of say no I want to be in different groups mum (.7) cause it was like oh it is what you want, you decided it"* (Nicole).

Therefore, collaboration with others (Nicole; Rebecca) and their twins (Sarah) can change the perceived weight of the decision.

2.3.1.5 Change.

Children's relationship can change as they get older:

> *"Now they are a lot closer (.) now (.) um (.3) and they are getting closer all the time…yes its interesting because I thought in some ways it might work the other way that (.2) they start off being [have to be together]…all the time and um (.) they'll still play independently but they're just a lot more (.7) friendly with each other and um"* (Sarah).

In terms of classroom placement, some parents' reported their views had changed from when the twins were born to school entry:

> *"I guess I had always thought oh we will definitely go separate, definitely separate them…that's the right thing to do that's better (.4) and then when the time came cause they had been together in nursery at school…well actually both of us kind of agreed we were just like oh (.) they seem so young↑ to separate and (.4) like they were only <four>…because we thought well there is the opportunity potentially to separate <later>"* (Emily).

Parents' views about placement were also reported to be susceptible to change as their twins get older, *"Then in the key stage 2 I would probably would be more (.) more happy to consider separation unless they show signs of of wanting to be separated earlier"* (Alice). Changes in these views can be related to the twins becoming better at coping apart, *"I think for the first term (.3) um they were <literally> joined at the hip… so the last term they were in school they split them (.3) they start splitting them for phonics…and quite often you'll see (.2) them playing with <different> groups"* (Megan).

Parents started to value schools views about classroom placement as they started to know the children as individuals. Parents would seek their twins' teacher's opinion when making the decision for year one, *"Cause at the end of the day the teachers see them (.) five days of the week (.) eight hours (.2) and I just think well to be honest you probably know them better than me"* (Grace).

Parent's perception of the school and therefore the home-school relationship can change, from negative to positive, through collaboration and schools listening to parents, *"What I have observed myself and I what I have heard from the teacher, educationally there was not a problem, never (.4) um socially as well they developed beautifully the school is fantastic (.2). I am extremely happy with the school (.2)"* (Alice).

2.3.1.6 Practicalities.

Parents highlighted that due to practicalities children do not often do different activities before school-entry, *"Um (.4) I haven't really tried them on different things yet (.2) because obviously I've got three children…and to get the three different people (.4) and two days of the week (.) I'm at work at twelve hour shifts (.2) so I'm not here"* (Grace). This is important when considering that twins might not be used to spending time apart before school and therefore separation might be a major change if placed in different classes.

Practicalities, including school structure, can also determine classroom placement. Two of the parents had twins in a one form entry school which meant that they had to be in the same class, *"We didn't have a lot of choice about classroom decisions because it is a tiny school…so they share with nursery well they have and then in year its year 1 and 2 together"* (Helen). For one parent they felt they would have placed them in separate classes had they been in a bigger school.

Parents shared that they thought their children being in separate classes would create practical difficulties, *"They might have a reading morning (.2) where you go in (.2) and I'm just thinking how do you split yourself up"* (Megan). As well as difficulties with equality of experiences:

> *"Also in my head I can tell you why because I felt like (.2) these are my two children why do have to make choices who is in a (.2) better position? Who has the better teacher? Who has better resources? Who has better friends? Who has better? You know honestly this is something which made me think and yet again↑ (.2) life is different maybe they should not be like you know equal but I thought if they were in different classes (.5) I would have (.) I would have felt like that"* (Alice).

Those that placed their children in separate classes shared the practical difficulties they encountered:

> *"I think that is one thing to add as well you know (.) because I put them in separate classes ↑and I do work full time (.7) they do everything twice (.3)…and that's something I really hadn't thought about (.) so that is something to bear in mind that you are going to have to take twice the amount of time off work↑ (.3)…two school plays↑(.), two school assemblies↑…different slot for parent's evening…even (.2) you know they have international food day↑ you've got to do two lots of food↑ (.2) um(.) they have parties↑ (.2), they're a big problem↑"* (Jane).

2.3.2 School manager interviews.

The seven themes derived from analysis of school manager (SM) interviews are presented visually as a thematic map below (Figure 5). The theme ‘importance of individuality’ did not have a relationship to the other themes. The themes ‘experiential’ and ‘school factors affecting the decision’ both affected the theme ‘scale of who makes the decision’ as well as the theme ‘scale of who makes the decision’ affecting the ‘experiential’ theme. The SMs’ perspectives regarding the theme ‘scale of who makes the decision’ related to the themes ‘communicating with parents about the decision’, ‘twin sets as individuals’ and ‘balance of support versus independence’. The relationship between themes were developed based on an understanding of the transcripts as a whole. Themes are discussed seperately. Relationships between the themes are also discussed in more detail throughout the explanation of the separate themes.

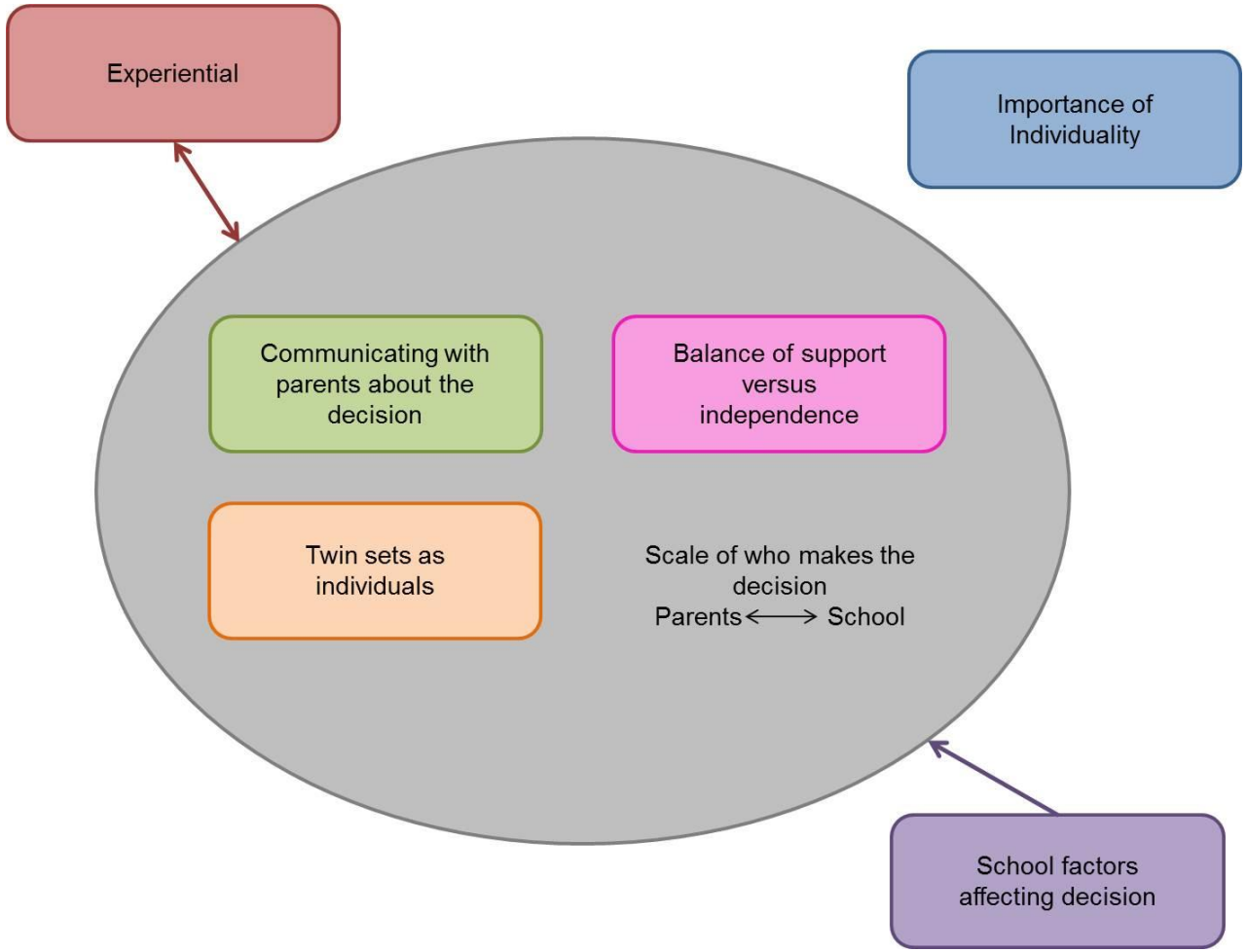


Figure 5 Final thematic map from analysis of SM interviews

2.3.2.1 Importance of individuality.

SMs would often highlight the children's individuality as well as the fact that they see the children as individuals:

> *"They're all quite little characters in their own right really so we've never really had anyone were anybody has been in anybody else's shadow↓(.)…so I suppose we don't really see them as a unit↑ as such (.) we just see them as (.8)…we just see them as their own little separate entity really↑"* (School manager 3).

SMs often emphasised the differences between the children which could be academically, socially or emotionally:

> *"Just does his own thing (.). Plays nicely↑ and everything with everybody else (.2) but you know in that situation is very very quiet (.2). The other one um (.3) I won't say gets into trouble a lot but he's a lot more boisterous↑, a lot more you know (.2) free and easy and interested in <u>everything</u> and everyone (.2) you know he is <u>involved</u> in everything"* (School manager 12).

In order to protect individuality school managers would try to make sure they were considered individually rather than compared to each other, *"T<u>his</u> is how A is doing (.2) and this is how B is doing (.4)"* (School manager 1).

SMs felt that parents might be more prone to compare their twins, *"So it's about getting them to see their <u>strengths</u> and not necessarily living in each other's shadow all the time (.) or being too competitive (h)…and not comparing (.4). I think it's very easy for parents to compare as well isn't it"* (School manager 15).

Although some SMs felt that in order to develop individuality school staff could differentiate them too much:

> *"Whereas our other twins at the moment all seem quite (.6) unique little people (.3) on their own (h) (.) thank goodness (.7) so (.8). um I do sometimes↑ think some teachers go (.4) too far↓ (.6) almost to <u>prove</u> that the twins are different (.4) and treat them differently↑(.) but you actually think as long as you're treating them in the way you would for a <u>learner</u> (.4) with that profile (.8) and you kind of almost take the twin thing (.2) away↓ (.2) cause I think especially in year R (.) some teachers it's almost a crusade (.3) I am going to <u>make</u> sure that they are <u>not</u> the same (.2) and you think actually they might like to be the same (.2). Cause they are very very <u>young</u> at that point aren't they (.2)"* (School manager 8).

SMs often raised that it was their responsibility to develop and protect individuality: *"But I think <u>our</u> job now (.3) is to…just allow them (.4) bits of time apart to grow as*

individual people (.) as well↑" (School manager 11); *"It's about how do we (.3) provide an education that allows both to flourish (.) without one overtaking the other"* (School manager 12).

Many of the SMs also emphasised that twins were often treated individually as would other children in the school, *"But as I said the only time we do really think about it when we are placing them↑ …everything is just (.) responding to their needs as you would any other child↑ really"* (School manager 3).

2.3.2.2 Experiential.

All of the SMs had experience of having twins within their school, *"We've had several sets of twins (.2), some years we have had two sets↑ and other years we've had no sets"* (School manager 7). With this experience, none of the SMs had received any information or research about educating twins:

> *"Nothing specific (.3), no kind of (.4) unless you have gone out to find (.2) research yourself nothing that is kind of given as yes (.3) or landed on your lap (.6) no its just been (.4) they are twins but they are individuals and what are their needs and how do we make them, as individuals, make progress?"* (School manager 4).

Therefore their classroom placement procedures and decisions were based on their previous experiences:

> *"It's just um experience of staff↑ and myself↑ (.2) over the years about what we feel is really right for (.2) families that have (.1) twins and looking for placements in a school↑…um it tends to be↑ (.2) um (.) the experiences the staff have had (.2)…but it's about that experience of both teaching twins within a classroom setting together (.2) and also then leading a school that has twins in"* (School manager 12);
>
> *"But then the second year when are next lot of twins came through↓ (.2) we were able to discuss how it had gone with the first pair (.2), they had been together, the mum wanted them together in reception↑ (.2) and the same with the second pair that came in↑ mum said to us could they be together↑ (.2) we reflected back to that first set coming through and was that a good move (.), what worked well, what didn't work well?"* (School manager 1).

SMs would also use their personal experiences of twins to inform their decisions, *"And having seen them (.) like they are really close and seeing them grow up (.3) they stayed together for quite a long time↑ (.3) um (.7) and it was really helpful for him to have her (.2) to help him"* (School manager 14).

SMs highlighted that their procedure was working for their school as their evidence that it was right for their school, *"We have never had a situation where there has been a stand-off between (.2) school wants and what the parents want (.6) luckily"* (School manager 6); *"I don't think we have had any twins that couldn't get on together"* (School manager 7).

SMs used their previous experiences to inform their practice regarding; communication with parents, balancing the twins need for support and their need for independence, their perception of different twin sets' needs; and who should make the decision about classroom placement. For example, when SMs had more positive previous experience of separating twins compared to keeping them together, they felt this had influenced their current views that separating twins was important for their independence as well as influencing their communication with parents, "*The experiences the staff have had (.2)…but it's about that experience of both <u>teaching</u> twins within a classroom setting <u>together</u> (.2) and also then leading a school that has twins in"* (School manager 12). In addition, who makes the decision, how the school balances the twins' need for support versus their need for independence, how the school currently communicates with parents about the decision and how they view the twin sets as different can influence their experiences, impacting on their later decisions about twin classroom placement. For example, schools that have made the decisions with parents and have felt that this process has been successfully then reflected on this experience which influenced their future decisions, *"We reflected back to that first set coming through and was that a good move (.), what worked well, what didn't work well?"* (School manager 1).

2.3.2.3 School factors affecting decision.

Many of the SMs highlighted that because the reception classes were within the same shared space, placing twins together or separate was not that different:

> *"[So it doesn't have] (.2) exactly↑ (.2) so there's no <u>huge</u> benefit to splitting them↑ (.2) in terms of developing extra friends↑ (.3) or things like that (.) different circle of friends and becoming their own person because actually (.2) they will just naturally(.), if that's their tendency to come back together (.2) that's [what they will instinctively do]"* (School manager 1).

This free flow nature allowed some of the SMs to use the reception year as a review to see how the twins worked together. This helped to inform their decision for year one:

> *"Well I mean I suppose (.3) in our case because of our set up (.) I think it wouldn't (.3) I don't think (.) if we put them in the same class in year R↓ I don't think it would*

matter (.) if (.) it wouldn't change anything if we split them in year R cause year R is so much <u>one</u> anyway↓ (.3) so I suppose year R would be our opportunity to really [look at it]…and say <u>actually (.3)</u> they are spending <u>way</u> too much time together (.) they're not getting the most out of this [in year one]…they need to be in separate classes↓ (.3)" (School manager 10).

Some of the SMs felt that the setup of their school influences both the parent's decision and school procedures:

"We did have the set up were there were two <u>definitely</u> split year R classes doing exactly the same↓ (.2) they would always say to parents you've <u>got</u> the choice (.3) I think now it's got <u>more (.2)</u> the year R/ 1 mix has muddied the water (.). There are not many parents that ideally want that (.) they would much prefer pure year R (.). And we understand that" (School manager 8);

"But we take 60 children so there are two classes (.) so we do split by age↓ (.2) on entry (.3) so obviously being twins ↑ (.2) they would almost definitely be unless they just happened to be number 30 and 31 when we order them↑ (h) (.1) that they would both be together in one class (.5) um however↑" (School manager 9).

As well as the school factors that affect reception classes, if the SMs were in an infant school they often thought about preparation before transition to Junior school, *"Cause it's a new school↑ (.2) if you are going to split people in year 3↑ then maybe it's best to split them in year 2↓ (.2) so that you have already got that opportunity with the people you know"* (School manager 7).

The current theme, the school factors affecting the decision, was linked to the themes: communication with parents about the decision; twin sets as individuals; balance of support versus independence; and the scale of who makes the decision. For example, one school had one and a half form entry. This meant that they had a class including just reception children and a class with both reception and year one children in it. This had been a recent change and the SM felt that this had affected their communication with parents of twins as placing the twins in separate classrooms had additional factors to consider, such as the teaching within the class and their peer group, *"They would always say to parents you've <u>got</u> the choice (.3) I think now it's got <u>more (.2)</u> the year R/ 1 mix has muddied the water,"* (School Manager 8). School factors did not necessarily change the SMs views about twin classroom placement but they did report it to change their practice.

2.3.2.4 Twin sets as individuals.

When considering the classroom placement of twins, the majority of the SMs felt that twin sets were different and therefore the decision should be made based on the individuals:

> *"Very (.) I think it's very dependent on the individual↑...I mean I do think (.1) I think for me it is it (.2) it makes sense to have (.3) um the same as you would (.) you know (.3) you can't (.) you can't necessarily have a policy for children who have autism↑ because actually (.2) although they may have a condition that's called autism↑, their needs will be very different within that spectrum (.2)…and for me (.) I'm certainly not equating being a twin to having a special educational need but it is an individual (.3) need"* (School manager 2); *"And I wouldn't want to have a policy (.2) because I think it is so dependent on each set of twins really↑"* (School manager 5).

The difference between different types of twins was also raised with many stating that same sex, in particular identical, twins might have different dynamics than non-identical and boy-girl twins, *"Yes a lot (.) between non-identical and identical (.2) you know either or (.3). The non-identical twins↓ (.3) because you don't (.3) cause they don't look similar obviously you don't necessarily associate them as twins (.) they're just brothers↑"* (School manager 4).

SMs also discussed how twin sets needed to be treated individually as they might have additional needs which impacts the decisions, *"But the last year we had twins (.) who (.) came in together and very much needed to be together because one of them had a medical↓ condition (.2) which had been treated at hospital (.2) and you know very much a support role for both↑ of them (.2), they needed each other"* (School manager 7); *"To be honest in the past the twin thing hasn't been (.3) what (.8) most of the parents want to talk about…My other twins that have come in recently…their (.3) their conversations were more around the boy and his physical needs"* (School manager 8).

Based on this view that twin sets are different, SMs often spent time thinking about the decision, especially later in the school, as they do for other children who are not twins, *"And decide where they're going (.) where they are best placed with what teacher um (.3) and then it is a massive amount of discussion about who goes where (.). So it doesn't just happen↓"* (School manager 5); *"Um (.) and normally when we are looking at class lists and (.4) we have to consider all sorts of things (.), the balance of autumn spring and summer birthdays↑ (.2), boys and girls↑, SEN↑ (.2) yes pupil premium (.4) and um (.) yes the twin thing"* (School manager 6). And many of them have systems that allow them to get to know the children better as individuals to help them make that decision:

"Um (.) in reception↑ we(.) have (.2) we got a lot of information from the pre-schools↑ (.2) so our year R staff go into the preschools (.2) and spend a lot of time observing↑ the children (.2) and discussing (.) um with their key workers…so at that point (.3) the year r staff are getting a very good idea about (.3)the dynamics and how it is kind of working at the moment↑" (School manager 11).

2.3.2.5 Balance of support versus independence.

SMs recognized the need to strike a balance between support and independence, "The balance between (.3) the needs and the (.2) specifics of (.) of the support (.2) the mutual support(.) of being a twin↓ (.3) against (.2) the difference and the needs sometimes to (.3) have a separation to enable that (.2) identity to (.) to develop↑" (School manager 13).

2.3.2.5.1 Support.

SMs considered the relationship of the twins when making their decisions and whether they would need that support when starting school, *"Um because obviously that transition of coming into a new school is a big one (.) and if they're used to be together, to suddenly separate them just wouldn't be fair emotionally↑"* (School manager 1); *"Pretty much (.) yes (.2) we're not out to (.3) just upset anybody (.2) and actually when they start school you want them to be happy↑ (.2) you kind of (.2) their twin is actually their (.2) is sometimes their comforter↑ (.2) you would want them to be happy"* (School manager 4).

Some of the SMs believed that they should have the support of their co-twin in the first year of school:

"Um if it's going to be the right thing and obviously in year R (.) it generally is the right thing↑ (.2) it's not a good idea to be taking children away (.) from each other at that point↓ (.2) if they have got them for each other… yep the whole thing about (.4) there isn't any point putting your child through any more anxiety↑" (School manager 7).

SMs also reported that parents wanted children to have support when they first started school and did not necessarily reduce their independence, *"Generally it is (.3) because of a a (.) closeness↑ between the two↑ (.2) that they grown up (.3) and they've been through preschool together↑ and that they (.5) but quite often they don't necessarily rely on each other↓ (.3) they just like to have that sort of proximity↑"* (School manager 2).

Friendships and other support was also considered important if the twins were going into separate classes:

"Other factors to take into consideration if they are coming from a previous nursery (.2), have they got other friends that are <u>also</u> coming to school because if you do make that decision to split them↓ (.3) we try and make sure they move up with friends (.2) so it could just be that they're the only two from their (.) their preschool coming in↑…so it's nice for them to have that (.2) security blanket of somebody they know from a previous setting" (School manager 1).

As the children moved through the school and got older, SMs felt that other friendships became an important consideration, *"And then actually as they have moved through school parents have seemed to see that actually friendship groups↑ are just as important so long as they are within friendship groups"* (School manager 3).

Even if twins are dependent on each other when they first start school, some of the SMs felt that it would not be helpful to separate them when they start school as this could make the transition even more difficult:

"Yes↑ (.2) we did (.4) um pre-schools advice just to keep them together↑ (.3) because they felt they wouldn't cope apart↑ (.3) so from an emotional point of view they felt that (.3) doing that they would both just crumble↓ because they are <u>so</u> used to operating as one↑ (.2) which I understand actually↑ (.2) and I do understand what they are saying↑… just putting them in separate classes <u>at</u> the beginning would have been too drastic and too soon (.2) quite possibly" (School manager 11).

2.3.2.5.2 Independence.

If SMs felt that the twins needed support from their twin on entry to school they would often encourage independence through gradual separation, *"Where we do just odd bits of (.2) first thing in the morning you come in and we're going to spend the first ten minutes doing activities in other rooms↑ (.2), we'll then come back and spend the rest of the day together"* (School manager 11); *"We have had an example where (.2) um they've <u>started</u> (.2) in one class (.2) they've had two separate (.), because we sub divide obviously so there are (.2) nurture groups for (.3) more family time (.2) so they are different family groups↑ (.2) but they are within the same class"* (School manager 13). SMs generally felt that after having the support from your co-twin in reception to support the transition it is best for the twins to be in separate classes in later years, *"Without it being a policy (.1), we (.) if the children (.3) if the parents have asked for them to remain together in year R year 1 and year 2 (.2), we <u>politely</u> try and push them to split up in year 3↑"* (School manager 8).

Twins independence was important for SMs. Many of the SMs had experiences of twins being independent, *"Actually it <u>doesn't</u> cause an issue (.2) and it actually <u>does</u> work*

for those children (.3) and they're still quite independent within the class↓" (School manager 10). SMs often highlighted their role in developing twins' independence, *"And they became quite insular in their friendships↑ (.3) so we had to work very hard in reception to build on their relationships with others↑ (.3)…But I think our job now (.3) is to just allow them (.4) bits of time apart to grow as individual people (.) as well↑"* (School manager 1). They also highlighted that school was often a place where they could spend some time apart and be independent, *"I think it's about (.2) I think it's a good thing to (.2) not actually be together all the time↑ (.2). They have many hours at home together"* (School manager 15). They sometimes felt that this time apart helped develop twins' individuality, *"I can think of a couple of parents were (.4) um(.) two girls and two boys (.2) sort of thing and uh (.) actually (.3) they have flourished as individuals"* (School manager 15). Some of them shared experiences of twins enjoying time apart at school, *"Those little ten minute slots that we are letting him do other things↑ (.2) he is absolutely (.2) his little eyes brighten up (.3) at things he is allowed to do on his own↑ (.2) and get credit for on his own↑"* (School manager 11).

SMs felt that even when twins were placed in separate classes they still had opportunities to be with their twin within the school environment and get support from them if needed, *"But here we have three form and actually there is a choice (.2) and it doesn't mean that they are apart for the whole year, it just means for learning they are (.). At break time, lunch time (.3) but not in learning time"* (School manager 4);

> *"We're a large primary school but even in my previous schools which might of been smaller↑ (.2) there is always opportunities to be with their twin↑ (.2) whether it's at play time↑, lunch time↑, phonics groups↑ (.3) so there's plenty (.2), usually plenty of opportunities(.), PE↑"* (School manager 15).

2.3.2.6 Communication with parents about the decision.

All of the SMs communicate with parents about the decision, *"So we have got no policy (.4) we generally go on consultation with parents↑ (.2) um (.) about putting them in classes↑"* (School manager 5).

However, the purpose of conversations with parents could be quite different between the schools. For majority of the SMs, communication with parents was to gather parent views about classroom placement:

> *"It's normally a question (.2) the EYFS leader↓ would broach (.2), and quite often↑ (.2) when they come in because once they have accepted their place they have to bring their paperwork in↑ birth certificate(.2) so the office also a very good point of*

> *contact and she does the initial feelers↓ really for things (.3) and then EYFS leader will follow that up (.2), and if they haven't made a decision↑ that's fine (.3) they come in several times with their children for workshops in school (.2) and you know they can let us know at any point"* (School manager 6).

When the school had a policy about separating twins the SMs reported that they would share this policy with parents at their first point of contact, *"So that when we do have twins apply↑ (.1) um I usually talk to the parents and say that (.2) um our policy↑, procedures↑ (.2) that we don't usually put them together so it's not actually written down anywhere"* (School manager 15).

SMs reported that they felt it was important for both parents and school to share their views and reasons behind them, *"It's always nice to know the reasons I think (.5), in the same way that if a parent says that they want a particular teacher↑"* (School manager 7); *"We just do(.) it's you know (.3) its ok this is the situation, these would be the benefits these would be (.2) the potential things that (.) that could hinder them↑ possibly↑"* (School manager 11). Sharing their reasons for classroom placement later in the school was also felt to be important, *"But we do (.2) every year we say our piece (.) so we explain why we think it might be a very good learning curve for the children to not be together"* (School manager 8). Having and communicating reasons was especially important to SMs if they felt they were going against parent's wishes:

> *"How and what and what the best options (.2) and have a research base to then explain to the parent↑… but if you did get into a situation where you really disagreed with the parent (.2) you'd want to make sure that you had a good back (.) backing for your rational"* (School manager 14).

Schools often reported that it was important to maintain communication with parents especially if twins were finding the classroom placement difficult, *"There was no reason why not (.2) and I'd always say yes we will but if it causes an issue and it becomes an issue then we may well have further conversations↑ (.2) and that may not stay the same"* (School manager 10); *"We are checking in all the time (.). How's that going? (.) How's that going? (.4) Let's meet mum again on Friday (.). So it's a constant process all the time"* (School manager 11).

2.3.2.7 Scale of who makes the decision.

SMs were on a scale based on who they felt should make the decision, with SMs who felt that parents should be the decider at one end and SMs who felt it should be up to schools on the other.

The majority of SMs interviewed felt that the placement of twins was parental choice as parents knew the children best, *"Um and so it is parental choice↑ (.2) um (.3) and certainly on the grounds that parents know their children (.3) particularly on entry far better than we do"* (School manager 2);*"Um I think it's just from experience↑ (.2) really (.) and I haven't ever worked for a school where we haven't (.6) um considered parent's wishes↑ (.2) I think it's just good practice (.4)…the parent is the expert on their child until they (.2), well all the way really↑ (.3), but particularly(.2) we don't know them"* (School manager 6).

Some of the SMs reported that they would be concerned about the risk to home-school relationships if they did not consider parents' wishes, *"It's taken us a couple of years for parents to trust us (.2) so actually go with why would we upset parents on the twin issue (.2) when actually it takes parents a long time to trust a school↑ sometimes"* (School manager 7); *"And the the parents' perspective↑ (.3) because surely parental↑ (.2) confidence is absolutely key to the children's↑ confidence"* (School manager 13); *"I would say generally that (.3) um essentially (.2) you (.2). If parents feel happy↑ then the children are generally happy↑ (.2) and vice versa"* (School manager 14).

Other SMs highlighted that although they go with parents' wishes, they still have the ultimate decision if they feel it is best for the children:

> *"Um and (.) nine times out of ten we are happy to do that (.3) unless we are having advice from (.4) elsewhere that that hasn't been very successful and (.) ultimately we will make the decision as to (.3)…Um (.) but it's very very unusual that that's against what the parents wish… yes↑ (.2) I mean fundamentally our responsibility is (.) the welfare of those children and them both (.2) you know being in the position (.) where they're growing into confident young people↑… so if we see a problem↓ (.2) we certainly won't ignore it (.) just because of a parent's wishes↑"* (School manager 11).

In contrast there were two SMs who felt that classroom placement of twins was the school's decision:

> *"We also indicate from day one (.) from that first initial enquiry that we do separate our twins (.3) so they are in a different class…um to be honest we would be (.5)…pushing (.) is the right word for it I suppose really (.4) for them to be in separate classes and really that again comes back to um (.7) our experience of twins"* (School manager 12);

The SMs views about whether the decision should be based on the school's or parent's views could influence their perceptions about twins sets having individual needs regarding classroom placement at school entry,

> *"If you can engage parents and they are happy…with their children either being together or separate (.2) then (.) then that works(.)…being a twin…is an individual (.3) need (.) um it's an additional need (.) I think (.3) and so I think (.4) having a policy seems to me far too rigid (.2)"* (School manager 2);

It also influence their views' about twins' need for support, *"Seek their view …we are not out to (.3) just upset anybody (.2) and actually when they start school you want them to be happy↑ (.2) you kind of (.2) their twin is actually there (.2) is sometimes their comforter↑"* (School manager 4) and independence, *"We also indicate from day one (.)that we do separate our twins…the 70% that they are doing ((free-flow structure of reception))(.), they still then have that option to work with their family relative↑ (.2) or they can choose to work with the group↑…we do sort of say to the parents we like them to be unique characters↑"* (School manager 12);
as well as the conversations they had with parents about the classroom placement decision, *"They come in several times with their children for workshops in school (.2) and you know they can let us know at any point"* (School manager 6).

2.3.3 Comparison of parent and school manager themes.

2.3.3.1 Similarities.

Both parents and SMs emphasised the importance of individuality and felt that it was important to consider the children's differences and strengths in order to develop this. There were numerous examples from both samples of the description of the children in terms of differences in their personality and interests (e.g. Jane, Helen, School manager 12).

The majority of both parents and SMs think about the balance between support and independence. Both parents and SMs were more likely to consider support as related specifically to the transition period where as independence was a focus when the children had become settled at school and developed other relationships (e.g. Nicole, Rachel, School manager 13 and School manager 7).

Related to this, both parents and SMs felt that the free-flow structure of the reception class made the decision less final and allowed children to have time together and apart regardless of classroom placement (e.g. Emily and School manager 10). Therefore, the decision for year one for many was considered important (e.g. Jane) although for some parents they felt that children had developed other relationships by this time that could act as a support (e.g. Stephanie).

Both the parents and the SMs used their experiences to help them make decisions about classroom placement. For parents this was experiences of their children and how they interacted with each other (e.g. Megan); with SMs this was the experiences of twins they had previously had in their school (e.g. School manager 1) and, for some, their personal experiences with twins (e.g. School manager 14).

2.3.3.2 Differences.

Most of the parents and SMs agreed that parents should decide classroom placement of twins (e.g. Stephanie and School manager 2). However, there were some SMs that believed that it should be the schools decision (e.g. School manager 12; School manager 15). This could make their communication with parents regarding the decision less collaborative.

Parents also highlighted that classroom placement was a big decision and something that many of them had been considering since their children were born (e.g. Emily). However, SMs would often report other factors besides the children being twins being important for classroom placement (e.g. School manager 8).

There were differences between the two stakeholder groups, as well as within each group, as to whether being separated was the key to developing independence. Some of the parents felt that even together, it was the schools role to develop individuality and independence in the twins (e.g. Nicole) whereas other parents felt that children needed to spend time apart to develop independence (e.g. Jane). This difference was found with the SMs as well, with some highlighting that even children in the same class were independent within that shared space (e.g. School manager 2).

2.4 Discussion

2.4.1 Individuality.

Parents and SMs highlighted the importance of developing and protecting the children's individuality. This relates to the societal view that children are individuals outside of systems, including their family and school, and individuals' autonomy should be developed and protected (James, Jenks, & Prout, 1998).

Individuality was considered particularly important for twins, especially if they were identical. Drawing on the broader literature on identity development in siblings, twins might be more likely to try to differentiate themselves from their co-twin compared to singletons and their siblings. Wong, Branje, VanderValk, Hawk and Meeus (2010) conducted longitudinal research using adolescent and emerging adult samples and identified that siblings are more likely to differentiate if they are closer in age. This was felt to be because when siblings are closer in age, they are more likely to experience shared environments, that is, for example, their peer group might be the same, their school and out-of-school activities might be shared. Research has also reported that twins, particularly identical and same-sex twins, more frequently share friends than same-sex siblings (McGuire & Segal, 2013). Such greater degree of shared environments may promote closely spaced siblings, or indeed twins, to try to differentiate themselves from one another as individuals (Wong et al., 2010). In the twin context, Maxon and Daniels (2008) argued that identical twins were more likely to differentiate themselves from their co-twin and therefore shared less personality traits than siblings. This idea received some support from a qualitative study using adult female identical twins (Määttä, Päiveröinen, Määttä & Uusiautti, 2016). Twins reported that they would actively differentiate from their twin, for example by deciding who would wear what style of clothing. The twins' identity development was further supported by parents if they used a facilitative rather than directive approach, allowing their children to choose whether they wanted to identify or differentiate to their co-twin.

In the present study, both parents and SMs referenced many differences between the twins, already differentiating the children at a young age. Parents' interaction with their twins is important for the twins' identity development, in particular noticing their twins' differences can foster individual identity development (Schave & Ciriello, 1983). Preedy (1999) reported in their research that twins experience others comparing them to their co-

twin especially when they start school. Comparative remarks might negatively influence twins' perception of and consequently their relationship with their co-twin (Klein, 2003). For that reason, noticing twins' differences, without comparing them to their co-twin, is important and this view was represented by both of the two stakeholders during the interviews.

2.4.2 The balance of support and independence when twins start school.

The balance between support for twins and development of their independence was a concern shared by SMs and parents. For many, support was important specifically during twins' transition to reception but with time, as the children become more comfortable within the school environment, the focus shifted to support their independence development.

Many parents felt that children having their co-twin in the same class would provide them with emotional support whilst they were getting used to the new school environment. Emotional support from peers is important for all children during transition to school. Dockett and Perry (1999) reported that children found transition to school more difficult when they felt they did not have friends. This was supported by Bronfenbrenner (1979) who reported that children's transition outcomes are more positive if the child had the company of one or more people from their previous setting, which for twins could be their co-twin.

The need for both support and independence can be considered in the context of attachment theory and research. Tancredy and Fraley (2006) reported that based on questionnaire measures, adult twins were more likely to have an attachment relationship in comparison to non-twin siblings. Gottfried et al. (1994), through a strange situation design using twins aged between 18 and 34 months, reported that twins can act as a source of comfort during times which are more stressful. Support and independence was sometimes thought of at different ends of a continuum by both parents and SMs; by providing too much support, children's development of independence is at risk. Attachment research highlights that inter-dependency, within an attachment relationship, allows children to be successfully independent within their environment. Young infants are able to explore their environment when they feel safe by appropriate proximity to their attachment figure (Ainsworth, 1979). In contrast, when a child feels unsafe and unregulated they are less likely to effectively explore their environment (Ainsworth, 1979). This is an important consideration for children at school transition as children being with friends enables them

to feel secure to explore their surroundings (Hartup & Stevens, 1999). Many of the parents in the present study reported their twins were independent within a shared environment. They felt allowing children proximity to their co-twin promoted, in part, the twins' independence. This was supported by some of the SMs.

2.4.3 Home-school relationship.

Parents in this study felt that initial placement decisions should be made in consultation with parents, as they know their children best. This was augmented by the view that at school entry, schools have limited knowledge about new children's individual needs and therefore parents do not perceive schools to be more knowledgeable. This perceived limited initial knowledge about their children, impacted parents' feeling of trust in schools with respect to making the right decisions for their children. Indeed, individuals tend to trust those who they feel have the most knowledge (White & Eiser, 2006). The majority of SMs echoed parents' views that they are in the best position to make appropriate classroom placement decisions for their twins. However, both parents' and SMs' perceptions regarding classroom placement decision changed as twins spent longer at the school. For later classroom placement decisions, parents would often turn to the school for advice due to their perception that schools have greater knowledge of their children in the school context.

When SMs felt they should make the classroom placement decision this was based on their beliefs that they had more knowledge about twin development due to their experience of educating twins. However, when parents and school differ in their views about who should make the decision it can undermine effective collaboration; yet effective school-home collaboration has been linked to positive transition outcomes for children (Bulkeley & Fabian, 2006; Conn-Powers et al., 1990).

Importantly, when schools are perceived to make classroom placement decisions without consulting parents, it risks undermining the parents' sense of involvement, agency and relatedness in this process. Self-determination theory, developed by Ryan and Deci (2000) argues that these factors are needed in order for individuals to be pro-active and engaged within a process. If these needs are not meet then an individual can become passive and feel a sense of alienation which undermines intrinsic motivation. Self-determination practices can be applied to classroom placement decision processes in order to engage parents in school and maintain their involvement in their children's education. Indeed, Hoover-Dempsey and Sandler (1995) reported that parents who feel empowered

during transition processes are more likely to have greater involvement in their children's education. Therefore, schools can facilitate parents' self-determination through effective collaboration which involve parents sharing knowledge about their twins' and their individual needs.

Related to this, parents in this study wanted placement decisions to be made based on the individuals, rather than see schools apply a general policy for all twins. Their views are consistent with research reporting that parents prefer when school induction is not a one-way process and they have an opportunity to share their knowledge about their children with the schools (Fabian, 2000). In particular Fabian (2000) argues that induction sessions where parents feel they are being treated as individuals with differing preferences and needs, creates an impression that parents are entering into a mutual working relationship. These initial parent-school interactions provide parents with an important message regarding the future home-school relationship (Fabian, 2000). Home-school communication can have an impact on parental feelings about transition; parents in the current study valued communication with school. Parents wanted schools to be proactive regarding their communication with parents about classroom placement decisions, communicating their decisions earlier. Importantly, parents in the current study reported that they had developed a positive relationship with the school, even after an initial difficult start, after they felt that they were being listened to and treated as individuals.

Parents can experience greater anxiety regarding transition when they perceive they have not received enough information from the school, which could potentially affect their children's transition (Fabian, 2000). Effective communication with school helped parents' feelings about the decision, even when classroom placement was not aligned with parent wishes. The placement decision was believed to be important by parents, something that many parents had been thinking about since their twins' early years. The potential impact of making the wrong decision was sometimes raised as a concern, especially the potential negative impact this could have on their children's wellbeing. Communication with others, including the school, could reduce their concerns. Especially as many of the parents highlighted that the reception structure reduced the weight of the decision. Communication with school regarding twin classroom placement for year one was also reported by parents in this study to be important. They wanted to seek schools' views, as the school became more knowledgeable about their children's individual needs, in order to inform their decision. This collaboration was especially important for parents who felt that the decision was more fixed in year one due to the class structure becoming less free-flow.

In addition, practical issues were reported by both parents and schools when discussing their experiences of classroom placement. These included difficulties with attending both children's events and having direct comparisons of their children's different experiences with teachers and homework when their twins were in separate classes. This had to be carefully managed by schools. However, it might be that effective home-school communication could reduce these practical difficulties. Parents being aware of such practical challenges before their twins start school will enable them to feel better prepared and provides an opportunity to discuss with school how to reduce the impact of any potential practical challenges.

As parents were interviews towards the end of reception year, it provided an opportunity for parents to reflect. Parents shared that their children were now enjoying school and were generally doing well at school, irrespective of whether the twins were placed in the same or separate classes. This experience seems consistent with findings from a recent large-scale quantitative study reporting that placement decisions should be made by parents, twins and teachers as they found no significant differences in most measures of academic achievement when comparing twins placed in the same or separate classes (White et al., 2018). The positive outcomes reported by parents in the current study seemed to be based on parents' perception that the school were treating their children as individuals and that they, as parents, were being involved in school as an active partner. This collaboration and view that the school listened and valued them influenced their trust in the school.

2.4.4 Strengths.

The sample size for both the parent and SM interviews were within recommendations for development and saturation of themes (Braun & Clarke, 2006; Guest et al., 2006) . The participating parents appeared to be representative of a wider parent of twin group as they were from a wide geographical area, across England and Wales. Therefore, the themes developed from the research were less likely to be influenced by the local context such as local authority discussion and discourse within twin parenting groups. In addition, there was no significant association between classroom placement and contextual factors such as zygosity, gender and having older siblings. This suggests that the themes relate to a homogenous group of twin parents instead of some themes relating to parents of identical twins which contrast to themes relating to parents of non-identical twins. In addition, the current study gained the views and experiences of two parents who,

due to school factors, did not have a choice with classroom placement. The variety of schools in which the SMs were working (e.g. urban/rural, affluent/deprived) also provided greater validity to the findings. Even with this variation in parent and SM sample there remained strong consistency in their narrative.

This research extends the existing literature and is, to the author's best knowledge, the first study which sought the views and experiences of both parties involved in the classroom placement decision. Important issues for parents and SMs have been identified. Moreover, by seeking the perspectives of both parties, the study was able to compare parents' and SMs' views vis-à-vis. This more detailed, nuanced understanding of the differing views and experiences about shared challenges during the school induction process provides important information to tailor guidance for schools and parents to promote effective collaboration between home and school.

The data analysis process followed the steps suggested by Braun and Clarke (2006) in order to increase the reliability and objectivity of the process. Codes were also shared with the research supervisor to monitor the researcher's objectivity. The researcher also used supervision to reflect interview and analysis experiences, shown in Appendix N, in order to identify whether interpretations were influenced by researcher bias.

2.4.5 Limitations.

The final thematic maps were not shared with the participating parents and SMs due to time constraints; this would have further corroborated that the themes were representative of the stakeholders' views and experiences. However, to partially rectify this, the researcher summarized the participants' contributions throughout the interviews in order to clarify meaning.

Parents were asked for their retrospective accounts of the classroom placement decision process which may of affected their accounts of their experiences shared during the interview. However, the retrospective nature of the design also allowed participants to reflect across the whole first year which highlighted important implications, specifically how later effective-home school communication can build more positive home-school relationships, which might not have been identified had the interviews taken place during the classroom placement decision process.

There might also be limitations in the participating parents' and SMs' representation to the population. Participating parents were initially recruited through TAMBA and

showed an expression of interest to find out more information regarding future research after Goymour's (2017) study. Therefore, the parents who participated in both Goymour's (2017) study and the current study might be more concerned and invested in classroom placement decisions than parents who are not part of TAMBA and who did not provide their consent. Some of the participating parents held strong views about twin classroom placement which they wanted to share throughout the interview. Some of the parent's experience of classroom placement decisions had been particularly meaningful to them and their family and therefore they wanted to share this. Throughout the interviews it also appeared that some of the participating parents were motivated to take part because they were interested and wanted to contribute to research generally. Therefore, it was felt that the participant group were motivated to take part in the research for different reasons. However, the current research themes are similar and complimentary to previous research using PoTs. Therefore it is considered that although the participants' motivation should be taken into account in relation to the study findings the themes from the study are meaningful, especially in relation to the epistemological stance of the current research that the findings reflect the participant's perceptions of events. Participating SMs also might not be representative as, unlike the parent sample, they only came from two local authorities in the South of England. SMs often have working groups such as SENCo circles or cluster group meetings which could create similar practice within geographical areas. Nevertheless, SMs were not part of the same academy trusts, where practice is more likely to be homogenous. Although these factors might create issues regarding generalisation, generalisation is not a goal of qualitative research. Instead the goal is to gain a richer understanding of an individual's experience (Polit & Beck, 2010). As such, analytic generalisation has taken place throughout the research whereby the themes derived have been supported by theory (Firestone, 1993).

2.4.6 Future directions.

The current study provides a basis for future research into twin classroom placement decisions on entry to school. Many of the participants felt that twins were too young to make the decision. However, children are another key stake holder and were not included in the current study. It would be valuable to gather the views of twins when they start school regarding their classroom placement. Research has highlighted the importance of children's meaningful participation in research, especially when research influences policies which will affect their lives (Grover, 2004). Indeed, Davis (1998) argued that gaining and listening to children's views, especially in relation to areas which affect them,

is outlined in the United Nation's convention of the rights of the child. Previous research into twin classroom placement has highlighted the differences between parents and school staff in gaining twins' view regarding their classroom placement (Staton et al., 2012) and recommended gaining twins' views alongside parents and teachers (White et al., 2018). Although this was beyond the scope of the current research, future research gaining an in-depth understanding of children's views and experiences of classroom placement could provide further guidance for both parents and schools in order to promote positive transition outcomes for twins.

As the home-school relationship influenced parents' and school managers' experiences of twin classroom placement, further research investigating the beginning of the relationship development between the home-school relationship and the impact on twins' outcomes as they start school is recommended. It is possible that the ways in which communication is established about classroom placement decisions ultimately affects the start of the home-school relationship and that it is the quality of the home-school relationship which constitutes an important mediator of twins' (and all children's) adjustment to school. It seems critically important for SMs to understand the impact that this initial collaboration with parents has on twin outcomes in order to consider the benefit of investing time and resources at the initial contact with parents of twins.

2.4.7 Implications for EPs.

EPs are in a position to work with schools and parents separately and together. Some EPs are also linked to schools and deliver traded work. Through this link with schools EPs can deliver a variety of work to schools based on their needs. With reference to the current findings, EPs can share with schools the benefits of collaboration with parents from the pre-entry point for children's outcomes. This relates to both twins and singleton children. EPs can also ask schools, at the beginning of the summer term, whether they have twins starting at their school in September. At this point EPs can share research on twin classroom placement to challenge assumptions about a particular placement being better for twins especially if the school holds a blanket policy. EPs can highlight how imposing a blanket policy could have a negative impact on their relationship with parents.

EPs could also help parents and schools to consider how to appropriately support twins during transition to reception. Children's transition experience can be optimized by access to support from either their co-twin or by pre-existing friendships. The balance between the needs for support and independence can also be facilitated and managed by

the reception class teachers and environment where learning is structured in such a way that there are several classes within the same physical space. This allows children to have support from their co-twin and independence regardless of classroom placement. It is also important to consider whether and how children's need for support from their co-twin or friends might change over time, as they become settled and new friendships and relationships with teachers become more secure.

Although this research relates directly to parent and school experiences of twin classroom placement on entry to school, many of the key messages can also be related to other children who are starting school. It highlights the importance of treating families as individuals, the importance of support, from a familiar peer, when children start school and the importance of developing a positive home-school relationship through effective collaboration.

2.4.8 Conclusions.

Parents and SMs shared similar views when thinking about twin classroom placement on entry to school such as the importance of children's individuality and the balance between their needs for support and independence when they start school. The majority of participants viewed the children's need for support (provided by a familiar peer/co-twin) as a crucial consideration when children started school, with the development and promotion of independence becoming more important as the twins got older. There were also some key differences between and within the two stakeholder groups. SMs varied on who they felt should make the decision which linked to their later communication with the parents; SMs who felt the decision should be made by schools were more likely to communicate their decision to parents rather than communicate with parents in order to reach a collaborative decision. Communication with school was important for how the parents experienced the classroom placement decision process. Parents who felt listened to and understood shared a positive view of the school and the process. Parents who had a difficult relationship with the school at the point of transition viewed the school more positively when they felt school had listened to and valued them. Effective communication with the school was something that parents valued and wanted more of. In particular, they wanted schools to be more proactive in their communication by seeking parents' views and sharing with parents the classroom placement decision before class lists were finalised. Effective collaboration between home and school, providing

parents with opportunities for autonomy in order to foster a positive home-school relationship is recommended as this has been linked to positive outcomes for children.

Appendix A Initial search flow diagram

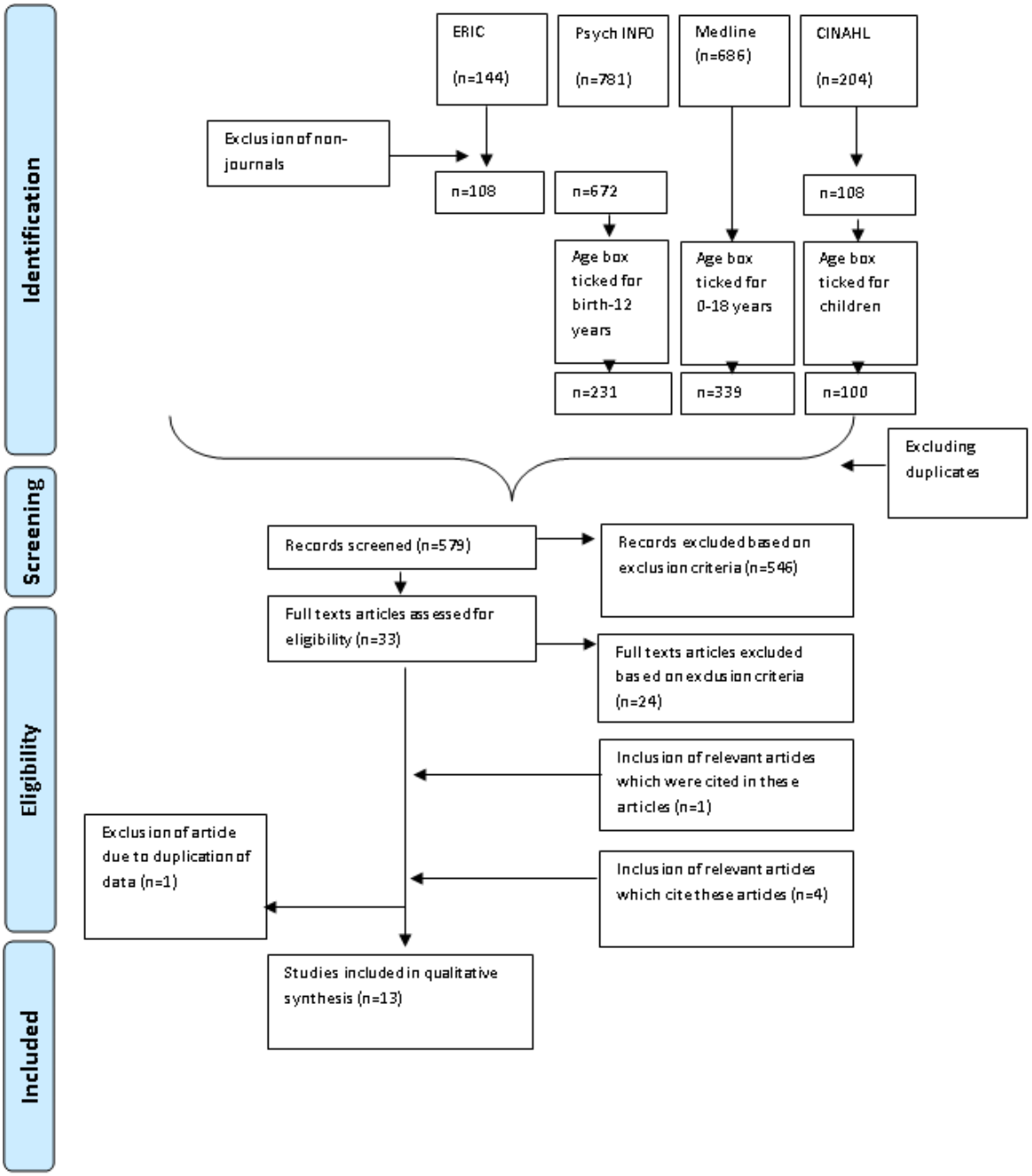


Figure 6 Flow diagram showing the results of the systematic search process, using inclusion and exclusion criteria on 1st January 2018 (Moher et al., 2009).

Appendix B Data Extraction Table

Table 5

Data extraction table from systematic search

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
1	Beer et al., (2013)	UK 34 mothers of preterm infants 50% twins Before hospital	Index of multiple deprivation: income, employment, health and disability, education skills and training, barriers to housing and services, living	Repeated measures ANOVA: twin status (between subject factor) was used for NCATS total Caregiver domain and child domain scores at discharge and three months for main and interaction effects.	No significant difference in total caregiving domain at hospital discharge and when infants were aged 3 months corrected between MoT and MoS. MoT had significantly lower responsivity scores, measured using the HOME, when infants were three	14/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		discharge and 3 months corrected age. Matched preterm (<32 weeks) twins and singletons. One pair from each twin set was randomly selected to take part in the study.	environment and crime. Caregiver-child interaction: Nursing child assessment teaching scale (NCATS; Sumner & Spietz, 1994) (week prior to discharge and three months)	Chi-square and Fisher Exact probability: Categorical data	months old. ¼ MoT had total parenting stress scores in the clinical range (>90th percentile). No MoS parenting stress was within this range. Parenting stress mean scores were higher for MoT compared to MoS. MoT had significantly higher scores on the parent-child dysfunctional interaction scale in comparison to	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			Parental responsivity: Home Observation for measurement of the environment (HOME; Caldwell & Bradley, 2001)). Parental distress: Parenting stress Index-Short Form (Abidin, 1995)		MoS – MoT interactions with infants were perceived as less reinforcing and infants were less likely to meet mothers' expectations. Twins had significantly lower total child domain NCATS scores pre-discharge- they had less effective interaction with their mothers compared to single born infants. Twins and singletons did not have significant difference in their clarity	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
					of cues. Twins had significantly lower responsiveness to caregiver scores compared to single born infants. Twins had significantly lower total children domain scores compared to single born infants. Twins did not have significantly lower scores on the responsiveness to caregiver subscale than singletons	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
					at three months.	
2	Boivin et al., (2005)	Canada 2632 families (subsection of 1165 families of singletons were used to directly compare to 510 mothers of twins) 30.4% twins	Parent perception and behaviour tendency towards new born infant: The Parental Cognitions And Conduct Towards the Infant Scale (Boivin et al., 2005).	Paired sample t-test. Fathers were not included in the analysis due to sample size.	Parental self-efficacy and Hostile-reactive behaviour had the highest association. Mothers who felt less effective reported more depressive symptoms and were more likely to display hostile negative behaviours towards their infants. MoT felt significantly less effective	13/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		Infants aged 5 month Twin and singletons	Covariates: Income, single-parenthood, spousal support and birth order, age of mother, education level, depression measure (CES-D depression scale; Radloff, 1977)		as parents than MoS. MoT were significantly more likely to behave a hostile-reactive manner towards their infants than MoS. MoT and MoS were not significantly different in their perceived parental impact.	
3	Feldman and Eidelman (2004)	Israel 138 infants	Maternal depression: The Beck Depression	For non-independence problem: analysed the whole sample and then a	Parent-infant synchrony measures lower for twins than singleton, these were not significant.	14/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		33.4% twins 0-24 months corrected age (neonatal, 3,6,12 and 24 months) Matched triplet, twin and singletons.	Inventory (Beck, 1978). Quality of home environment: HOME (Caldwell & Bradley, 2001) Parent perception of infant temperament: The Infant characteristics	random case from each triplet and twin. MANOVA: mother-infant interactions and father-infant interactions; the home environment; separation-reunion; and behaviour problems. Separate univariate analysis: parent-infant synchrony conditional	Twins' gaze at mother was significantly less than singletons. MoT and father of twins (FoT) organisation of the physical environment score was significantly less than MoS and father of singletons (FoS). This was the only significant difference on HOME subscales. MoT had significantly lower scores	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			Questionnaire (Bates, & Lounsbury, 1979). 12 month The parenting triplets interview (with adjustments for twins and singletons). 24 months Child behaviour	probability. Multiple birth status and infant gender (between-subject factors)	for mother's supportive presence on reunion that MoS. Twins had lower scores for separation-reunion behaviour, except for avoidance where they scored higher, than single born infants although these were not significant. Behaviour problems were predicted by multiple birth status (although this was not separately done for twins and triplets).	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			problems: child behaviour checklist (CBCL; Achenbach & Rescorla, 2001) for ages 2 to 3 years. Parent-child interactions: observations during the neonatal period and at 3, 6, 12 and 24 months.		Behaviour problems were also predicted by parental depressive symptoms and parent infant synchrony (3m) Externalizing symptoms were predicted by reduced parent infant synchrony Internalizing symptoms were predicted by multiple birth status, parental depression, lower parent-	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			Parent-child relationship: Observation of a separation-reunion episode.		infant synchrony and lower infant approach during reunion (separate analysis was not done for twins and triplets).	
4	Feldman et al. (2004)	Israel 138 infants 33.4% twins 0-12 months. (Post-	Newborn Infant emotion regulation: Neonatal Behaviour Assessment (Brazelton, 1973).	MANOVA: maternal sensitivity (between groups) for the four observations. Bivariate correlations: study variables	MoT maternal sensitivity was significantly less than MoS at the 3 and 6 months observations. There was no significant difference between MoT and MoS maternal sensitivity at the newborn and 12	16/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		partum period before discharge from hospital, 3,6 and 12 months corrected age). Matched triplet, twin and singletons	Mother-infant interaction: observation at hospital before discharge and home at 3 months. Mother-infant toy exploration at 6 months Symbolic play at 12 months. Parenting stress:		month observations. MoT had significantly higher parenting stress compared to PoS. Twins emotion regulation was lower than single born infants although not significant. More parenting stress was associated with less maternal sensitivity.	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			Parenting Stress Index (Abidin & Abidin, 1990) at 3 months.			
5	Feldman and Eidelman (2005)	Israel 138 infants 33.4% twins 6-24 months corrected age (6, 12 and 24 months).	Mother infant interaction: ten minutes of mother-infant interaction were videotaped at each age. Maternal competence and	MANOVA: The 2 indices of cognitive development and the 2 mother-infant interaction factors at each age. Multiple birth group and infant gender (between subject factors). Post Hoc Scheffes's:	There were no significant differences in maternal sensitivity at 6, 12 and 24 months between twin and singleton groups although twins scores were lower. Infant social involvement was significantly higher for singletons than twins at 24 months.	13/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		Matched triplet, twin and singletons	satisfaction: Parental competence and satisfaction scale (Johnston & Mash, 1989) at 6 months.	Univariate analyses followed significant main effects.	Maternal sense of competence was lower in twin groups than singleton groups. There was no difference between maternal satisfaction between twin and singleton groups.	
6	Goldberg et al. (1986)	Canada (determined from hospital and Author location as not stated in the article).	Home observation at 6 weeks and 3, 6 and 9 months past term.	Standard classification scheme: attachment classification MANOVA and univariate	Twins and singletons did not have significant differences in attachment classification. More infants than expected had B	12/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		56 infants 55.4% twins 6 weeks and 3, 6, 9 and 12 months. Twins (individuals from twin pairs; 3 twins pairs had handicap members not included) 20 singletons and 5 single survivors from	Attachment: Assessment in the laboratory at 1 year.	analysis: twin-singleton differences in maternal behaviour ratings at each age period; three groups (firstborn twin, second born twin and singletons), maternal interactive behaviour and attachment status. Chi-square tests: differences in attachment classification between	classifications with elements of angry or avoidant relationship. More twins in this marginally secure group than singletons although this was not significant.	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		an original twin pair.		twins and singletons		
7	Gondwe et al. (2017)	US 236 infants 17.8% twins Enrolment (after birth), hospital discharge and 2, 6 and 12 months corrected age.	Maternal psychological distress: Depressive symptoms CES-D (Radloff, 1977), anxiety (state subscale of the State-trait anxiety inventory) and post-traumatic	Chi-Square test: categorical demographic variables T-tests: Continuous demographic variables Independent T-test: compare MoS and MoM psychological distress	MoM had significantly more: PTS symptoms at enrolment and discharge; anxiety at discharge and six months; and depressive symptoms at six months than MoS. MoM had a significantly more positive home environment than MoS when infants were 6 months old.	13/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		Preterm infants weighing < 1750g. One multiple birth infant from each set was randomly selected to be the focus of the study.	stress (Perinatal PTSD Questionnaire) were measured at enrolment, hospital discharge, 2, 6 and 12 months of age corrected. Parenting stress: Parenting Stress scale: Prematurely Born Child	symptoms and mother-infant relationship variables. A mixed-effects model: longitudinal trend of psychological distress symptoms in MoS and MoM accounting for confounders (race, education and marital status)	Psychological distress declined for MoS and MoM over time, but MoM distress remained higher and fluctuated.	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			(Holditch-Davis et al., 2009) were measured at 2, 6 and 12 months age corrected. Mother-infant relationship: observations at home at two and six months corrected age. Home environment			

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			was assessed using the HOME (Caldwell & Bradley, 2001) Worry: Worry index (Miles & Holditch-Davis, 1995) measured at enrolment, discharge, 2, 6 and 12 months			
8	Holditch-Davis	US	Mother child	Maternal and child	MoS and mothers with more stress	11/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
	et al. (2007)	108 infants and their mothers. 25% twins (part of a multiple birth group which made 31% of the sample. Enrolment at hospital, 6 and 18 months corrected age.	interaction: videotapes of mother-infant interactions in the home at 6 and 18 months corrected age. The home environment was measured using the HOME inventory (Caldwell &	variables were converted to Z scores. General linear mixed models: Maternal and child interactive dimensions at 6 and 18 months were regressed over age. Covariates: child characteristics, child illness severity, maternal	(due to NICU environment and infant illness) had higher maternal positive involvement than other mothers. MoS and first time mothers provided more developmental stimulation than other mothers.	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		Infants who were premature (<35 weeks) and either weighed < 1500g or required mechanical ventilation or continuous air pressure.	Bradley, 2001). Child characteristics and illness severity: sex, multiple birth, birthweight, and days of mechanical ventilation, number of re-hospitalisations (from child health history obtained at	characteristics, maternal psychological well-being, paternal support, and their interactions with child age.		

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			2, 6, 9, 13 and 18 months). Maternal characteristics: ethnicity, education, and age (completed at enrolment, 2, 6, 9, 13 and 18 months). Maternal psychological			

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			wellbeing: Parental stressor scale: NICU (Holditch-Davis et al., 2009), the worry index (Miles & Holditch-Davis, 1995) and the centre for epidemiological studies depressions scale (Radloff, 1977).			
9	Holditch-Davis	US	Mother-father-	One infant from multiple	Multiple birth infants spent more	10/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
	et al. (1999)	57 parenting couples 12.3% parents of twins Prenatal (first trimester, 22 and 37 weeks) and 1 week to 3 months after infants arrive home. Multiple birth group (1 triplet and 7 twins) and singleton parents recruited from	infant interactions: observations after the post-natal interview and the second roughly a week later.	birth group was used (who was first to wake in first observation). A two factor repeated measures ANOVA: differences in the percentages of parent and infant behaviours over the total observation for each variable with one non-repeated factor, group and one repeated factor, week.	time not interacting, interacting with someone other than their parents and interacting with both parents compared to single birth infants. There was no difference in the amount of time PoM and PoS spent caregiving and with their infants. Most parental behaviour did not differ between the two groups Multiple birth infants were looked at	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		infertility and adoption services.			and talked to less by their caregiver than singletons. Multiple birth infants spent a greater time in drowse, transition and non-alert walking activity than singletons (this decreased for multiple birth infants over time) Differences in infant behaviour might be due to prematurity although the differences in prematurity between the groups have similar	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
					results.	
10	Kokkinaki and Markodimitraki (2017)	Greece 18 infants 50% twins 2,3,4,5 and 6 months old Exclusion of infants with medical risk, <1700g birth weight or	Spontaneous emotional coordination: Video recording (7 minutes) at 30 day intervals. The researchers coded the micro-analysis of the mother and infants	A loglinear general model: infant-maternal emotional expression and intensity as well as the expression at the end and beginning of subunits. Friedman test: possible age related changes of the emotional expression and valance at the different	Twin infant-mother interactions showed more frequent and accurate emotional matching and attunement than singleton infant-mother interactions. Singletons showed more emotional completion and non-matching emotions in their interactions with their mothers than twins.	14/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		<34 weeks gestational age. Matched on maternal, paternal and infant characteristics. First born twin infants were included in the study.	facial expressions of emotions using the coding system by (Kokkinaki et al., 2017) There were four categories for facial expressions: happiness, interest, neutral and sadness. They also looked at	time points.		

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			the direction of emotional intensity: ascending, descending, stable and fluctuating. They assessed if the mother-infant interactions were matching or non-matching and whether the interaction was emotional completion or			

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			attunement. A second observer scored 30% of the sample for inter-observer reliability.			
11	Lutz et al. (2012)	US 153 infants 27% multiple births (not differentiated between twins and	Maternal and family socioeconomic assets: maternal age and education, family income, and marital status.	Three sets of hierarchical multiple regression analyses. All analyses, the maternal assets index, maternal marital status, infant birth	Mothers of preterm multiple reported experiencing significantly more stress and slightly more parenting daily hassle than mothers of preterm singletons. Multiples and infants who were less	16/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		higher order multiples) Prior to hospital discharge, 4 and 9 months corrected age, 16 and 24 months post-partum. Preterm infants (<37 weeks) or weighed <2500g. One participant was randomly selected from	Maternal depressive symptoms: centre for epidemiological studies-depression scale (Radloff, 1977). Risk variables: infant medical records to obtain gestational age,	order, multiple birth, infant prematurity and maternal CES-D were entered into the first step. Separate equations were calculated for each stress and outcome variable.	premature engaged in more positive interactions than other children. Mothers who reported more parenting stress engaged in less positive interactions than children of mothers with less parenting stress. Mothers who had elevated depressive symptoms reported significantly more parenting stress compared with mothers who reported fewer depressive symptoms.	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		multiple birth sets to participate in the study.	birthweight, birth order, part of a multiple birth. Parenting stress: Parenting stress index (Abidin, 1995), parenting daily hassle questionnaire. Moderator variable 24 month		Multiple birth and prematurity did not contribute to maternal scaffolding during problem solving.	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			interaction outcomes Toddler- mother free play interactions: videotapes of naturalistic play rated using the parent-child early relational assessment. Maternal			

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			scaffolding during problem solving: problem solving task presented to child and mother (Hoffman et al., 2006).			
12	Ostfeld et al. (2000)	USA (determined from location of researcher not the article). 30 infants	Home environment: the HOME inventory (Caldwell & Bradley, 2001) Brazelton neonatal	Two tailed t-tests: compare singleton and twin groups on demographic, medical, time 2 infant behaviour, HOME inventory factors,	No significant differences in demographic variables between singleton and twin families No significant difference in 18 month corrected age home	10/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		26.7% twins Term age, 1 and 8 months corrected. Premature infants (27-34 weeks) singletons and twins.	behavioural assessment scale (Brazelton, 1973). Modified Beckwith mother-infant behaviour checklist in a 30 minute observation (Beckwith, 1973; Beckwith et al., 1976).	developmental data and Twin A and Twin B on demographic, medical and developmental data. Kolmogorov-Smirnov two-sample X2 or Fisher exact tests: categorical data. 2 way ANOVA: State of consciousness in singletons and twins	environment between singleton and twin families. Twins were more likely to exhibit active and crying states at time one, although this was infrequent in both groups and diminished over time. MoS were more likely to pick up, touch, pat and rock or talk to their infants than MoT. MoS were more likely to engage in	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
				(between subject) during observations between the two time points (repeated measure)	unprompted talking and responsive talking than MoT. Responsive touch was infrequent at time one and two and comparable between MoT and MoS. Singleton crying was less likely to be ignored; 80% of singletons but no twins received a response but this was no longer significant by time 2. Singletons experienced more	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
					advantageous interactions than twins based on acceptance of child and maternal involvement with the child. There was no difference between MoT and MoS on emotional and verbal responsivity. Twins exhibited less total activity than singletons. Singletons smiled more at mothers and engaged in more mutual gazing	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
					than twins. MoS scored more on maternal initiatives and responses than MoT although initiatives decreased over time for both groups. Responses increased over time for singletons but decreased for twins.	
13	Tirkkonen et al. (2008)	Finland 84 children	Attachment classification: Strange situation assessed with the Pre-school	Chi-squared tests and Mann-Whitney U tests: difference between groups.	Avoidant insecure attachment was the most common for finish infants but with the mildest A1-2 making the majority of this group.	12/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		67.9% twins Aged 18 months old Twin samples were derived from consecutive twin deliveries (1992-1994) and matched to a group of singletons by the gender of the first born twin.	assessment of attachment (Crittenden, 1992). This took place in a hospital laboratory playroom. Report of primary caregiver: asking who is the primary caregiver for the infant (three options: mainly		Twins were significantly more often securely attached to mothers than singletons. There was no significant difference in attachment to fathers between twins and singletons. Looking at the primary caregiver, for singletons it was: 45.8%, 50% and 4.2% and for twins: 21%, 65% and 13.4%.	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
			mother; both parents equally; and mainly father).		Twin sample, inter twin concordance of attachment t mothers was 52% and 46% with fathers.	
14	Tirkkonen et al. (2016)	Finland 84 children 67.9% twins 18 months old Twin samples were derived from	Strange situation at 18 months and quality of attachment was assessed using the preschool assessment of attachment criteria (Crittenden, 1992).	Mann-Whitney test was used to study the gender and attachment differences in the child behaviour checklists.	MoS reported their children to have significantly more anxious and depressed symptoms, aggressive behaviour and externalising problems compared to MoT. CBCL raw score was significantly higher for singletons than twins. When reporting about girls, MoS	12/22

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
		consecutive twin deliveries (1992-1994) and matched to a group of singletons by the gender of the first born twin.	Mothers and fathers evaluated their children's behavioural problems using the child behaviour checklist (Achenbach & Rescorla, 2001).		reported significantly more attention problems and total raw scores compared to twins. FoS reported their children having significantly more internalising and externalising problems compared to FoT, including significantly higher raw total scores. When reporting about girls, FoS reported significantly more aggressive problems, internalising	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
					problem and externalising problems compared to FoT. Boys singletons scored higher than boy twins for: thought problems, attention problems, aggressive behaviour, externalising problems and total problems. Singleton pre-schoolers classified as Type A had the highest withdrawn sum score. Significantly higher scores were also found for somatic	

Study No.	Reference	Population characteristics [a]	Relevant measures	Relevant analysis	Relevant findings	Quality assessment score [b]
					problems and total internalising problems. This was not reported for Twin pre-schoolers classified as Type A.	

Note. Identified articles sometimes included measures, analysis and findings which were not relevant to the systematic review research question. Only relevant measures, analysis and findings were included within the data extraction table.

[a] Population characteristics makes reference to (country; sample size; % twins in the sample; age range of children; sample type)

[b] Quality assessment score based on adapted Downs and Black (1998)

Appendix C Parent interview schedule

Parental Interview Schedule

- Hello and introductions
- Explain the aim of the research and look at the participant information sheet together – sign the consent form.

1) Can you tell me a bit about your sons/daughters?
    - Pregnancy
    - Birth
    - Development
    - Health
    - Where they in neonatal units?
    - Where they in the same cot? For how long?
2) Can you tell me a bit about your sons/daughters relationship with each other?
    - Personality – similar/different
    - Have they done different activities?
3) Did they attend nursery or preschool?
    - Where they in the same group/with the same key workers at nursery?
    - What was your experience of this?
4) How did you feel about your sons/daughters starting school?
5) What was your preference for your twin's classroom placement?
    - Did you want them to be in the same/different class?
    - Why?
    - What informed this decision?
6) Was your preference sought from the school?
    - How?
7) Was your preference taken into account by the school?
    - Did they give any guidance?
    - How did they come up with their decision?
    - How did they inform you of their decision?
8) Were you happy with the school placement when you were originally informed?
    - Why?
    - Did you contact the school regarding your concerns?
    - How did they respond?

- Could they have done anything differently to have made this easier/better for you?

9) How did you tell you sons/daughters about their classroom placement?
    - How did you prepare them before they started school?
    - How did they respond?
10) Can you tell me a bit about how your sons/daughters settled into school?
    - Relationship
    - Interaction with peers
    - Response to teachers
    - Behaviour
    - Learning
    - How did this make you feel?
    - What did you do about that?
11) Did this change throughout the year?
    - What helped/created this change?
12) Can you tell me a bit about how your sons/daughters are doing in school at the moment?
    - Academic
    - Social
    - Emotional
    - Behavioural
13) How do you feel now about your sons/daughters class placement this year?
    - Now you are at the end of the year would you have done something different?
14) Have you been informed about class placements next year?
    - Where you part of that decision?
15) How do you feel about this?
    - How do your sons/daughters feel about this?
    - How are you talking to them about it/how are you preparing them for it?
16) Has the schools approach to involving/informing you of class placements changed?
    - How?
17) Thinking about the process that you have been through this year – would there be anything that you think would have made it better/easier?

18) Do you have any advice for schools on how to make the process easier/better in the future?
19) Do you have any advice for parents of twins on how to make the process easier/better when their children enter the school system?
20) How has your experiences impacted your future decisions of education/ made them view future education (in terms of their children)
21) What are your hopes/dreams for your sons/daughters for their future in education?

- Thank them for taking part and giving up their time
- Go through the debrief form with them and give it to them for their reference

Appendix D School Manager Interview Schedule

Head teacher Interview Schedule

- Hello and introductions
- Explain the aim of the research and look at the participant information sheet together – sign the consent form.

1. Do you have any formal policies and procedures for intake of twins or multiples?

   If they answer yes:

   -Who was the originator of the policy? (Yourself, yourself in consultation SLT or a member of the SLT, yourself and governors, or the local authority)

   -Was it developed in consultation or did that body implement it straight away?

   -What was the basis of this policy? (experience, research, recommendations from others, government/local authority recommendations)

   -What is the policy?

   -Is this policy fixed?

   Have you set to review the policy based on experiential evidence? Does the policy change on the basis of experience? (If you implement it and its not working would you change it?)

   If they answer no –

   Have you ever considered a policy?

   What would be your procedure if a twin entered the school? (Would it be the same if they were brother and sister singletons for example?)

2. Have you previously had twins in your school?
   -What was this experience like/what do you think the experience would be like?

-Have you had any information about educating twins and if so where from?

3. Do you/would you contact parents regarding class placement?

   If yes

   -when in the process do you contact them?

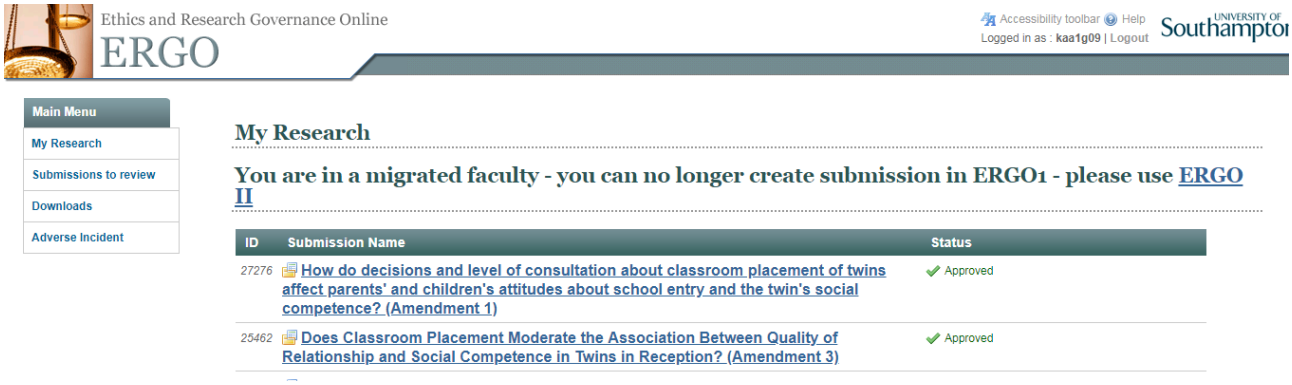
   If no

   -Why not?

   -Do you review the placement once it has started? (Is this different from singletons?)

- Thank them for taking part and giving up their time
- Go through the debrief form with them and give it to them for their reference

Appendix E Ethical Approval



Appendix F Email to parents who showed an expression of interest

UNIVERSITY OF Southampton

Email to individuals who had expressed interest in the research (Version 1, 19/05/2017)

Study Title: How do decisions and level of consultation about classroom placement of twins affect parents' and children's attitudes about school entry and the twin's social competence?

Researcher: Kate Brant
ERGO Study ID number: 25459

Dear X,

Thank you for showing interest, by emailing Katy Goymour, in my research on how decisions and level of consultation about classroom placement of twins affect parents' and children's attitudes about school entry and twin's social competence. I have attached an information sheet which explains the research further and what would happen if you took part. I have also attached a consent form. If you are happy to take part please sign the attached consent form. I am happy to send you a pre-paid envelope for you to return this, but you would need to email me with your postal address. Alternatively, if you are happy to send this back without the pre-paid envelope please return to: Kate Brant, Student Office, Faculty of Social, Human and Mathematical Sciences, Building 44, Highfield Campus, University of Southampton, SO17 1BJ.

Please feel free to get in contact if you have any questions about the research or how to return your completed consent form if you are happy to take part in the research.

Yours sincerely,
Kate Brant

If you have concern or a complaint then please contact the the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 3856, email fshs-rso@soton.ac.uk

Appendix G Parent interview information

UNIVERSITY OF Southampton

Participant Information Sheet (Version 1, 26/02/2017)

Study Title: How do decisions and level of consultation about classroom placement of twins affect parents' and children's attitudes about school entry and the twin's social competence?

Researcher: Kate Brant
ERGO Study ID number: 25459

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

I am a trainee Educational Psychologist at the University of Southampton. I am conducting research exploring parents' experiences of their twin children's classroom placement on entry to reception. The research will provide professionals working with twin children and their families in education with an understanding of what parents and children experience when going through the process of twin children's classroom placement when they start school. It also aims to provide professionals with guidance on how they can make the process positive for the future. Twin parents' perceptions will be explored through a qualitative semi structured interview.

Why have I been chosen?

You have been approached to take part in the research because you showed an expression of interest through an email to Katy Goymour, Trainee Educational Psychologist, and you have twins who started reception in September 2016. Therefore, you have experienced the process of your twin children's classroom placement and these experiences could benefit our understanding of parental experiences of this process.

What will happen to me if I take part?

If, upon reading this participant information sheet, you decide that you want to take part in the research then you should sign the attached consent form and send it back in the pre-paid envelope. If you sign the consent form you can still decide to leave the research at any time and without prejudice. If you give your consent then I will contact you via email to arrange a date, time and location for the interview to take place. The interview questions will be sent to you ahead of time so that you can consider the questions. However, you do not have to read the questions or prepare for them before the interview, it is for your information only and we will consider these together throughout the interview. The interview should take no longer than 1 hour. The interview will be recorded using a digital audio recorder. This will allow valid analysis of your data from the interview. The audio recording will be transferred to a secure computer system and deleted from the digital device. The recording will be anonymously transcribed and once completed the original audio recording will be deleted from the secure computer system.

Are there any benefits in my taking part?

If you take part in the study then you will receive £10 for your time. In addition, by taking part in the research you will be adding to the current knowledge on twins and their classroom placement on entry to school.

Are there any risks involved?

The interview involves thinking about past experiences. These could potentially be negative experiences. However, you do not have to answer any questions to which you do not feel comfortable and you can leave the research at any point.

Will my participation be confidential?

The research will comply with the Data Protection Act and University policy. All your information will be stored securely and will remain confidential. Interviews will be transcribed anonymously. You will be given a pseudonym and all identifiable characteristics such as locations and school names will be removed.

What happens if I change my mind?

If you change your mind then you have the right to withdraw at any time without your legal rights being affected.

What happens if something goes wrong?

If you have concern or a complaint then please contact the the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 3856, email fshs-rso@soton.ac.uk

Where can I get more information?

If you have any questions from this participant information sheet please contact me on kaa1g09@soton.ac.uk or Dr Jana Kreppner on jana.kreppner@soton.ac.uk

Appendix H Parent interview consent form

UNIVERSITY OF Southampton

CONSENT FORM (Version 2, 19/05/2017)

Study title: How do decisions and level of consultation about classroom placement of twins affect parents' and children's attitudes about school entry and the twin's social competence?

Researcher name: Kate Brant
ERGO Study ID number: 25459

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet (19/05/2017/ version 2) and have had the opportunity to ask questions about the study	☐
I agree to take part in this research project and agree for my data to be used for the purpose of this study	☐
I agree for the interview to be recorded on a digital recording device and the data to be transferred to a secure computer system where it will be transcribed anonymously.	☐
I understand my participation is voluntary and I may withdraw at anytime without my legal rights being affected	☐

Name of participant (print name).....

Signature of participant.....

Date.....

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 3856, email fshs-rso@soton.ac.uk

Appendix I Parent debrief statement

UNIVERSITY OF Southampton

[How do decisions and level of consultation about classroom placement of twins affect parents' and children's attitudes about school entry and the twin's social competence?]

Debriefing Statement *(verbal)* (Version 1, 26/02/2017)

The aim of this research was to gain your experiences of your twins' classroom placement as well as how you and your children have experienced their first year at school. The research wanted to explore the levels of consultation you had experienced from your twins school regarding their classroom placement and your views surrounding the consultation you had experienced. It is expected that parents are view the decision making process more positively when they have been consulted by the school regarding the decision and when they feel their views have been taken into account. This is based on previous research, however there is limited research in this area, particularly in the UK. Your data will help to develop the research basis in this area and to provide professionals with a better understanding of what makes twins transition to school, specifically the decisions around their classroom placement, more positive. Once again results of this study will not include your name or any other identifying characteristics and you can withdraw your data at any time. The research did not use deception. You may have a copy of this summary if you wish and you may have a summary of the research findings once the project is complete if you wish.
If you have any further questions please contact me, Kate Brant, at kaalg09@soton.ac.uk.

Thank you for your participation in this research.

Signature _____ Date _____

Name

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 3856, email fshs-rso@soton.ac.uk

Appendix J School Manager information sheet

UNIVERSITY OF Southampton

Participant Information Sheet (Version 1, 26/02/2017)

Study Title: How do decisions and level of consultation about classroom placement of twins affect parents' and children's attitudes about school entry and the twin's social competence?

Researcher: Kate Brant
ERGO Study ID number: 25459

Please read this information carefully before deciding to take part in this research. If you are happy to participate you will be asked to sign a consent form.

What is the research about?

I am a trainee Educational Psychologist at the University of Southampton. I am conducting research exploring the decision making process surrounding twins' classroom placement on entry to reception. This will be explored through qualitative semi structured interviews with head teachers. The research will provide insight into how and why professionals make the decisions about twin classroom placement. The research will also involve interviewing parents of twins to explore their experiences of the decision making process as well as looking at twins views and there social competence assessed by their teachers during their first term in a reception class.

Why have I been chosen?

You have been approached to take part in this research because you are a head teacher of a primary school in the South of England. The research intends to understand how you make decisions about twins' classroom placement.

What will happen to me if I take part?

If, upon reading this participant information sheet, you decide that you want to take part in the research then you should sign the attached consent form and send it back in the pre-paid envelope. If you sign the consent form you can still decide to leave the research at any time and without prejudice. If you give your consent then I will contact you via the contact details you have provided to arrange a date, time and location for the interview to take place. The interview questions will be sent to you ahead of time so that you can consider the questions. You do not have to read this, it is for your information only and we will consider these together throughout the interview. The interview should take no longer than 30 minutes. The interview will be recorded using a digital audio recorder. This will allow valid analysis of your data from the interview. The audio recording will be transferred to a secure computer system and deleted from the digital device. The recording will be anonymously transcribed and once completed the original audio recording will be deleted from the secure computer system.

Are there any benefits in my taking part?

If you take part in the study then your school will receive a £10 book voucher. In addition, by taking part in the research you will be adding to the current knowledge on twins and their classroom placement on entry to school.

Are there any risks involved?

There should be no risks involved in taking part in the research but the interview will involve you thinking about previous experiences. If you do not feel comfortable answering any

questions then you can ask to move onto the next question and if you no longer feel comfortable taking part in the research you can withdraw your participation at any time.

Will my participation be confidential?

The research will comply with the Data Protection Act and University policy. All your information will be stored securely and will remain confidential. Interviews will be transcribed anonymously. You will be given a pseudonym and all identifiable characteristics such as locations and school names will be removed.

What happens if I change my mind?

If you change your mind then you have the right to withdraw at any time without your legal rights being affected.

What happens if something goes wrong?

If you have concern or a complaint then please contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 3856, email fshs-rso@soton.ac.uk

Where can I get more information?

If you have any questions from this participant information sheet please contact me on kaa1g09@soton.ac.uk or Dr Jana Kreppner on jana.kreppner@soton.ac.uk

Appendix K School manager consent form

UNIVERSITY OF Southampton

CONSENT FORM (Version 1, 26/02/2017)

Study title: How do decisions and level of consultation about classroom placement of twins affect parents' and children's attitudes about school entry and the twin's social competence?

Researcher name: Kate Brant
ERGO Study ID number: 25459

Please initial the box(es) if you agree with the statement(s):

I have read and understood the information sheet (25/02/2017/ version 1) and have had the opportunity to ask questions about the study	☐
I agree that the researcher can contact me using the contact details I have provided below in order to arrange an interview date and time. I understand that my contact details will only be used for this purpose.	☐
I agree to take part in this research project and agree for my data to be used for the purpose of this study	☐
I agree for the interview to be recorded on a digital recording device and the data to be transferred to a secure computer system where it will be transcribed anonymously.	☐
I understand my participation is voluntary and I may withdraw at any time without my legal rights being affected	☐

Name of participant (print name).....

Signature of participant.....

Date.....

Contact details.....

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 3856, email fshs-rso@soton.ac.uk

Appendix L School manager debriefing statement

UNIVERSITY OF Southampton

[How do decisions and level of consultation about classroom placement of twins affect parents' and children's attitudes about school entry and the twin's social competence?]

Debriefing Statement *(verbal)* (Version 1, 26/02/2017)

The aim of this research was to explore how you make decisions about twins' classroom placement and what influences these decisions. Previous research has suggested that these decisions are often not based on research, mostly because there is scant research on this area. Therefore, this research was exploratory in nature in order to determine how head teachers make these decisions. Therefore, your data will help to develop the research basis in this area and guide future research. Once again results of this study will not include your name or any other identifying characteristics and you can withdraw your data at any time. The research did not use deception. You may have a copy of this summary if you wish and you may have a summary of the research findings once the project is complete if you wish.
If you have any further questions please contact me, Kate Brant, at kaa1g09@soton.ac.uk.

Thank you for your participation in this research.

Signature _____ Date _____

Name

If you have questions about your rights as a participant in this research, or if you feel that you have been placed at risk, you may contact the Chair of the Ethics Committee, Psychology, University of Southampton, Southampton, SO17 1BJ. Phone: +44 (0)23 8059 3856, email fshs-rso@soton.ac.uk

Appendix M Transcript Conventions

(h) denotes laughter within speech.

↑ denotes a rise in intonation

↓ denotes a drop in intonation

< > denotes that the pace of speech has slowed.

(.) denotes a micro pause

(.N) denotes a pause equivalent to the number of seconds/milliseconds.

[ ] denotes overlapping speech

(( )) denotes contextual information

= denotes no lapse in speech

Parents underline text denotes participant placing emphasis

Appendix N Reflective Diary

This reflective diary has been created based on reflective notes made throughout the entirety of the process.

Prior to data collection.

My experiences and background influenced my interest in the topic area and the research design. I have a niece and nephew who are twins and I have seen the challenges that their parents experienced in their early years. Therefore, I was interested in the research regarding the twin experience.

Throughout the Educational Psychology Doctoral training, I have identified that I believe strongly in parent and child voice. This is something that I value in my practice and would have had an influence over the design of the research; I valued a qualitative approach in order to gain parent and school manager voice. I also value collaboration and try to work together with both school staff and parents in my practice. Therefore, my value around parent and child voice and collaboration would likely impact on this research. In order to account for this, I made sure that I read about the processes for qualitative interviews and thematic analysis, in order to retain quality and limit my impact on research findings.

When setting up interviews for school managers, some of the head teachers of the participating schools showed interest and were willing for their school to be involved in the research but it was shared they would find it hard to be directly involved. Through this, I decided to interview other individuals within the management team who would be able to discuss the twin classroom placement process within their school.

Interviews with parents of twins.

Due to my personal experiences of twins I felt I often empathised with parental experiences within the early years. I realised that I needed to be aware of this increased empathy and identification within the analysis and write up to make sure that there was a balance between school managers' and parents' perceptions and experiences.

During the interview, other people sometimes made utterances or contributions (children etc.). However, these individuals had not given their written consent to take part in the research. I discussed this with my supervisor regarding transcription.

Two of the parents' twins were attending a one form entry school. I was not aware of this at the point of arranging the interviews. However, I am pleased that these participants were included within the analysis as their values and experiences were valuable to aid further understanding of a large proportion of twin families in the UK who will be in a similar position to them at reception-entry.

One of the interviews included both parents. It was interesting how, even though most of their perceptions and experiences were the same, there were some differences in how they felt about different parts of their whole experience. It was therefore important to hold in mind my epistemological position for this research, that it was the participants' perception of events rather than there being an absolute truth.

Parents often described difficulties they experienced when their twins were in their early years. Although this was not always relevant for their decisions regarding twin classroom placement, it made me consider that this would be an additional area to focus on in future research.

During interviews with school managers.

During the interviews with school managers that were not head teachers it was clear that the participants had an understanding of the processes around twin classroom placement and they had been involved in it previously. Many of them mentioned within the interview how they had discussed these issues with the head teacher or other senior leaders before the meeting and this gave a whole management view as much as possible.

I was aware, during the interview process, that these school managers were reflective and often had a positive relationship with the EP service and the EPs that worked with them. Many of them were reflecting on their practice throughout the interview and seemed invested in the findings of the research. This will have an impact on the findings that were found within the research.

Again, during the interview, other people sometimes made utterances or contributions (other members of staff etc.). However, these individuals had not given their written consent to take part in the research. I discussed this with my supervisor regarding transcription.

During transcription.

When I started to transcribe the interviews I considered what conventions to use to best show the context and meaning. I decided upon the used system as I felt that this showed where there was emphasis, and provided further indication of the meaning of the language participants used.

Due to background noise in the audio recordings, I initially found it hard to identify some of the speech. However, once I listened to the audio recordings as a whole, without stopping it to transcribe, the speech became clear. This also allowed me to check the rest of the transcription for accuracy before the audio recordings were deleted.

During analysis.

I realised, as I was going through the analysis process, that I found it hard to prune the data in relation to the research questions. I think this was because my involvement within the interviews and transcription increased my investment in the data. I was able to identify this through supervision and this allowed me to go back to the data holding its relevance to the research question in mind.

Appendix O Coding Manual for Parent Interview Analysis

Theme name	Sub themes	Codes	Description	Number of sources
Balance of independence and support			Theme relates to any codes which discuss promoting or valuing independence or support for twins at school.	12
	Independence		This sub-theme relates to codes which discuss the importance of independence for twins.	11
		Influences view of placement	This code relates to parents sharing that the value of independence had a role in placement making decisions. This included being independent making the decision less important; separating them to enhance independence; and school having a preference to separate to promote independence. This includes the subordinate codes: Parents separated because they were	7

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
			independent; If they are independent it is less important; and School separates to develop individuality.	
		Schools role in developing independence	This code related to when parents discussed the schools role in developing or protecting twin's independence. This included: schools actively developing twins' independence through practises such as providing opportunities to be separate or by allowing twins to experience different activities or peers. It also relates to how school practices can diminish independence. This included the subordinate codes: School developed independence; School has helped them make friends; School provides them opportunities to be separate; Separating to develop friendship group; Twins are developing friendships; and Twins being in the same class have meant they have a limited social circle.	10

Theme name	Sub themes	Codes	Description	Number of sources
		Twins independence	This code relates to direct comments on the twins independence and how this is a positive thing. This could include comments about twins being independent; wanting the twins to be independent and to have their own space and the benefits that being independent have for twins. This included subordinate codes: being able to be close to your twin and independent; wanting twins to be independent; wanting twins to have their own space; including space being important for a positive relationship and describing twins as independent and having their own friends.	10
	Support		The sub theme refers to codes which relate to support for the twins.	12
		Age of twins	This relates to parents highlighting that twins need more support when they are younger and that their views about transition are affected by the age and maturity of their children	6

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
		Emotions of being apart	This related to comments from parents about twins' being affected emotionally by being apart as they needing the support of their co-twin. This includes when parents discuss twins noticing when they are apart and becoming upset by this. It also includes parents discuss the potential impact that separating twins or not providing twins with appropriate support would have on their wellbeing, learning and behaviour at home. This included subordinate codes: not wanting separating to affect home dynamic or learning; twins finding it hard to be apart which influenced classroom placement; twins not wanting to be apart; twins noticing when they are not together and missing each other; one twin needing support from the other; and previous difficulties of separation.	9
		Friends	This relates to when parents comment on the supportive function of	7

Theme name	Sub themes	Codes	Description	Number of sources
			friendship, which could be with the co-twin when they like similar things and being around each other. Parents comment on wanting to allow twins the support of their co-twin when they have a close relationship and can include when parents discuss the twins' special bond. This included subordinate codes: friends being important for year 1; friends are important for transition to school; having similar friends; twins being friends and like spending time together; wanting twins to remain friends; keeping them together due to their relationship; twins having a close bond; twins do similar activities and wanting to be similar.	
		Not used to being apart	This referred to references of the twins not being used to being apart and therefore not having support from their co-twin would be a big change. This included subordinate codes: positive view of gradual separation; and not being apart influencing classroom placement.	5

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
		Twins help	This referred to references of twins helping each other and acting as a support for each other. This included subordinate codes: keeping twins together for support, co-twin is a support; and twins help each other (developmentally, academically and socially).	11
Change			This theme referred to references of change either for the parents or the twins.	10
		Amount of time they spend together changes	This refers to reference of twins change in relationship in terms of physical proximity and play.	4
		Decision can change	This refers to reference in change of preference for classroom placement either before school entry or after school entry.	5

Theme name	Sub themes	Codes	Description	Number of sources
		Other peoples' views become more important	This refers to change in who should make the decision. These all referred to change from parents to school.	5
		Parents view of school has changed	This refers to when parents have reported a change in their view of school and relationship with school. In this case a difficult to positive relationship.	1
		Twin relationship has changed	This referred to references that the twin relationship had changed. This could be a closer relationship, less dependent relationship or that one twin was finding it easier to be apart from their co-twin.	5
Home-school relationship			This theme relates to factors that can impact the home-school relationship and centres around the process and impact of the classroom decision making process.	12

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
	Collaboration		This sub theme refers to codes which discuss views about collaborations between home and school regarding the classroom placement decision.	12
		About the decision	This refers to references about who parents discuss the decision with and how they and the school share their decision. This included subordinate codes: discussing decision with early years; discussion later decisions with school; having opportunities to discuss placement decision with school before entry; parents actively sharing their decision with school; and school sharing their decision with them before school entry.	12
		Communicating reasons	This refers to references about parents and school sharing their reasons behind their decision. This included subordinate codes: wanting to be given a reason; feeling that it helped to share their reasons; using research to support	6

Theme name	Sub themes	Codes	Description	Number of sources
			their reasons; being happy they were given a reason by school and that schools should base their decision on something research based.	
		Desire for schools to be proactive	This referred to parents wanting schools to collaborate with them sooner. This included subordinate codes: wanting schools to collaborate with them about the decision; wanting school to approach parents; for the process to be formalised and for them to know the decision before class lists were finalised.	6
		For preparation	This referred to reference of collaboration helping transition through preparation. It included subordinate codes: information reassured parents; knowing classroom placement preparing children; knowing school environment preparing children; parents sharing information with children preparing them and preparing children reassured parents.	10

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
		To build positive relationships	This referred to reference that collaboration influenced home-school relationships. This included subordinate codes: Difficulties with communication; Parents have a positive view of school: Parents positive view of school based on communication: Parents positive view of school based on listening; And Parents trust in school	11
	Decision needs to be based on the individual		This subtheme relates to views that the decision should be made based on the individual rather than based on them being twins and assumptions around these and this decision should evolve based on the individual circumstances.	12
		All individually	This refers to reference that the decision should be made on an individual basis as all children and families will be different. This included subordinate codes: Families have individual circumstances; Parents felt blanket school	12

Theme name	Sub themes	Codes	Description	Number of sources
			policies practices or views don't allow for individuality; Parents feel that twin set are different; Parents feel twins are different to singletons; School should try and make transition easier regardless; The decision is individual; Twin parents have different views about what's best for their children.	
		Desire for flexibility	This refers to reference that the schools should be flexible in the decision making process. It also includes reference to a desire for a review period and finding it difficult when the head teachers decision about placement was final.	5
	Decision should be made by those who know the child		This sub theme refers to the views that classroom placement decisions should be made by those who know the children individually and therefore know their individual needs and what placement would be best for them.	12

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
		Others who know the child	This refers to reference to other people who might know the child well and therefore can make meaningful contributions for the decision. This includes subordinate codes: Early years setting views are important; Parents asked twins what they wanted for reception.	2
		Parents know best	This referred to the view that parents were the most able and appropriate to make the classroom placement decision. This included subordinate codes: view that they know what was best; wanting others to agree with them; and the twin community supporting the notion that it was parental choice.	12
	Positive outcomes		This sub-theme referred to reference of positive outcomes from transition to school for the children.	12

Theme name	Sub themes	Codes	Description	Number of sources
		School has helped twins develop	This referred to twins making progress in any area of their development: academic, social and physical etc.	3
		Twin transition to school was ok	This was when direct references were made to twins having a successful initial transition (first couple of weeks) specifically.	2
		Twins doing well at school	This was a direct reference to the twins doing well in any are at school: academic, social, emotional and behavioural. This was applied when the parents did not provide a specific area and was general.	12
		Twins enjoy school	This referred to direct comments about the twins enjoying school and going to school.	5

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
		Twins happy with classroom placement	This referred to direct comments about the twins sharing with parents that they were happy with their classroom placement.	2
Importance of individuality			This theme referred to parents' reports of their children's individuality as it is at the moment and how they wanted it to be. It also included how the parents developed and protected individuality and how they wanted others to do this.	12
		Separation supports individuality	This refers to the view that it is separation which develops individual's individuality. This included subordinate codes: being separate helps develop and protect individuality; being together can lead to others not treating them as individuals; and separation being more important for identical twins.	7
		Children are	This refers to direct reports from parents that their twins are different from	12

Theme name	Sub themes	Codes	Description	Number of sources
		different	each other. This included subordinate codes: children being different academically and socially; and children having different views about classroom placement.	
		Difficulties with Comparison	This refers to references from parents about twins being compared either by themselves, others or them as parents. This included subordinate codes: not wanting twins to be compared; parents aware that they compare children; being together leads to comparison; separating to reduce comparison, twins compare and competing with each other; and parents value of equality.	7
		Developing individuality	This refers to references about activity developing their children individuality through their own parenting practices or through discussions with the school.	5

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
		Identity	This refers to references made about the twins' identity and how they as parents affect this. This includes subordinate codes: parents allowing them to wear different things; parents finding school uniform removed twins' identity; research highlighting dangers to identical twins identify formation; and non-identical twins have fewer difficulties with developing separate identities.	4
		Not twins but children	This refers to parents' direct reference that twins should be considered as individual children and not twins by others. This included subordinate codes: parents highlighting children's differences; parents not using the label twins; being a twin shouldn't define you; twins are like siblings; and being a twin is not weird.	6
		Schools role in	This refers to parents' reference that schools have a role in developing and	5

Theme name	Sub themes	Codes	Description	Number of sources
		developing individuality	protecting twins' individualities when they start school. This included subordinate codes: schools highlighting the different strengths of the twins; difficulties when school reports were similar; view that schools should treat twins are individuals regardless of placement; and schools treating the twins as individuals.	
Practicality			This theme refers to parents having practical difficulties regarding having twins; twins being at school or the classroom placement.	10
		Being separate poses practical issues for parents	This refers to any references made by parents regarding difficulties with twins being in separate classes.	2
		Equality of	This refers to parents difficulties when comparing the twins' different	1

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
		experiences	experience of school.	
		Having twins in school poses practical difficulties	This refers to parents expressing general difficulties with having twins in school.	1
		Parents keep twins together because of logistics	This refers to reference from parents that they kept twins together due to logistical difficulties with having them in separate classes such as attending events.	1
		School structure poses practical	This refers to reference from parents about school structure such as classroom set up which poses difficulties for parents, such as being in a one	2

Theme name	Sub themes	Codes	Description	Number of sources
		issues	form entry school.	
		Twins spend time together because of practicalities	This was any reference from parents that twins spend time together due to practicalities (caregiving etc.) in addition to any relationship factor from the twins themselves.	6
Weight of decision			This theme refers to how the parents feel about making the decision. It was called the weight of the decision as like a scale, the feelings that the parents had about the decision could be changed based on a number of factors.	11
		It's a big decision	This refers to parents referring to their perception that making classroom placement decisions were important. This included subordinate codes: parents being concerned about whether they had made the right decision;	7

Appendix O

Theme name	Sub themes	Codes	Description	Number of sources
			parents feeling that the transition was a big step; parents' view that the decision is important; parents wanting schools to realise it is a big decision; and that the decision is felt as big in the twin community and is often discussed.	
		Reception structure makes decision less	This refers to the reception structure being described as free-flow. This free-flow nature was seen as making the decision less important as children could be together and apart whether they were in the same class or not. This included subordinate codes: reception structure making the decision less final; and Year 1 classroom placement decisions are more final than reception based on its structure.	4
		School practices affect the weight	This refers to references that school practices in later years affect the decision for reception. This included subordinate codes: parents worried	6

Theme name	Sub themes	Codes	Description	Number of sources
		of decision	about the permanency of separating; school not changing placement in later years which makes it a bigger decision; and physical environment of year one makes it a big transition.	
		Sharing the weight	This refers to parents sharing what makes them feel more reassured about the decision they have made. This included subordinate codes: communicating with twins about the decision reassured parents; communicating with early years setting about the decision reassured parents; and communicating with school reassured parents.	4
		Twins being settled decreases the weight of year 1 decision	This referred to parents sharing that twins being happy and settled within the school made them less concerned about the year one decision as they felt they would be able to now cope either way.	2

Appendix O

Appendix P Coding Manual for School Manager Interview Analysis

Theme name	Sub themes	Codes	Description	Number of sources
Individuality			This theme refers to the value that school managers held about developing and protecting twins' individuality.	13
		Valuing individuality	School managers referenced the importance of twins having individuality. This included the subordinate codes: the twins' have individuality; concerns that the twins' will be in each other's shadows; the importance of seeing them as individuals; being identical poses difficulties with individuality; parents' influence on twins' individuality.	7
		Differences	This refers to references that the twins were different to each other which	5

Appendix P

Theme name	Sub themes	Codes	Description	Number of sources
			emphasised their individuality. This included the subordinate codes: differences in how the children feel apart; differences in ability; differences in personality; and differences in development.	
		Comparison	This refers to reports about the twins being compared. This included the subordinate codes: Competitiveness between the twins; Parents comparing the twins; Staff comparing the twins; and Separating because of competitiveness.	8
		Schools role	This refers to the view that schools have a role in developing and protecting twins' individuality. This included the subordinate codes: important to celebrate individual strengths; schools helping parents to see twins as individuals; schools role is to develop twins' individuality; and separating twins to develop their individuality.	8
Experiential			This theme includes reference to school managers' previous experience of	15

Theme name	Sub themes	Codes	Description	Number of sources
			educating twins and how this has influenced their decisions regarding classroom placement.	
		Had twins in school	School managers made reference to previous twins they had educated.	11
		No research	School managers reported that they had done no research even recently or in the past to develop their classroom placement views.	13
		Positive experience of going with parents' wishes	School managers discussed previous experiences of going with parents' wishes regarding twin classroom placement and how this had approach had been successful.	4
		Procedure based on	School manager reported that their procedure regarding classroom placement is	5

Appendix P

Theme name	Sub themes	Codes	Description	Number of sources
		their experience	based on their previous experience with twin classroom placement.	
		Relates to personal experience	School manager discussed their personal experience of twins and relates this to their practice in school.	5
		Relates to previous experience	School managers discuss their general experience of educating twins which has influenced their decision.	4
School factors affecting the decision			School managers discuss factors specific to the school that would impact on classroom placement decision.	13
		Wouldn't change placement mid-year	School managers reported that they would not change the placement mid-year, through a review process, due to the difficulties that this would pose (classroom dynamics, emotional factors for the twin move etc.)	5

Theme name	Sub themes	Codes	Description	Number of sources
		Practicalities	This refers to practical issues related to different twin classroom placement. This included subordinate codes: benefit of having children in the same class; benefit of having children in different classes; difficulties with having children in the same class; and difficulties with having children in separate classes.	8
		School set up affects decision	School managers' report that school set up and general decisions around class organisation affects twin classroom placement decisions. This included the subordinate codes: free flow nature of reception reduces the importance of the decision; organisation of classes at school changes decision; and decision more important later in school because of structure.	11
Scale of who makes the			In terms of who they felt should make decisions about twin classroom placement the different school managers were positioned along a scale. At one	15

Theme name	Sub themes	Codes	Description	Number of sources
decision			end school managers felt that schools should make the decision and at the other end they felt that parents should make the decision. The theme describes direct references to their views about who is best informed and positioned to make the twin classroom placement decision.	
		School knows best	The school managers shared the view that the school is best positioned and informed to make the decision about twin classroom placement.	2
		School is the ultimate decider	School managers refer to their ultimate responsibility for children within their school regarding their wellbeing and development. This included the subordinate codes: ultimate decision lies with the school; children can make the decision later on but not initially; early years setting don't know how the twins' will cope at school; school make decision for year one; and parents in agreement with school.	10

Theme name	Sub themes	Codes	Description	Number of sources
		Parental choice	School managers' report that parents have a role and choice for classroom placement. This included subordinate codes: parent's choice; parents know their children best; parents care about the decision; parents go with what the twins want; parent voice is part of their school ethos; child-centred approach is part of their ethos; don't view themselves as experts; and important that parents are happy.	14
Twin sets are individual			This theme refers to school managers view that twin sets are different to each other and therefore needed to be considered on an individual basis rather than 'twins'.	14
		Decision to be based on individual factors	Reference to classroom placement decisions being based on the individual twin set and their needs.	14

Appendix P

Theme name	Sub themes	Codes	Description	Number of sources
		All twin sets are different	Reference to twin sets being different and not being able to make generalised comments.	8
		Difference between different sets of twins	Reference to the type of twin children being important, for example same and different gender twins, identical and non-identical twins.	6
		Different parents want different things	Reference to parents' views being different for different twins; some parents want twins to be together and some want them to be separate.	4
		Other factors important for the decision	Reference to additional factors, other than being a twin, that might influence twin classroom placement decision (special educational needs, home circumstances etc.).	8

Theme name	Sub themes	Codes	Description	Number of sources
		Same for other children as it is for twins	Reference that they treat twins as individuals and consider their individual needs in the same way they would for other children who aren't twins.	9
		Twins are different to singletons	Reference to twins having additional factors, including the twin relationship, which other children do not have and therefore when consider classroom placement, they need to have additional considerations.	5
Balance of support versus independence			The theme regards how school managers balance how they can support twins during school transition and how they still encourage and develop their independence.	15
	Support		This sub theme refers to school managers considering emotional support for the twins and how they can provide this for them on school entry.	14

Appendix P

Theme name	Sub themes	Codes	Description	Number of sources
		Emotional factors	School managers made reference to the emotional factors involved in the twin relationship and classroom placement. Specifically it discusses emotional impact of separating twins.	3
		Other close relationships	School managers' report that other close relationships such as friendships and other relationships are an additional consideration when considering support during school transition.	4
		Parents wanting them together	School managers' report that parents want them together so twins have support.	10
		Reassurance and	School managers make reference to having your co-twin in the same class acts	4

Theme name	Sub themes	Codes	Description	Number of sources
		comfort	as a reassurance and comfort during school transition.	
		Relationship of twins is important	School managers consider whether the relationship of the twins will act as a source of comfort which influences classroom placement.	12
		Transition is big	School managers' view that transition to school is a big change for children and the additional change of not having their co-twin might be too big.	1
		Opportunities to be with your twin even when separate	School managers' report that there are opportunities for support from your co-twin during the school day regardless of classroom placement.	2
	Independence		This sub theme refers to school managers' consideration regarding twins'	14

Appendix P

Theme name	Sub themes	Codes	Description	Number of sources
			development of independence from their co-twin.	
		Gradual separation	School managers reported that they employ gradual separation for the twins so that the change is not too sudden and they can develop independence at a pace that is comfortable for the children.	12
		Schools prefer to separate to develop independence	School managers' report that they prefer to separate the twins' at school to develop their independence.	1
		Schools role to develop independence	School managers reported that school have a responsibility to develop twins' independence when they start school.	4

Theme name	Sub themes	Codes	Description	Number of sources
		Twins are independent	School managers' report that the twins within their school are independent.	4
		Twins enjoy being independent	School managers' report that the twins in their school have enjoyed when they have been given time away from their co-twin and opportunity to be independent.	1
		Twins spending a lot of time together at home	School managers' report that the twins spend the majority of their time together outside of school together and therefore they see that school provides them the opportunity to be apart.	2
		Parents asked for twins to be separated	School managers' report that parents have requested twins' to be placed in separate classes to encourage their independence.	2

Appendix P

Theme name	Sub themes	Codes	Description	Number of sources
		for independence		
		Social relationship	School managers discuss the importance of providing children time apart so they can develop their own social relationships.	1
Communicating with parents about the decision			This theme related to school managers communicating their decision regarding classroom placement with parents.	15
		Change	This refers to school managers' reference to continued communication with parents regarding the decision can allow for change and flexibility for individual needs. This included the subordinate codes: can change placement each year; and not wanting a policy as want to be flexible.	14

Theme name	Sub themes	Codes	Description	Number of sources
		Communicating reasons	School managers reported that it was important to communicate their reasons with parents and to ask parents to communicate theirs. This included the subordinate codes: sharing reasons for their decisions; it's important to know parents' reasons; they will do research if they need to aid further understanding; and it is important to have research if they go against parent's wishes.	8
		Communicating with parents about the decision	School managers reported that they share information with and collaborate with parents about the decision. This included the subordinate codes: they talk to parents about the decision; they tell parents about their policy; importance of communication between home and school; they share with parents what preschool have said; they tell parents about the decision; and they give parents feedback about placement.	14

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