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UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL, HUMAN AND MATHEMATICAL SCIENCES

School of Psychology

**The Effects of the Teacher-Child Relationship and Caregiver Attachment
Security on Children's Self-Concept in Middle Childhood**

by

Sarah Louise Delo

Thesis for the degree of Doctor of Educational Psychology

June 2016

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ABSTRACT

FACULTY OF SOCIAL, HUMAN AND MATHEMATICAL SCIENCES

Thesis for the degree of Doctor in Educational Psychology

**THE EFFECTS OF THE TEACHER-CHILD RELATIONSHIP AND
CAREGIVER ATTACHMENT SECURITY ON CHILDREN'S SELF-CONCEPT
IN MIDDLE CHILDHOOD**

Sarah Louise Delo

A positive self-concept is associated with a number of outcomes including school adjustment, academic attainment and mental health. Literature suggests individual differences in self-concept derive from children's relationships with significant others such as parents and teachers. A systematic review of the literature exploring the relationship between teacher-child relationships and children's self-concept found some associations, however, this was not always consistently found. Furthermore, a number of methodological limitations in the studies were noted. Implications for future research were reported and included using multi-faceted measures of self-concept and teacher-child relationships, as well as controlling for the effect of other social relationships (e.g. parents).

To address some of these limitations, this empirical paper examines whether teacher relationships (as characterised by closeness and conflict) are associated with children's global, academic, behavioural and social self-concept, and whether teacher relationships may buffer children who are less securely attached to their caregivers against negative outcomes, such as low self-concept. 163 children (aged 7-11 years) and their class teachers participated. Questionnaires measured child reports of the teacher relationship, attachment security to their caregiver and self-concept as well as teacher reports of teacher relationship quality. Results found that although there was no evidence for a moderating effect of teacher relationships, attachment security was related to children's global, academic, behavioural and social self-concept and positive teacher relationships further contributed to children's behavioural and academic self-concept. Teacher relationships were found not to contribute to children's global or social self-concept. Implications for future research and educational psychology practice are discussed.

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DECLARATION OF AUTHORSHIP

I, Sarah Louise Delo 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.

The Effects of the Teacher-Child Relationship and Caregiver Attachment Security on Children's Self-Concept in Middle Childhood

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;
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7. None of this work has been published before submission.

Signed:

Date:

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Definitions and Abbreviations

α	Cronbach's Alpha
B	B value from Linear Regression
B	Standardised Coefficient of Beta
BYI-SCI	Beck Youth Inventory Self-Concept Inventory
CAKT	Scale of Child's Attachment to Kindergarten Teacher
CASP	Critical Appraisal Skills Programme
df	Degrees of Freedom
F	F Statistic from ANOVA
M	Mean
N	Number of participants
p	Probability, significance of statistical test
PSES	Pictorial Self Evaluation Scale
r	Pearson Correlation Coefficient
SD	Standard Deviation
SE B	Standard Error of B
SPPC	Self Perception Profile for Children
STRS	Student Teacher Relationship Scale
t	T Test statistic
UK	United Kingdom
z	Z-score

Chapter 1: Teacher-Child Relationships and Children's Self-Concept.

1.1 Introduction

In recent decades there has been an increasing recognition of the positive social, emotional and academic outcomes associated with a positive self-concept (Orth, Robins, & Widaman, 2012; Sowislo & Orth, 2012; Trzesniewski et al., 2006). Therefore, understanding the antecedents and contributors of individual differences in children's self-concepts is of importance to support positive outcomes for children. Research suggests individual differences in children's self-concepts derive from the interactions between a child and their parent or caregivers (Arbona & Power, 2003; Lamborn, Mounts, Steinberg, & Dornbusch, 1991). However, teachers are also being recognised as key adults shaping children's lives (Davis, 2003). Evidence indicates teacher-child relationships can predict children's concurrent functioning and future development across a variety of domains, including academic performance, psychosocial functioning, motivation and engagement in school (Davis, 2003; Sabol & Pianta, 2012). However, despite recognition of the role of teacher-child relationships in children's development of self-concept, evidence exploring the association between these two variables is scarce. Furthermore, there is considerable controversy in the research regarding the operationalisation, malleability and measurement of self-concept.

This literature review hopes to clarify this picture as it presents both the cumulative findings and an overview of the quality of the research regarding the association between teacher-child relationships and children's self-concept (global and domain-specific) within the past two decades. Firstly, the construct of self-concept will be outlined to consider its definition, relationship to outcomes and theoretical underpinnings. Subsequently, the potential role that teacher relationships may play in the development of a child's self-concept is considered. This is followed by an overview of the current research exploring the associations between teacher-child relationships and self-concept. Finally, methodological issues will be considered and directions for future research will be discussed.

Definition of Self-Concept

Definitions of the "self" vary considerably. Leary and Tangney (2003) have identified just under 70 terms that make reference to the self and the ego, the majority of which are hyphenated. The "self" prefix can take upon multiple interpretations and

meanings (Harter, 2012). The terminology surrounding self-concept is fairly subjective, therefore, to maintain the greatest degree of consistency with extant literature, the definitions used in this review are based on the well-documented terminology proposed by Susan Harter (Harter, 1982; 2012). Broadly defined, self-concept is how an individual consciously reflects upon and evaluates their characteristics in a verbalised form. It is evaluative in nature whereby descriptions of the self convey an evaluation of the self along a continuum of positive to negative appraisals (Harter, 2012). For example, how does an individual evaluate the self along a continuum of well behaved to badly behaved, intelligent to unintelligent, popular to unpopular? (Harter, 2012).

Definitions of self-concept are also anchored in the notion that self-esteem is a key aspect of self-concept and often researchers use perceived self-competence scales to measure self-esteem (Campbell & Lavelle, 1993). As self-esteem is argued to constitute a central dimension of self-concept (Harter, 2012), both constructs are often used interchangeably and receive a variety of labels: self-evaluation, self-worth and self-perception are among a few (Goodson, Buhi, & Dunsmore, 2006). In a number of the research articles reviewed, the terms self-esteem and global self-concept were often used synonymously. Global self-concept focuses on one's overall evaluation of one's worth and satisfaction with life (Harter, 2012). As self-esteem and global self-concept can be argued to both carry the same meaning, and in order to reflect the preferred term used by the writers of the articles, in this review paper, the terms self-esteem and global self-concept are also used interchangeably.

Considerable controversy exists, also, in characterising self-concept as a single or multi-dimensional structure. For some scholars, self-concept is considered an individual's overall evaluation of him/herself (Campbell & Lavelle, 1993; Goodson et al., 2006). However, in recent years there has been a movement in literature away from using this single score, global one-dimensional models of the self (i.e. global self-concept or self-esteem) towards multi-dimensional models in which self-concept consists of domain specific self-concepts (Eccles, Wigfield, Harold, & Blumenfeld, 1993; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Global self-concept consists of a general perception of the self, in contrast to domain specific self-concepts, which refer to judgements of ability or a sense of adequacy in specific areas of life such as academic competence, social competence and behavioural conduct (Harter, 2012). With the term global self-concept there are no references made to particular skills or competencies. Global self-concept is not measured as the sum of specific self-concepts; it is a separate measure, reflecting a distinct, global concept of the self (Harter, 2012). Taking a one-

dimensional approach may hide many important, evaluative distinctions that children make about their competence in different domains of their lives. In middle childhood, children begin to make domain-specific judgements of their competency in different areas (for example, academic competence, social competence and behavioural conduct), and it is acknowledged this does not necessarily preclude their having an overall sense of their worth as a person (global self-concept; Harter, 2012). Taking a multi-dimensional approach also seems important as different aspects of self-concept (global and domain-specific) have been linked to different outcomes (e.g., Swann, Chang-Schneider, & Larsen McClarty, 2007; Verschueren, Marcoen, & Schoefs, 1996). The multidimensional nature of self-concept has also been demonstrated through numerous factor-analytic studies of self-concept measures (Harter, Waters, & Whitesell, 1998). However, although there has been a shift to a multi-dimensional conceptualisation of the self, in most research and reviews, global models of self-concept are the most prevalent form of self-concept studied (Rosenberg et al., 1995). Therefore, in consideration of the increasing evidence for a multi-dimensional framework of self-concept, and the possibility of evaluative distinctions across different aspects of the self, this paper includes articles that look at both global and domain specific aspects of the self.

Self-Concept and Outcomes.

Literature consistently demonstrates positive associations between self-concept and desirable psychological outcomes. Individual differences in children's self-concept have been associated to concurrent and later adjustment measures of psychological wellbeing such as peer group status, (Rudolph, Hammen, & Burge, 1995) school adjustment (Verschueren, Buyck, & Marcoen, 2001), criminal activity (Trzesniewski et al., 2006), academic attainment (Guay, Marsh, & Boivin, 2003), depression (DuBois, Tevendale, Burk-Braxton, Swenson, & Hardesty, 2000) and health (Trzesniewski et al., 2006).

Some authors have queried the utility of self-esteem for predicting outcomes and criticised the programs designed to improve it (Baumeister, Campbell, Krueger, & Vohs, 2003). For example, in a particularly influential review, Baumeister and colleagues (2003) concluded that increasing self-esteem results only in "seductive pleasure" (p.39) and is not the social cure people expect (Baumeister et al., 2003). However, in contrast to these findings, recent meta-analytic research and longitudinal studies have shown consistent support to indicate self-esteem contributes towards positive life outcomes such as mental health, relationship satisfaction and job satisfaction (Orth et al., 2012; Sowislo & Orth, 2012). Furthermore, many researchers have found programs to improve self-concept result

in positive outcomes such as improved academic performance, school behaviour and reduced substance misuse (DuBois et al., 2000; Haney & Durlak, 1998)

Therefore, in light of these positive outcomes associated with self-concept, literature that synthesises and clarifies the factors which may contribute to individual differences in self-concept would be of importance.

Theoretical background

Spanning over a century of social-psychological research, a variety of theoretical perspectives have described self-concept origins and development. These have included psychoanalytic theory, symbolic interactionism, self-identity theory and existentialism to name a few (Goodson et al., 2006). However, even though there may be differences in the theoretical conceptualisation of self-concept, most agree self-concept contains both a cognitive and social element (Harter, 2012).

Cognitive determinants focus upon the normative developmental aspects of self-concepts; and social antecedents are more likely to produce individual differences in how the self develops (Harter, 2012). From a cognitive perspective, the construction of the self is unavoidable. As cognitive processes develop and change, so will the structure and organisation of the self undergo change. Therefore, the particular cognitive progresses or limitations at each developmental stage will impact the features of the self that can be created (Harter, 2012). For young children (aged 7 years and under), their self-concept is often very narrow and formulated within specific domains due to their limited cognitive skills (Harter, 2012). A young child would typically see themselves in accordance to simple, observable features such as basic physical skills (e.g., “I can hop well!”). However, as the child gets older, emerging cognitive abilities enable the child to create self-evaluations that differ across different domains of experience. During middle childhood (beginning at around the age of 7 years), cognitive abilities enable children to make comparisons with others and understand the features and dynamics of their social and cultural experiences. These acquisitions enable the child to make a more realistic evaluation of his/her own competencies (Harter, 2012).

The self is also considered to contain a social aspect and most psychological research proposes that individual differences in self-concept derive from interactions with significant others. According to symbolic interactionists (Cooley, 1902; Mead, 1934) the self is socially constructed through interactions with significant others, i.e. initially parents or other primary caregivers. These interactions provide information about how significant others view himself/herself and these appraisals come to define one’s sense of self as a

person. Through an internalisation process, the individual comes to own their evaluations as his/her own judgements. Caregivers who provide nurture, approval and support will be mirrored in self-evaluations that are positive, whereas caregivers who lack responsiveness, approval or nurturing will result in children developing more negative views of the self (Harter, 2012). Similarly, in attachment theory (Bowlby, 1969), it is proposed that the model of the self develops from a representation of the attachment relationship between the caregiver and child.

Drawing upon dimensions of emotional closeness, conflict, and dependency to assess the quality of the parent-child attachment relationship, findings generally conclude there are significant negative impacts of having experienced insecurity with primary attachment figures (Cassidy & Shaver, 1999). A child who experiences a caregiver as emotional available, loving and supporting will construct an internal working model of the self as loveable and competent. Research generally supports the view that warm and supporting parenting practices in infancy, childhood and adolescence are associated with positive representations of the self (Arbona & Power, 2003; Lamborn et al., 1991).

In addition to the parent-child relationship in the family context, the role of interpersonal relations with teachers in shaping children's psychological adjustment is being increasingly recognised (Pianta, 1999; Sabol & Pianta, 2012).

Teacher-Child Relationships

Research indicates as early as preschool, the quality of teacher-child relationships can impact children's social, emotional and cognitive development (Davis, 2003). Studies have shown that the quality of the teacher-child relationships uniquely predict children's concurrent functioning and future development across a variety of domains, including academic performance, psychosocial functioning, motivation and engagement in school (Sabol & Pianta, 2012).

A number of theoretical frameworks have been used for understanding and conceptualising the quality of teacher-child relationship. In a review of the frameworks to study the role of teacher-child relationships, Davis (2003) cites three key frameworks: social constructionist, motivation and attachment. The social constructivist perspective draws upon Vygotsky's (1978) theory that cognitive development arises in the context of relationships, and there is a co-construction of social and academic knowledge by teachers and children in the classroom. Children's development occurs when teachers promote a sense of autonomy, allow children to make decisions and allow opportunities for socio-moral discussions. Researchers using this perspective often measure autonomy, responsibility and reciprocity in the teacher-child relationships (Davies, 2003).

The motivational approach is similar to the social constructionist approach and suggests that teacher-child relationships supports academic and social development through their contribution to social motivational process. High quality relationships are typically defined by high levels of relatedness, involvement, competence, and autonomy (Davis, 2003).

Attachment theory has been the most commonly used to study teacher-child relationships and is arguably the theory that has most strongly influenced teacher-child relationship literature (Sabol & Pianta, 2012). The attachment perspective suggests that teachers in early teacher-child relationships can be conceptualised as secondary attachment figures (Ainsworth, 1991). However, unlike primary attachment relationships, these bonds are not exclusive, long term or dominantly affective (Thijs, Koomen, & van der Leij, 2008). Nonetheless, they can fulfil the important attachment functions by providing children with a secure base to explore their surroundings and offer support in times of stress (Pianta & Steinberg, 1992). It has been hypothesised that teacher-child relationships can impact a child's self-concept. It is expected that teachers who are emotionally available, affectionate and supportive of the child will result in the child to mirror and eventually internalise this support in the form of positive self-evaluations. However, teachers who are rejecting, unsupportive or punitive will cause children to develop negative self-images and feelings of being unworthy and incompetent (Harter, 2012; Leflot, Onghena, & Colpin, 2010).

The attachment perspective typically assesses a high quality teacher relationship as characterised by high levels of closeness and low levels of conflict. Closeness refers to the experience of warmth and openness in the relationship. Conflict relates to a feeling of negativity, anger or lack of rapport in the relationship (Koomen, Verschueren, van Schooten, Jak & Pianta, 2012). Children who experience a level of friction with their teachers reduce the extent to which they are available to rely on that relationship for support. Conflict in the relationship may also cause feelings of anger or anxiety in the children, and promote feelings of withdrawal, isolation and negative school attitudes (Birch and Ladd, 1997). Measurement of the perceptions of the child-teacher relationship quality has been shown to be more related to outcomes than are actual objective measurements of quality (Kessler & McLeod, 1984; Cohen, Underwood & Gottlieb, 2000). It is the cognitive representations of the relationships that appear to influence outcomes (Reddy, Rhodes & Mulhall, 2003). Therefore, drawing on the perceptions of the child-teacher relationship quality as opposed to objective measures of the teacher relationship to

understand the impact of the relationship on children's outcomes is considered more informative.

However, in line with ecological systems theory, it is acknowledged that the teacher-child relationships sits within multiple, changing systems, including the home, the classroom, the school, the community, and their interactions (Verschuere & Koomen, 2012). Consequently, perceptions of relationships will be affected by experiences within these systems. Therefore, it is recognised, focusing on perceived affective factors in teacher-child interaction on children's outcomes will not fully capture the complexity of the relationship and all the other factors impinging on this.

Aims and Scope of the Literature Review

Despite increasing recognition of the role of teacher-child relationships and a child's self-concept on their outcomes, evidence exploring the association between these two variables is scarce. Furthermore, there is considerable debate and lack of consensus surrounding the self-concept construct. Questions remain regarding the dimensions of self-concept, the trait's malleability, its measurement and the association it has with teacher-child relationships. This literature review contributes to clarifying this picture as it presents both the cumulative findings and an overview of the quality of the research regarding the association between teacher-child relationships and self-concept (global and domain-specific) within the past two decades.

The review specifically aims to answer the following questions: (i) Is self-concept associated with teacher-child relationships? (ii) If related, what is the nature of the relationship (i.e. can teacher-child relationships predict/change children's self-concept?) (iii) What is the methodological quality of this literature? (iv) What are the implications of the findings?

1.2 Methodology

Data Sources and Search Strategy

Searches were conducted in two electronic databases: Psychinfo via EBSCO and Web of Science between October and December 2015. The search terms used were “Self Concept” OR “Self Esteem” OR “Academic Self Concept” OR “Self Confidence” OR “Self Evaluation” OR “Self Perception” OR “Self Awareness” OR Self Appraisal OR Self Worth”. These were combined with a term to reflect the teacher-child relationship using the AND search. In Psychinfo the term “Teacher Student Interaction” encompassed research exploring teacher-child relationship and quality. In Web of Science, teacher-child relationship was conceptualised through a number of similar search terms. These search terms were “student-teacher relationship” OR “teacher-child relationship*” OR “teacher-child interaction*” OR “teacher-student interaction*” OR “student-teacher interaction*” OR “teacher-student relationship*” OR “child-teacher relationship*” OR “child-teacher interaction*” The search terms were set to “subject” in Psychinfo and “topic” in Web of Science. See Appendix A for an overview of the search terms and process.

The search terms included a list of key words generated by the author and from the thesaurus tool within the Psychinfo database. Additional words were identified from key papers found during the literature search. Additional articles were obtained by conducting a manual search of the reference list of publications identified as eligible for inclusion in the review. The initial database search retrieved 194 records. In accordance with pre-defined inclusion and exclusion criteria, title and abstracts were scanned for relevance and 156 records were subsequently excluded. Full text was retrieved for 39 publications, and of these 14 were deemed to meet criteria in the current literature review. A flow diagram of the search process is shown in Figure 1.

Inclusion and Exclusion Criteria

Participants. Studies were included if global and/or domain specific self evaluations were measured for participants who were 4-18 years of age and attended an educational establishment such as a preschool, mainstream or special school.

Study design. Studies were eligible for inclusion if they were described as an original data based study and included studies employing either quantitative or qualitative methodology.

Variables. Studies were eligible for inclusion if they measured the teacher-child relationship and examined this in relation to the child’s verbal self-evaluations (global

and/or domain specific self evaluations). Studies measuring the implicit construction of the self were excluded because they arise from different evaluative processes and measure a different dimension of self-esteem compared to explicit (conscious and verbal) evaluative dimensions of the self (Harter, 2012)

Date. Studies were eligible for inclusion if they were published after 1990. This date reflects when the research on the role of teacher-child relationship in children's lives was largely instigated by the pioneering work of Robert Pianta (Pianta, 1992).

Publication requirement. Papers were included if they were published in a peer-reviewed journal and written in English. Therefore, review articles, conference papers, and unpublished work such as dissertations, were excluded.

Appraisal

Review and assessment of the quality of the articles was guided by relevant checklists provided on the Critical Appraisal Skills Programme's (CASP) website (<http://www.casp-uk.net>), an article on critiquing quantitative research (Ryan, Coughlan & Cronin, 2007) and some of the key factors outlined in Young and Solomon's (2009) article on the important components in critical appraisal. Close inspection and consideration was given to sample size and design, method of data collection, the validity and reliability of measures used, operational definitions and theoretical framework.

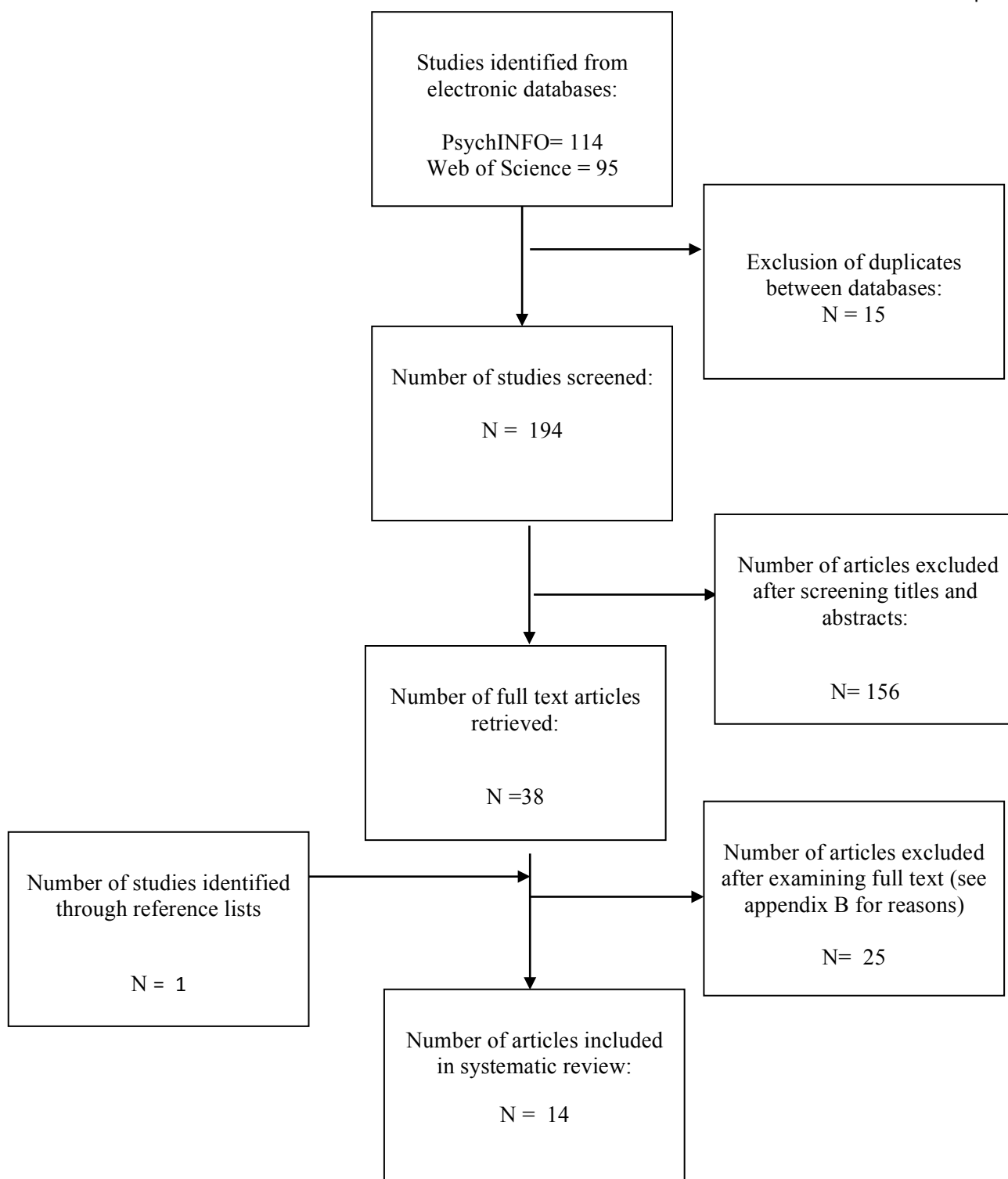


Figure 2. Flow chart of inclusion and exclusion records from the systematic review.

1.3 Results

This reviews aims to present both the cumulative findings and the quality of research regarding the relationship between teacher-child relationships and self-concept documented in journals within the past two decades. The review will begin by describing the study characteristics. This will be followed by an overview of all the studies' findings exploring the nature of the association between teacher-child relationships and self-concept. Subsequently, the methodological quality of the studies will be outlined. This section will consider a number of methodological issues that may account for any contradictory findings and impact the ability to compare results across the studies. Issues discussed relate to limitations with sampling techniques and characteristics as well as issues with the operationalisation and measurement of key constructs. Finally, conclusions and implications for future research and practice will be outlined.

The review identified 11 cross-sectional studies exploring the association between self-concept and teacher-child relationships. In addition, three longitudinal studies were identified exploring the impact of teacher-child relationship on a child's self-concept over time. See Appendix C for key data for each study reviewed.

Studies Characteristics

Source. Of the 14 reviewed studies, a similar number were published in the last five years ($n=7$) as between 1990-2010 ($n=7$). Fourteen journals, representing assorted disciplinary fields, published studies on self-concept and teacher-child relationships. Five studies were found in education and educational psychology journals. Five articles were published in journals that were specific to human or child development. The remaining four studies were published in journals that focused on counselling, disabilities, and religion.

Measures. Three studies examined self-concept as a peripheral variable (Raufelder, Sahabandu, Martínez, & Escobar, 2013; Skaalvik & Skaalvik, 2013; Valeski & Stipek, 2001). In the other 11 studies, self-concept was a primary area of interest. However, all of the studies also explored either one or more additional variables and outcome measures. These included measures of peer interactions ($n=3$), parent relationships ($n=2$), other psychological wellbeing outcomes such as depression, anxiety and aggressive behaviour ($n=4$), academic achievement ($n=2$) and school engagement measures ($n=4$). However, for this review, the primary discussions will be focused on exploring the association between the self-concept and teacher-child relationship. Nonetheless, if any of the findings

from these additional variables have direct impact or relevance to this review question, they will be discussed.

Countries. The participants were drawn from a range of countries and studies took place in Belgium ($n = 4$), USA ($n = 2$), Australia ($n = 2$), Germany ($n = 2$), Slovenia ($n = 2$), the Netherlands ($n = 1$) and Norway ($n = 1$). None of the studies were carried out with a UK population.

Design. All of the studies followed a quantitative paradigm with cross-sectional designs featured most frequently. Three studies employed a longitudinal design (Doumen, Buyse, Colpin, & Verschueren, 2011; Leflot et al., 2010; Reddy, Rhodes, & Mulhall, 2003).

Sample. Six articles used large pupil samples (>300 participants; Leflot et al., 2010; Martin 2007; Raufelder et al., 2013; Reddy et al., 2003; Sarkova et al., 2014; Skaalvik & Skaalvik, 2013). Five articles used a medium sample size (> 100 and < 300 participants; Cugmas, 2007; Doumen et al., 2011; Gavidia-Payne, Denny, & Davis, 2014; Valeski & Stipek, 2001; Verschueren, Doumen, & Buyse, 2012). Three articles had a small sample size (< 100 participants; Colwell & Lindsey, 2003; De Roos, Miedema, & Iedema, 2001; Vervoort, Bosmans, Doumen, Minnis, & Verschueren, 2014). Eight studies did not report the samples ethnicity. However, out of the six studies that did, five of the studies samples consisted mostly of White respondents ($> 80\%$ of each sample). One study consisted of a mix between African-American, Latino and White participants (Valeski & Stipek, 2001). The participants across the studies were aged between 3 years and 18 years. Six studies used participants from early childhood (< 7 years). One study used participants from middle childhood (7 to 11 years). Four had samples drawn from older childhood (12 to 18 years). Three studies recruited children across both middle and older childhood (Cugmas, 2007; Gavidia-Payne et al., 2014; Skaalvik & Skaalvik, 2013)

Method of data collection. The preferred method of data collection was self-administered questionnaires (given individually, in groups or classrooms in 11 studies). Three studies utilised interviewing to measure self-concept and subsequently scored children's responses on a Likert-type Scale (Colwell & Lindsey, 2003; Cugmas, 2007; Doumen et al., 2011). One study conducted observations to measure the teacher-child relationship quality (Colwell & Lindsey, 2003).

Theoretical framework. Nearly all the articles ($n=13$), reported the use of a theoretical framework to guide the inquiry. The most commonly employed perspective was Attachment Theory (Colwell & Lindsey, 2003; Cugmas, 2007; De Roos et al., 2001; Doumen et al., 2011; Leflot et al., 2010; Reddy et al., 2003; Verschueren et al., 2012;

Vervoort et al., 2014). Other theories also cited in more than one study were Socio-Motivational theories (Martin, Marsh, McInerney, Green, & Dowson, 2007; Raufelder et al., 2013; Skaalvik & Skaalvik, 2013), Symbolic Interactionism (Colwell & Lindsey, 2003; Leflot et al., 2010) and Systems Theory (Valeski & Stipek, 2001; Verschueren et al., 2012).

Are Teacher-Child Relationships Associated with Children's Self-Concept?

This section will consider if teacher child relationships are associated with children's self-concept. The results from the studies will be grouped to explore the associations of teacher-child relationships and children's self-concept in cross-sectional studies and longitudinal studies.

Teacher-Child Relationships and Children's Self-Concept in Cross-Sectional Research

Three of the articles explored the associations between global evaluations of self-concept (i.e. self-esteem) and teacher-child relationships (Colwell & Lindsey, 2003; Gavidia-Payne et al., 2014; Sarkova et al., 2014).

Sarkova et al., (2014) explored the association of self-esteem with students' perceived relationship with their teacher and peers. 3694 adolescent pupils (mean age 14.3 years) were included in the sample. Student-teacher relationships were measured using fifteen statements where the pupil expressed their opinions about their teachers on a 7-point Likert type scale. Self-esteem was measured using the two factors 'positive self-esteem' and 'negative self-esteem' from the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965). Linear regression was used to explore the associations between student-teacher relationships and self-esteem across the sample. The findings indicated that students who reported a better relationship with their teachers had a higher positive self-esteem and lower negative self-esteem.

Similarly, De Roos et al., (2001) also found that positive teacher relationships were related to a positive perception of the self, although this time for young children (mean age 63 months). Children's concepts of self were measured using The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984). Teacher reports of the relationship quality were measured using the Closeness, Conflict and Dependency subscales from the Student Teacher Relationship Scales (STRS; Pianta, 1992). However, only the total score of the Closeness and Conflict scores were included in the analyses. The results showed that children whose relationships were higher quality, as

characterised by more closeness and less conflict had more positive global self-evaluations.

Gavidia-Payne et al., (2014) also explored the relationship between teacher-child relationship quality and children's general self-concept. The sample consisted of 219 dyads of children (aged between 7 – 14 years), representing rural ($n = 33$) and urban ($n = 186$) communities in Australia. Teacher reports of the teacher-child relationship quality were measured from the total score of the Closeness and Conflict subscales from the Student Teacher Relationship Scale –Short Form (STRS-SF; Pianta, 1992). Children completed the self-report Beck Youth Inventory-Self Concept Inventory (BYI-SCI; Beck, 2001) to measure perceptions about self-competence and self-worth. Separate correlation analyses were conducted for rural and urban samples. For the rural sample, significant moderate correlations between student-teacher relationships and children's self concept was found indicating that a higher quality teacher-child relationship was associated with a more positive self-concept for students. However, no significant associations were noted between the self-concept levels of urban children and teacher-child relationship quality. It is plausible that in the more economically deprived rural locations (Gavidia-Payne et al., 2014), teachers may play a more important role in the child's self-concept. Indeed, a recent review of teacher research literature suggest that children with demographic risk, including minority status and low socio-economic status, appear to benefit more from close relationships with teachers compared to those not at such risk (Sabol & Pianta, 2012).

Colwell and Lindsey (2003) explored the association between teacher-child relationships and preschool children's self-concept. Children's cooperative behaviour, emotional expressions and aggression towards teachers were measured through researcher observation. The results indicated that the quality of teacher-child relationships was differentially associated to boys' and girls' self-concept. Girls who were cooperative with teachers had low self-concept, whereas in contrast, boys who were cooperative with teachers displayed high self-concept. Although displays of positive emotion was associated with higher self-concept for both genders, aggressive behaviour was only significantly associated with the boys' self-concept. Colwell and Lindsey (2003) conclude that gender is a 'critical' factor in understanding the associations between teacher-child relationships and children's self-concept. However, Colwell and Lindsey (2003) do not provide further explanation for why this may be the case or acknowledge previous research which has not found such gender differences in children's self-concept and teacher relationships (e.g., Leflot et al., 2010; Marsh, Craven, & Debus, 1991; Martin et al., 2007).

Three cross-sectional studies drew upon a multi-dimensional construction of self-concept, exploring the associations with teacher-child relationships and both global and domain measures of self-concept (Martin et al., 2007; Verschueren et al., 2012; Vervoort et al., 2014).

Verschueren et al., (2012) explored the association between teacher ratings of teacher-child relationship quality as defined by closeness and conflict between three dimensions of children's self-concept (general, academic and social). A sample of 113 children participated (mean age 6.2 years). Teacher-child relationship quality was positively associated with children's academic and social self-concept. However, teacher-relationship quality was not associated with general self-concept. This suggests that the quality of relationship with teachers may differentially affect different dimensions of children's self-concept. For example, positive harmonious relationships with teachers strongly relate to a positive view of the self in the academic domain as opposed to being associated with more general views of self worth (Verschueren et al., 2012).

Martin et al., (2007) also explored the association between teacher-student relationship quality and general and academic self-concept. However, this was on a much larger sample ($N= 3450$) and older age group (mean age 14.03 years) and drew on the students' report of all teachers. The findings indicated that the student reports of their relationship quality with their teachers was strongly and significantly associated to both academic ($r = .54, p < .001$) and general self-concept ($r = .51, p < .001$). In contrast to Verschueren et al., (2012), this finding suggest that teacher relationships have an equally similar significant association on both general and academic self-concept. However, it is important to note that drawing comparison between the two studies is difficult due to the difference in age range studied and difference in the measures of self-concept and teacher quality of relationship used.

Interestingly though, both Martin et al., (2007) and Verschueren et al., (2012) also explored the combined and unique effects of parent-child relationships on student's self-concept. Verschueren et al., (2012) found that mother-child attachment security was significantly associated with children's general and social self-concept, but not children's academic self-concept. However, mother-child attachment security was found to indirectly predict children's academic self-concept through its effect on the quality of the first grade teacher-child relationship ($z = 1.99, p < 0.05$).

Martin et al., (2007) showed that after controlling for gender, age and the presence of both teacher and parent relationships, teacher effects were stronger than parent effects on academic self-concept (teacher $\beta = .45; p < .001$; parent $\beta = .17; p < .001$). However,

parent effects were statistically significant and relatively more so in the non-academic domain when predicting general self-concept (teacher $\beta = .39$; $p < 0.01$; parent $\beta = .27$; $p < .001$).

These findings indicate that although teacher relationships play a significant role in children's self-concept, the quality of relationship with teachers and others (e.g. parents) may also differentially affect different dimensions of children's self-concept (Martin et al., 2007; Verschueren et al., 2012). Furthermore, Verschueren et al., (2012) indicated the attachment to a parent may also have indirect effects on self-concept through its impact on the relationship with the teacher. This is similar to previous research findings that suggests the quality of the child's relationship with the parent can impact the relationship with the teacher (Sabol & Pianta, 2012; Verschueren, 2015).

Similarly to Verschueren et al., (2012), Vervoort et al., (2014) also explored the associations between teacher-child relationship quality and general and social self-concept in children (mean age 8.52 years). The Child Appraisal of the Relationship Scale (CARTS) was used to measure three affective dimensions of the teacher child relationships including, closeness, conflict and dependency. Both social and global self-concept dimensions were associated with child reports of closeness and dependency with the teacher. However, unexpectedly, there were no significant correlations between child reported conflict with the teacher and the child's self-concept (Vervoort et al., 2014). Finally, four cross-sectional studies explored the association between teacher-child relationships and children's academic self-concept (Cugmas, 2007; Raufelder et al., 2013; Skaalvik & Skaalvik, 2013; Valeski & Stipek, 2001).

Skaalvik and Skaalvik (2013) explored the association between student's academic self-concept and their perception of their teachers as emotional supportive for 8971 students, aged between nine and sixteen years of age. Initial correlational analyses indicated a medium positive correlation between perception of teacher and general academic self-concept ($r = .26$, $p < .01$). Further analyses also revealed interesting differences between younger (9-12 years) and older school students (13-16 years). Relations with teacher were more strongly related to academic self-concept for older students than for younger students. Skaalvik & Skaalvik (2013) account for this difference by suggesting that as school work becomes more demanding with increasing age students may be relying more on the social support and encouragement from teachers to support their academic abilities and concept.

Raufelder et al., (2015) also found that higher levels of student's perception of their relationship with teachers was associated with higher levels of individual academic self-

concept for older children (mean age 13.7 years). However, unlike in Skaalvik and Skaalvik's (2013) study, age differences were not analysed, nonetheless, a broad sample of students ($n=1088$) across multiple schools ($n=23$) support the generalisation of these findings.

Valeski and Stipek (2001) examined the association between young children's feelings towards teachers and perceptions of their academic concept (literacy and maths self-concept). Correlational analyses revealed significant positive correlations between children's perceptions of the relationship with their teacher and their perceptions of their own competence in math and literacy. However, the measure used to assess children's math and literacy self-concept (Feelings About School) indicated questionable reliability with coefficient α s of .68 and .61 respectively. Therefore, given that the generally accepted internal reliability value is $\alpha = 0.7$ (Kline, 1999), the credibility of the findings is jeopardised.

Finally, Cugmas (2007) examined the connection between styles of teacher-child attachment and measures of children's academic, artistic and motor self-concept. The Scale of a child's attachment to his/her kindergarten teacher (CAKT) was used to measure teacher reports of the child's attachment relationship. This measure consisted of 129 items written in a five-point Likert type scale. Six subscales of attachment style behaviours were measured including, secure, resistance, disorganised, avoidance, dependence and trustfulness. Correlational analyses indicated a mixed pattern of findings. As expected, academic self-concept, artistic self-concept and motor self-concept were positively associated with a secure attachment to the teacher. However, unexpectedly, no significant correlations were noted between trustfulness, disorganised and resistant patterns of attachment to the teacher and children's self-concept.

It is possible that the correlations between attachment and self-concept were few due to the reliance on teacher reports of attachment. It has been found with measures of attachment, trained observers provide more reliable measure of attachment than teachers (Cassibbu, Marinus & Van Ijzendoorn, 2000). It was also suggested that the less sensitive teachers might overlook the subtle signs of attachment relationship patterns in children as measured with the CAKT (Cugmas, 2007).

Summary of Cross-Sectional Findings

Overall, the cross-sectional studies exploring the association between measures of children's global self-concept and teacher-child relationship quality provided mixed evidence. Some studies did suggest there was a significant relationship between measures

of teacher relationship quality and global self-concept (e.g., De Roos et al., 2001; Martin et al., 2007; Sarkova et al., 2014). However, a few studies found either no significant associations between general self-concept and teacher-child relationships or that associations differed between demographic groups or teacher-child relationship characteristics (Colwell & Lindsey, 2003; Gavidia-Payne et al., 2014; Vervoort et al., 2014).

Nonetheless, evidence for associations between teacher-child relationships and self-concept was more consistent when specific domains of self-concept, such as self-concept, were investigated. Overall, the majority of these studies indicated there was a significant relationship between academic self-concept and measures of teacher-child relationships (e.g., Raufelder et al., 2013; Skaalvik & Skaalvik, 2013; Valeski & Stipek, 2001). This suggests that the relationship with teachers may differentially affect different dimensions of children's self-concept. It is possible that situation dependent or context specific, related representations may be activated, which do not activate other representations (Sibley & Overall, 2008). For example, positive harmonious relationships with teachers are more strongly related to a positive view of specific aspects of the self associated with teaching - such as academic input - as opposed to broader, general views of the self.

However, although cross-sectional studies enable correlations to be explored through correlational analysis, causal inferences cannot be made. This limits the assertions about the stability of the results over time. For example, although researchers typically propose that the direction of these effects is from supportive teacher relationships to children's self-concept, it is not possible from the cross-sectional studies to determine whether the individual differences in children's self-concept may actually be determining the support of the teacher instead. Therefore, in the next section, the possible direction of the relationship will be explored by considering longitudinal studies.

Teacher-Child Relationships and Children's Self-Concept in Longitudinal Research

Three studies used longitudinal designs to address the question of the relationship between teacher-child relationships and children's self-concept (Doumen et al., 2011; Leflot et al., 2010; Reddy et al., 2003).

Reddy et al., (2003) explored the influence of perceived teacher support on global self-concept for 2585 students followed through from sixth to eighth grade (11 to 14 years of age). Measurements of global self-concept and perceived teacher support were taken at three time points. Using cross-domain latent growth modelling it was found that, for both males and females, changes in students' perceptions of teachers support reliably predicted

changes in their self-concept. For example, students who perceived increasing teacher support showed corresponding increases in global self-concept. A competing model was also tested, which provided further support for the pathways of effect from perception of teacher support to self-concept rather than the reverse.

Doumen et al., (2011), as part of their study exploring the association between teacher child conflict and aggressive behaviour, explored the link between teacher reports of teacher-child conflict and children's global self-concept (self-esteem). 139 children (mean age 6.18 years) were followed longitudinally throughout their first year at school. Teacher-child conflict was measured in the first term and children's global self-concept in the second term. In order to provide a reliable and valid picture of children's self-esteem three different measures were used. The measures were the Pictorial Self-Evaluation Scale (PSES; Harter & Pike, 1984), the Self Description Questionnaire (Marsh, 1989) and a Puppet Interview (Doumen et al. 2011). Teacher conflict at time one was negatively associated with the PSES (Harter & Pike, 1984) and Puppet Self-Concept Measures at time two. Structural equation models of the relationship between teacher-child conflict and self-esteem at time two were carried out. Overall, the results indicated that teacher-child conflict at time one predicted children's global self-concept at time two. However, a significant limitation of this study was that levels of self-esteem at time one were not controlled for and teacher-child conflict was not measured at time two. This may have inflated the association or changed the association between measures of teacher-child conflict and self-esteem. Moreover, this means it is not possible to conclude whether changes in children's teacher-child conflict may impact upon children's self-esteem. Future research should follow up measures of teacher-child conflict, children's self-esteem from the start to the end of the school year to examine the direction of effect between these two constructs (Doumen et al., 2011).

Finally, Leflot et al., (2010) explored whether teacher-child relationships as measured by teacher reports of involvement, structure, and autonomy support at the start of the second year at school predicted children's global, academic, social and behavioural self-concept at the end of the year. 570 children (mean age 7.5 years) and their teachers participated. Measurements of children's self-concept were taken using the Self-Perception Profile for Children (SPPC; Harter, 1985). Measurements of children's self-concept and teacher-children relationships were taken both at the beginning of the second year and at the end of the second year. To evaluate the effect of teacher relationships on children's self-concept, the researchers conducted multiple hierarchical regression analysis with self-concept as the outcome. The results indicated that, when controlling for the child's initial

amount of self-concept, children's social self-concept was predicted by teacher involvement, structure, and autonomy support. Academic self-concept was predicted by teacher autonomy support but not teacher structure or involvement. Results regarding global and behaviour self-concept was not significantly predicted by the teacher relationship dimensions. The findings were similar for both males and females (Leflot et al., 2010). This study indicates that different facets of children's self-concept may be differentially affected by varying characteristics of the teacher-child relationship.

Summary of Longitudinal Findings

Overall, these longitudinal studies provide some evidence that supportive, non-conflicted teacher relationships may contribute towards a child's self-concept at early and late childhood. However, although Doumen et al., (2011) and Reddy et al., (2003) found teacher relationships directly predicted global self-concept, Leflot et al., (2010) did not. Instead Leflot et al., (2011) noted that varying teacher-child relationship characteristics contributed towards children's social and academic self-concept, but not behaviour and global self-concept. A strength of two of these studies were the relatively large sample size (> 500 participants; Leflot et al., 2010; Reddy et al., 2003). However, there are a number of limitations in the studies including, the relatively short time frame between the repeated measures for two of the studies (< 12 months; Doumen et al., 2011; Leflot et al., 2010), and lack of control of initial levels of self-concept in one of the studies (Doumen et al., 2011). It is also possible that other factors, not included in the studies may underlie the associations between teacher-child relationships and children's self-concept, for example children's perceptions of the teacher-child relationship (Leflot et al., 2010) or family factors, such as attachment histories.

An aim of this review was to explore the nature of this relationship (i.e. can teacher-child relationships predict/change children's self-concept?) Overall, there is some evidence to suggest that high quality teacher relationships may impact some aspects of children's self-concept. However the small number of longitudinal studies and methodological limitations within these studies highlight the need for future research to understand further the nature of the relationship between self-concept and the teacher-child relationship

A third question of this review was to explore the methodological quality of the literature. Across the 14 studies, there were a number of methodological limitations, which could account for the contradictory findings, and/or impact the ability to compare results across the studies and evaluate the strength of the findings. Some specific limitations have

already been highlighted and now general methodological issues across all the studies will be presented.

Methodological Considerations

Sample. The majority of the samples were convenience/non-probability samples and only three studies had samples that were randomly and nationally representative (Cugmas, 2007; De Roos et al., 2001; Raufelder et al., 2013).

Recruiting participants through convenience and non-probability sampling approaches may have resulted in selection bias, potentially limiting the generalisability of the results. Furthermore, although the majority of the studies reported details regarding the age, gender and socio-economic status of participants, there were a number that did not. For example, Gavidia-Payne et al., (2014) and Skaalvik & Skaalvik, (2013) both failed to disclose information on the ethnicity, socio-economic status and gender of the participants. Reporting these demographic characteristics may be important, given that differences in teacher-child relationship have been found between genders (Koepke & Harkins, 2008; Ryan, Stiller, & Lynch, 1994) and differences in self-concept have been found between ethnic groups (Gray-Little & Hafdahl, 2000; Twenge & Campbell, 2001).

Measurement of self-concept. Half of the studies utilised global measures of self-concept. Seven studies employed domain specific or global measures. The most common domain measured was academic self-concept (Cugmas, 2007; Leflot, Onghena, & Colpin, 2010; Raufelder et al., 2013; Skaalvik & Skaalvik, 2013; Valeski & Stipek, 2001; Verschueren et al., 2012). Other domains measured included social self-concept (Leflot et al., 2010; Verschueren et al., 2012; Vervoort et al., 2014), behavioural self-concept (Leflot et al., 2010) and motor self-concept (Cugmas, 2007).

Twelve different self-report measures of self-concept were used in the 14 studies included in the review with varying features and terms used. The most commonly utilised measure, used by five studies was the Self-Description Questionnaire. The measures varied in size, with some measures using as little as a total of three items (Feelings About Myself and Peers; Colwell & Lindsey, 2003) while others consisted of 41 items (Self-concept Scale; Raufelder et al., 2013).

Testing of individual studies' data for validity and reliability was reported across 13 of the studies. One study cited published validation studies of the measures (Gavidia-Payne et al., 2014). The majority of the studies ($n=11$) demonstrated acceptable construct validity and reliability. However, three studies reported questionable reliability data (Cronbach's

alpha < .70) for the self-concept measure or particular subscales of the measures used (Feelings About School; Valeski & Stipek, 2001 and The General Self-Concept Scale of the Self Description Questionnaire; Doumen et al., 2011 & Verschueren et al., 2012). However, despite the generally acceptable validity and reliability of the instruments used to measure self-concept, the variation in the conceptualisation (i.e. global or domain specific measures of self-concept) and instruments used to measure self-concept across the studies make comparison between the findings problematic.

Operationalisation of self-concept. Despite the centrality of the construct in the majority of the studies, only five articles present a conceptual definition of self-concept (Gavidia-Payne et al., 2014; Leflot et al., 2010a; Raufelder et al., 2013; Skaalvik & Skaalvik, 2013; Vervoort et al., 2014).

Furthermore, only a few studies assessed both global and domain-specific evaluations of the self despite the increasing evidence that children can distinguish between these dimensions (Marsh & Craven, 1998). Interestingly, two of these studies found domain specific measures of self-concept (academic and social) were more strongly associated with teacher-child relationships than global self-concept (Leflot et al., 2010; Verschueren et al., 2012). Furthermore, it was noted that the quality of the relationship with teachers and others (e.g. parents) may also differentially affect different dimensions of children's self-concept (Verschueren et al., 2012). These findings are comparable to the literature suggesting that there may be differential antecedents and outcomes associated with different facets of the self (Swann et al., 2007; Verschueren et al., 1996).

It is possible that using a global measurement of self-concept may account for some of the mixed and non-significant findings. For example, two different studies measured similar dimensions of teacher relationships (closeness and conflict), however, one measured the association with domain specific dimensions of self-concept (social and academic domains; Verschueren et al., 2012) and found more consistent associations with teacher-child relationships than the study drawing on a global measure of self-concept (Gavidia-Payne et al., 2014). However, currently research exploring the association of teacher-child relationships with both domain and global measures of self-concept is scarce. Future studies using domain-specific measures of self-concept to measure and understand the unique influences of the teacher-child relationship on various aspects of the self are required.

Operationalisation of teacher-child relationships. Teacher-child relationships were most often defined by an attachment-based construct, measuring either a combination of or single aspect of the closeness, conflict and dependency perceived in the relationship

(Cugmas, 2007; De Roos et al., 2001; Doumen et al., 2011; Gavidia-Payne, Denny, & Davis, 2014; Leflot et al., 2010; Verschueren et al., 2012; Vervoort et al., 2014).

However, socio-motivational models of teacher-child relationships defined by a variety of measures related to autonomy, involvement and relatedness were also used in three articles (Martin et al., 2007; Raufelder et al., 2013; Skaalvik & Skaalvik, 2013).

Socio-motivational theories propose that individuals have a basic psychological need for relatedness, autonomy and competence (Connell & Wellborn, 1991; Wu, Hughes, & Kwok, 2010). According to this perspective, a child who views their teacher as being close, and supportive will have a higher perceived competence, than a child who does not feel supported or close. It has been argued this theoretical framework of teacher-child relationships shares significant conceptual overlap with attachment-based constructs (Davis, 2003), specifically involvement and relatedness (e.g., closeness) and autonomy (e.g. dependency and conflict). Nonetheless, there were methodological differences noted between these two approaches in the review. Studies drawing on a socio-motivational framework tended to draw on the child's perception of support or sense of relatedness with all teachers, whereas studies drawing on an attachment construct explored the role of an affective, dyadic relationship between an individual teacher and the child.

However, children will perceive varying levels of teacher relationship quality from different teachers and across subject areas as teacher interacting styles vary considerable (Hamre, Pianta, Bear, & Mink, 2006). Therefore, for these studies, assessing the unique contribution of the individual teacher relationships on the development of the child's self-concept is not possible. In primary schools in England, children typically have one primary teacher. However, in secondary schools, there is a change from one primary teacher to multiple classrooms and fewer opportunities for supportive, high quality student-relationships to develop (Lynch & Cicchetti, 1997). Therefore, conducting research exploring the role of teacher-child relationships on a child's self-concept may be more relevant in primary schools where children have had more opportunity to develop these high quality relationships.

Measures of teacher-child relationships. Eleven different measures of teacher-child relationships were used across the 14 studies. The most commonly utilised measures used in four of the studies was the Student-Teacher Relationship Scale (Pianta, 1992). The measures varied in size, with some measures using as little as four items (Teacher Relationship Scale; Martin et al., 2007), while others consisted of 129 items (Scale of Children Attachment to Kindergarten Teacher; Cugmas, 2007). Tests of validity and

reliability of these measures were reported as acceptable for 13 studies. Only one study did not report tests of validity and reliability (Teacher Relationship Scale; Martin, 2007).

Overall, the majority ($n = 10$) of the studies explored one dimension of teacher-child relationship or analysed combined dimensions of closeness and conflict as one variable (e.g., Gavidia-Payne et al., 2014; Verschueren et al., 2012). However, some of the studies suggested there may be differing effects of teacher-child relationship dimensions upon a child's self-concept (e.g., Leflot et al., 2010; Vervoort, 2014). For example, Leflot et al., (2010) found that although teacher autonomy was associated with academic self-concept, teacher involvement was not. Nonetheless it is not possible to draw conclusions as to the nature of the effect of differing teacher-child relationship characteristics on children's self-concept due to the number of different dimensions and measures used.

Therefore, despite the general acceptability of the measures used, understanding the potential varying role of individual characteristics of teacher-child relationships upon the development of children's self-concept is problematic because of the lack of multidimensional approaches taken and variation in measures used across early, middle and late childhood. Future research investigating the unique contribution of the different dimensions of teacher-child relationships upon a child's self-concept would be of interest. This would also provide insight into the particular characteristics of teacher-child relationships that could usefully be targeted in interventions to improve children's self-concept.

Age. A number of the studies explored the associations between teacher-child relationships and self-concept in a sample of younger children (aged between 3 and 7 years). However, it has been suggested that younger children lack the cognitive ability to engage in social comparison and are not yet able to distinguish between their real and ideal self-concepts (Harter, 2012). Furthermore, the internalisation of others' standards and opinions about the self is believed to start from middle childhood onwards (starting at age 7 or 8 years), whereas in early childhood the child purely identifies the values and opinions of others whom he/she wants to please, and attempts to adjust his/her behaviour accordingly (Higgins, 1991; Leflot et al., 2010). Therefore, the young age of the children in a number of studies raises a query as to the accuracy of their self-perceptions measured and therefore, the validity of the findings are questionable.

Three studies included children across a wide range of ages that spanned over early and middle, or middle and older childhood. However, often children's relationships with teachers change across early to older childhood. Relationships between teachers and older children in secondary school become less personal and more formal, evaluative and

competitive (Hamre et al., 2006; Lynch & Cicchetti, 1997). In addition, typically older children spend very little time each day with one teacher, therefore limiting their ability to develop close relationships (Hamre et al., 2006). Although one study indicated that older children's academic self-concept may be more strongly associated with teacher-child relationships than younger children (Skaalvik & Skaalvik, 2013) no specific developmental hypotheses with regards to the importance of teacher-relationship and self-concept were made or tested in the other two studies (Cugmas, 2007; Gavidia-Payne et al., 2014).

Furthermore, drawing comparisons between the studies exploring younger or older children's self-concept to explore developmental differences were not possible due to the number of different measures and conceptualisations of self-concept and teacher-child relationships made across these studies. It could be expected that different aspects of teacher-child relationships may be associated with varying dimensions of child self-concept in earlier childhood compared to later childhood. For example, for younger children, dimensions of closeness to the teacher may be related more strongly to general views of the self, whereas for older children dimensions of structure and autonomy may be more related to specific, academic constructions of the self. However, as of yet this area of research has not been thoroughly examined.

Self-report measures. Nearly all of the studies ($n=13$) relied upon self-report questionnaires. This approach is appropriate and necessary when measuring a construct such as self-concept that is a self-referential response and may not easily translate into observable behaviours (Conway & Lance, 2010). However, a potential problem for using self-report tools to measure teacher-child relationship quality is the issue of social desirability. Social desirability may result in a typically more flattering report about the self or representation of one's role in the relationship (Goffin & Gellatly, 2001). Therefore, future research should go beyond the subjective nature of the self-report data and use other measures of teacher-child relationship quality or objective indicators of key constructs to replicate the findings and test its generalisability.

1.4 Discussion

The overall aim of this review was to summarise and appraise a systematically searched body of literature to examine the evidence for an association between teacher-child relationship quality and self-concept (global and domain-specific). This is the first known systematic review that incorporates a comprehensive and critical appraisal of this research.

However, there are limitations that should be considered when interpreting the findings. Despite the systematic searching of the literature, it is possible due the selection of the search terms, not all key studies were included. In addition, it is plausible that studies in which results were less significant, or less conclusive have been excluded due to the decision to exclude the studies not included in a peer-reviewed journal. This raises the potential of this review reflecting publication bias, which could lead to an inflation of the finding that teacher-child relationships are associated to a child's self-concept.

Nonetheless, despite these limitations, there are a number of valuable conclusions from the literature reviewed that can be made. The first aim of the review was to determine whether children's self-concept was associated with teacher-child relationships. Overall, studies exploring the association between measures of children's global self-concept and teacher-child relationship provided mixed evidence. Some studies did suggest there was a significant relationship between measures of teacher relationship quality and children's self-concept (e.g., De Roos et al., 2001; Martin et al., 2007; Sarkova et al., 2014). However, on the other hand, a few studies found either no significant associations between general self-concept and teacher-child relationships; or that associations differed between demographic groups; or the link was more apparent for particular teacher-child relationship characteristics such as the level of conflict in the relationship (e.g., Colwell & Lindsey, 2003; Gavidia-Payne et al., 2014; Verschueren et al., 2012).

Nonetheless, evidence for relations between teacher-child relationships and self-concept appeared more consistent when separate domains of self-concept, such as academic and social self-concept, were explored. All in all, the majority of these studies indicated there was a significant relationship between academic self-concept and measures of teacher-child relationships (e.g., Raufelder, Sahabandu, Martínez, & Escobar, 2013; Skaalvik & Skaalvik, 2013; Valeski & Stipek, 2001). There was also some evidence that the teacher-child relationship may be more strongly associated with academic self-concept

compared to the more global aspects of self-concept (Leflot et al., 2010; Verschueren et al., 2012), although this was not found across all studies (e.g., Vervoort et al., 2014).

The second question of the review was to explore what the nature of the association between self-concept and teacher-relationships was (i.e. can teacher-child relationships predict/or influence change in children's self-concept?). The review indicated there was some evidence that the teacher-child relationship can cause changes in a child's global self-concept (e.g., Reddy et al., 2003). However, in contrast, Leflot et al. (2010) did not find teacher relationships predicted global self-concept. Instead, Leflot et al., (2010) noted that varying teacher-child relationship characteristics contributed towards children's social and academic self-concept. Overall, although there is some evidence to suggest that high quality teacher relationships may impact some aspects of children's self-concept the relatively short time frame between measures taken in these studies, and the small number of longitudinal studies means that more research is required to understand further the nature of the relationship between self-concept and teacher-child relationships.

Taken together, the findings of this literature review provide some tentative support for symbolic interactionist theory and Attachment Theory whereby children's self-concept is mostly a social construction that is developed within the context of relationships with significant others (Bowlby, 1969; Harter, 2012; Mead, 1934). There was some evidence for a specialised effects model in which differing interpersonal relationship (e.g. parents and teachers) may differentially affect different dimensions of children's self-concept (Sibley & Overall, 2008; Verschueren et al., 2012). For example, positive harmonious relationships with teachers may more strongly relate to a positive view of the self in the academic domain compared to general views of self, which may be more related to parental-child relationships (Leflot et al., 2010; Verschueren et al., 2012).

However, after reviewing the methodological quality of the research (question three of the literature review), due to the vast variation in measures, age groups and operationalisation of terms used across all the studies it is difficult to draw conclusions or make inferences about the exact nature of this association and role that different dimensions of teacher-child relationships and self-concept may have. It is clear that future research is needed to improve and clarify our understanding of the relationship between teacher-child relationships and self-concept.

The final aim of this review was to explore the implications of the findings. Some ideas for future research to address specific methodological limitations have already been discussed, and now implications for more general and broad areas for future research and practice will be outlined.

Implications for Future Research and Practice

The controversies and variability regarding definitions and dimensions of self-concept and teacher-child relationships outlined above have considerable negative implications for the ability to understand the nature and role of teachers upon the development of children's self-concept across early, middle and later childhood. Future researchers should focus on creating developmentally sensitive measures that combine the varying constructs of teacher-child relationships and dimensions of self-concept. Future research is also needed to further clarify whether the findings hold across different raters of the relationship. No study explored both child and teacher perception of the relationship quality or combined self-reports with observations. For example, it may be of interest to assess teacher and child perception of relationship closeness or conflict, as well as observe the relationships between the dyads (Sabol & Pianta, 2012). Some research has shown the potential for multiple perspectives (Hughes, 2011; Murray, Murray, & Waas, 2008) but future research is required to identify the effects and strength of the findings across multiple informants.

The research exploring the associations between relationships with teachers and self-concept have primarily focused on early or late childhood. However, it is in middle childhood, that a child's education becomes more formal and school becomes an increasingly important context for a child's development (Verschueren, 2015). Middle childhood is also considered the stage when the attachment system becomes more differentiated and diversified and children begin to form close affectional bonds with additional figures other than their primary caregiver, such as their teacher (Kerns, 2008). Moreover, because of the different role of teachers across children's experience in school (Hamre et al., 2006), it is possible that different characteristics of teacher-child relationships are linked to children's self-concept in early and late childhood compared to middle childhood. This area of research has not yet been thoroughly explored, but remains an important area for future research.

Another gap in the literature is that associations between self-concept and their relationships with teachers and parents have typically been studied separately. However, several studies have noted that the quality of the child's primary attachment is likely to effect the quality of the child's relationship with the teacher (Sabol & Pianta, 2012; Verschueren, 2015). Furthermore, two studies that did explore the impact of parent and teacher relationships on children's self-concept found domain-specific links between

interpersonal relationship dimensions and self-concept (Martin et al., 2007; Verschueren et al., 2012). Therefore, future studies may benefit from taking into account the role of the parent-child relationships as this may potentially operate to influence the children's relationship with the teacher or their self-concept and obscure the interpretation of the findings.

The findings from the review add to the growing body of research highlighting the important role of high quality teacher-child relationships for children's development. This has key implications for the training of teachers, in that, forming high quality relationships with their students is an essential goal, in addition to their more formal teaching activities (Leflot et al., 2010). During teacher training, it would be helpful for teachers to be taught the underpinning theory and research on the importance of the teacher-child relationship for children's developmental outcomes in various aspects, such as children's self-concept. Furthermore, it would be valuable for teachers to be provided with support to learn how to facilitate close, supportive relationships with each child. Professionals involved in the development of teachers, such as educational psychologists may be suited to provide this support. Providing close, warm, supportive and non-conflicted interactions may allow teachers to increase their positive role for children's continuing development through supporting the child's self-concept.

Chapter 2: The Effects of the Teacher-Child Relationship and Caregiver Attachment Security on Children's Self-Concept in Middle Childhood

2.1 Introduction

This empirical study examines whether teacher-child relationships as characterised by perceptions of conflict and closeness are associated with children's global, academic, social and behavioural self-concept. This study also examines whether high quality teacher relationships (as characterised by low conflict levels and high levels of closeness) may buffer children who are less securely attached to their caregivers against negative outcomes, such as low self-concept. The methodology of the study is outlined to allow for replication. The results from the study are presented and the findings discussed in light of the current evidence base. Finally, implications for future research and professional practice are outlined.

Self-Concept

Self-concept is defined as how an individual consciously reflects upon and evaluates their characteristics in a verbalised form. It is evaluative in nature whereby descriptions of the self convey an evaluation of the self along a continuum of positive to negative appraisals (Harter, 2012). In recent years there has been a movement in the literature away from global one-dimensional models of the self (i.e. self-esteem or global self-concept) towards multi-dimensional models in which self-concept consists of domain specific self-concepts (Eccles, Wigfield, Harold, & Blumenfeld, 1993; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Whereas global self-concept relates to issues of general self worth and one's overall evaluation of value as a person, domain specific self-concepts refer to evaluative judgements of one's attributes across discrete areas such as academic competence, social competence and behavioural conduct (Harter, 2012).

Literature consistently demonstrates positive associations between self-concept and desirable psychological outcomes. Individual differences in children's self-concept have been found to be associated with concurrent and later adjustment measures of psychological wellbeing such as peer group status (Rudolph et al., 1995), school adjustment (Verschuere, Buyck, & Marcoen, 2001), criminal activity (Trzesniewski et al.,

2006), academic attainment (Guay et al., 2003), depression (DuBois et al., 2000) and health (Trzesniewski et al., 2006).

According to attachment theory, children develop working models of the self, and self-other relationships based on representations of the relationship between the caregiver and the child (Bowlby, 1969). In this paper, attachment is defined as a close affectional bond, in which there is a desire to maintain closeness and the provision of security is central (Ainsworth, 1991). It is a relationship whereby unexplainable separation causes distress and permanent loss and grief (Bowlby, 1969).

Bowlby (1969) proposed that children who have consistently experienced sensitive, responsive care develop a model of the caregiver as supportive and loving and a model of the self as acceptable, loveable and worthy. Whereas children who have been rejected, or treated insensitively, tend to view themselves as unworthy and unlovable (Goodvin, Meyer, Thompson, & Hayes, 2008; Thompson, 2008). In support of these assertions, predictive links between parent-child attachment quality and representations of the self have been established in several studies. This association has been found in children in early childhood (i.e., below the age of seven approximately; e.g., Goodvin, Meyer, Thompson, & Hayes, 2008; Verschueren, Marcoen, & Schoefs, 1996) as well as in middle and late childhood (e.g., Laible, Carlo, & Roesch, 2004; McCormick & Kennedy, 1994). However, in addition to the parent-child relationship in the family context, teachers are increasingly being considered as key adults involved in shaping children's psychological adjustment (Sabol & Pianta, 2012).

Teacher Child Relationships

Interpersonal relationships with teachers have been recognised as an important predictor of a child's psychological adjustment (Pianta, 1999; Sabol & Pianta, 2012). An attachment perspective can be used to describe the affective quality of the teacher-child relationship, typically by measuring two relatively independent constructs: closeness, the experience of warmth and openness in the relationship; and conflict, the experiences of disagreement and anger in the relationship (Koomen, Verschueren, van Schooten, Jak, & Pianta, 2012). A high quality relationship is characterised by high levels of closeness and low levels of conflict.

Several studies have demonstrated that high quality teacher-child relationships uniquely predict children's concurrent functioning and future development across a variety

of domains, including academic performance, psychosocial functioning, motivation and engagement in school (see Sabol & Pianta, 2012).

Self-Concept and Teacher Relationship Research

In accordance with attachment theory, relationships with teachers that are supportive, close and positive are expected to produce children who mirror and eventually internalise this support in the form of positive self-evaluations. However, teachers who are distant, negative and rejecting towards the child will cause children to develop feelings of being unworthy and incompetent (Harter, 2006).

Cross-sectional studies have provided some evidence for an association between close and supportive teacher-child relationships and children's self-concept. This relationship has been found for children's and adolescents' general self-concept (e.g., De Roos, Miedema, & Iedema, 2001; Martin, Marsh, McInerney, Green, & Dowson, 2007), as well as for children's academic (e.g., Martin et al., 2007; Valeski & Stipek, 2001; Verschueren, Doumen, & Buyse, 2012) and social self-concept (e.g., Verschueren et al., 2012).

Moreover, building upon these findings, longitudinal studies have confirmed a predictive association between teacher-child relationship quality and self-concept (Doumen, Buyse, Colpin, & Verschueren, 2011; Leflot, Onghena, & Colpin, 2010; Reddy, Rhodes, & Mulhall, 2003). For example, high levels of teacher-child conflict in a child's first year at school (mean age = 6 years 1 month), was associated with lower child reports of global self-concept three months later (Doumen et al., 2011). Furthermore, supportive relationships were also found to reliably predict global self-concept in older children (11 to 14 years of age; Reddy et al., 2003).

However, despite these findings of the importance of teachers as a potential predictor of individual differences in children's self-concept, not all studies have found similar or consistent results. A few studies have reported either no significant associations between children's self-concept and teacher-child relationships, or have found that associations may differ between demographic groups or teacher-child relationship characteristics (e.g., Colwell & Lindsey, 2003; Gavidia-Payne et al., 2014; Verschueren et al., 2012; Vervoort et al., 2014). For example, although Leflot et al., (2010) found children's social self-concept was predicted by all dimensions of teacher-relationships measured (involvement, structure, and autonomy support), only teacher autonomy support predicted children's

academic self-concept. Furthermore, results regarding global and behaviour self-concept was not significantly predicted by the teacher interaction dimensions.

However, there are a number of methodological issues with the evidence base that may contribute towards these contradictory findings and make it difficult to draw conclusions about the exact nature of the association between children's relationship with their teacher and their self-concept. These relate to issues with the age of the samples used, operationalisation of concepts and role of other significant relationships, e.g. attachment to parent. Each of these issues are discussed further below with rationale for the proposed research.

Age. Despite developmental differences in adjustment and experiences with teachers at school (Hamre et al., 2006; Lynch & Cicchetti, 1997), a number of studies included children spanning a wider age range (e.g., Colwell & Lindsey, 2003; De Roos et al., 2001). In addition, some studies have explored the associations between teacher-child relationships and self-concept in samples of younger children (below 7 years; e.g., Cugmas, 2007; Gavidia-Payne et al., 2014). However, it has been reported that young children may lack the cognitive ability to engage in social comparison and form accurate representations of their self (Harter, 2012). Therefore, it is possible that such studies may lack the sensitivity required to identify developmental differences in the role of the teacher, and thus contribute to the mixed findings.

Furthermore, there is very limited research specifically exploring the associations of teacher child relationships with self-concept in middle childhood (usually defined as ages 7/8-11). However, in middle childhood children experience a number of biological and social changes which likely form the foundation for problems in adolescence (e.g., mental health and behavioural problems; Kerns, 2008). It is also in middle childhood, that the child begins more formal education and relationships at school become an increasingly important context for a child's development (Leflot, Onghena, & Colpin, 2010; Verschueren, 2015).

Therefore, understanding the potential protective or supportive role teachers may have upon this age group would be of importance to support a child's later development. Consequently, the current study considers the role of teacher relationships for children's self-concept for children aged 7-11 only, thus a narrower and arguably more pertinent age range than previous studies.

Measurement of teacher-child relationships. The use of different assessment tools and operationalisations of teacher-child relationship in previous research make cross study

comparisons difficult. In the preceding chapter, it was noted that 11 different measures of teacher-child relationships were used across 14 studies. Overall, the majority ($n = 10$) of these studies explored one dimension of teacher-child relationship or combined dimensions of closeness and conflict and analysed them as one variable (e.g., Gavidia-Payne et al., 2014; Verschueren et al., 2012). However, some of the evidence indicates that there may be differing effects of teacher-child relationship dimensions upon a child's self-concept (e.g., Leflot et al., 2010; Vervoort, 2014).

Furthermore, studies exploring the role of teacher-child relationships upon other psychological and school outcomes for children have suggested that conflict is the most strongly related construct (Ladd & Burgess, 2014). Therefore, this study will focus on examining two pertinent teacher-child relationship dimensions (conflict and closeness) and examine their unique contribution to different aspects of self-concept.

Operationalisation of self-concept. Despite the shift in recent decades towards a multi-dimensional model of the self, the majority of studies exploring self-concept and teacher child relationships have drawn upon a one-dimensional model of the self, focusing on global self-evaluations. However, differentiating between specific components of self-concept is important as research has shown that specific domains of the self may be more strongly related to important criteria, more influenced by interventions, and more predictive of behaviour than a single, global component of self-concept (Marsh & Craven, 2006; Swann, Chang-Schneider, & Larsen McClarty, 2007; Verschueren, Marcoen, & Schoefs, 1996).

Interestingly, the two studies that did combine global and domain-specific evaluations of the self found domain specific measures of self-concept (academic and social) were more strongly associated with teacher-child relationships than global self-concept (Leflot et al., 2010; Verschueren et al., 2012). However, currently research exploring the association of teacher-child relationships with both domain and global measures of self-concept is still scarce. Therefore, this study includes not only global self-concept, but also three specific components of self-concept which have been shown to be significant for children in middle childhood; namely, academic, social and behavioural self-concept (Harter, 1985, 2012). The influences of teacher-child relationship on various aspects of the self will be explored in this study.

Self-Concept, Teachers and Parents

The relationship between teacher relationship quality and children's self-concept is moderate and at times inconsistent, suggesting that there may be factors that change or influence this association. More recently, contemporary attachment theorists have considered the interactive nature of the relationships the child has within varying environmental contexts (Sabol & Pianta, 2012). For example, rather than solely focusing upon the impact of the teacher-child relationship on the child's outcomes, it is important to consider the dynamic nature of the relationship and inter-relationship with other factors, such as attachment to caregivers (e.g. parents), within the system (Sabol & Pianta, 2012). However, despite the potential for children's attachment to their parent to influence the relationship with the teacher and their self-concept, associations between self-concept and children's relationships with teachers and parents have typically been studied separately.

Researchers have noted that although children's previous relational experiences guide their interactions with teachers (Cohn, 1990; Rydell, Bohlin, & Thorell, 2005; Sabol & Pianta, 2012); a high quality relationship with a teacher may reshape the child's relational models, and therefore their behaviour and relationships (Sabol & Pianta, 2012). Indeed, there is some evidence that children with insecure attachment experiences can form positive relationships with their teachers, and this high quality relationship promotes positive behavioural, cognitive and emotional development (Burchinal, Peisner-Feinberg, Pianta, & Howes, 2002; Buyse, Verschueren, & Doumen, 2011; Mitchell-Copeland, Denham, & DeMulder, 1997). For example, Buyse et al. (2011) explored whether high-quality teacher-child relationships, protected children (mean age = 4 years and 11 months) with less secure attachments against aggressive behaviour. They found that high levels of closeness with the teacher were associated with less aggressive behaviours, despite low-quality mother-child attachment. Mitchell-Copeland et al. (1997) also found evidence that a secure relationship with a teacher may compensate for an insecure child-mother relationship. For example, children (mean age = 4 years and 5 months) who were insecurely attached to their mother but securely attached to their teacher were reported as more socially competent and pro-social than children who were insecurely attached to both their mother and teacher.

These studies suggest that high quality relationships with teachers may have the opportunity to support the reorganisation of relational schema and protect children from the academic and behavioural effects of difficult early caregiving experiences. Interestingly, one study exploring the effects of early mother-child attachment on

children's self evaluations did not find a moderating effect of teacher-child relationships (Verschuere et al., 2012). However, the young age of the children in the study (mean age = 4 years and 11 months) raises questions to the accuracy of their self-evaluations. Furthermore, there are no known studies exploring the protective role of teacher-child relationships for children in middle childhood, despite key theoretical and practical relevance for children's development (Bosmans & Kerns, 2015).

Overall, although there is some evidence for the potential buffering role of teacher-child relationships for children at risk from insecure attachments against negative outcomes, the research on this topic is scarce, and there are no known studies exploring this for children's self-concept in middle childhood. Based on attachment theory, this study will therefore also investigate the protective ("moderating") role of high quality teacher-child relationships, for children who are less securely attached to their mother in the prediction of low school concept in middle childhood. Exploring the role that high quality teacher-child relationships may have to protect or improve the development of self-concept for children with poor parental attachment will advance understanding about whether the relationships with teachers can change the developmental trajectories for children at risk due to adverse caregiving experiences, such as low mother-child attachment quality.

Rationale and Aims of the Current Research

In summary, there are expected theoretical links between teacher-child relationships and children's self-concept. However, despite evidence suggesting different features of social relationships may be related to different elements of self-concept, not all studies have taken the multi-dimensional nature of self-concept into consideration or explored the unique contribution of different characteristics of teacher-child relationships. Furthermore, despite the potential for a child's attachment to their parent/caregiver to influence their relationship with the teacher and their self-concept, associations between self-concept and their relationships with teachers and parents have typically been studied separately. Clarifying and exploring the effect that teacher-child relationships may have upon a children's self-concept, particularly for children deemed at risk (i.e. insecure attachment to their caregiver) will advance understanding of the specific role of teachers and may have important implications for future training of teachers and intervention work.

Therefore, this research has two aims. The first aim of the thesis was to clarify and expand the current literature on teacher relationships and children's (aged 7-11) self-

concept by examining whether teacher-child relationships characterised by teacher conflict and closeness affect children's global, academic social and behavioural self-concept. Secondly, this study also examines whether high quality teacher relationships (as characterised by low conflict and high levels of closeness) may act as a buffer for children who are less securely attached to their caregivers against negative outcomes, such as low self-concept (see figure 2).

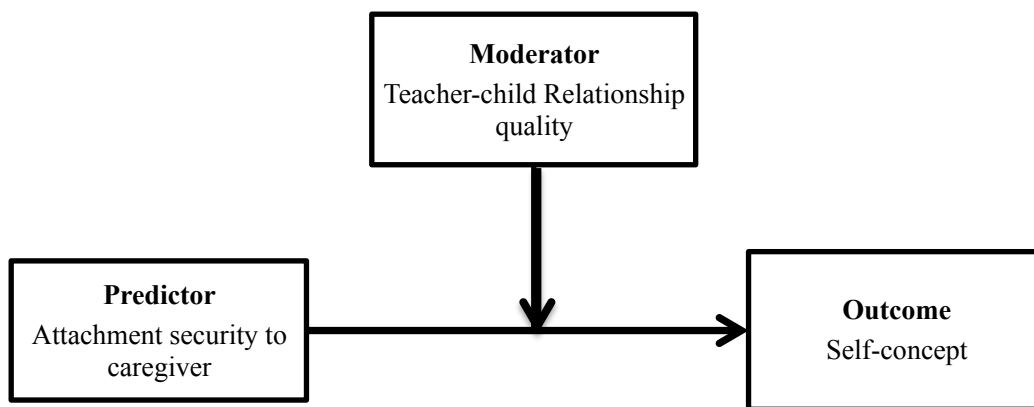


Figure 2. Diagram of the conceptual moderation model, investigating whether the perceived quality of the teacher child relationship moderates the relationship between attachment security to their caregiver and self-concept

Research Questions

- 1: What is the relationship between children's perceived attachment security to their caregiver and their domain (behavioural, social and academic) and global self-evaluations?
- 2: What is the association between children's relationship with their teacher (as measured by reports of closeness and conflict) and their domain (behavioural, social and academic) and global self-evaluations?
- 3: Does the quality of the teacher-child relationship moderate the association between perceived attachment security and children's domain and global self-evaluations?

Hypotheses

- 1: Children's perceived attachment security to their caregiver will be correlated with their domain and global self-concept scores:
 - a. Lower attachment security scores will be associated with more negative domain and global self-concept scores.
 - b. Higher attachment security scores will be associated with more positive domain and global self-concept scores.
- 2: The perceived quality of the teacher-child relationship will be correlated with children's domain and global self-concept scores:
 - a. Children whose relationships with teachers are higher quality, as characterised by more perceived closeness and less conflict will have more positive domain and global self-concept scores.
- 3: The perceived quality of the teacher-child relationship will moderate the association between children's perceived attachment security and self-concept (domain specific and global). I.e. the teacher will act as a protective factor against low self-concept (domain and global) for children with lower attachment security.

2.2 Methodology

Participants

Participants were recruited from primary schools in the South of England using opportunistic sampling. Fifteen schools were approached to take part in the study. The head teachers' of eight schools agreed to take part. See Table 1 for information on the school characteristics compared to the national averages. The head teacher or Special Educational Needs Coordinator (SENCo) of the schools distributed an information sheet about the study and an information sheet to teachers (Appendix I). Teachers were asked to distribute letters to all parents of children asking for opt-in consent for the study (Appendix J). There was little control how teachers volunteered in the study beyond obtaining head teachers consent.

Participants were 163 children (Mean age = 9.07, $SD = 1.13$; 79 females, 83 males, one undisclosed gender). Participants were taken from year three ($n = 27$), year four ($n = 45$), five ($n = 59$) and six ($n = 32$) at each school. Using opt-in consent, the response rate from parents to give permission for their children to take part was around 7.5% on average across the schools. To be included in the study, children were required to be in year three, four, five or six (aged 7-11 years old). See table 2 for further details of the characteristics of the sample across schools.

Table 1.

School Characteristics Compared to National Averages

	A	B	C	D	E	2.2.1.1.1.1 F	G	H
Intake	Above	Average	Above	Below	Above	Below	Below	Above
FSM	Below	Below	Below	Below	Above	Below	Below	Average
SEN	Above	Above	Below	Above	Above	Below	Above	Average
Location	Rural	Rural	Rural	Rural	Urban	Rural	Urban	Urban
<i>Note:</i> Above or Below England Average (http://www.eduexpress.co.uk). Intake-Number of pupils on roll; Free School Meals (FSM); Special Educational Needs (SEN)								

Table 2.

Sample characteristics across schools.

School	Total	A	B	C	D	E	F	G	H
N	163	14	29	26	8	9	10	13	46
Female (Male)	79 (83)	6 (8)	9 (19)	13 (13)	4 (4)	5 (4)	9 (9)	11 (2)	26 (20)
Year Group:									
3	27	1	0	0	0	2	8	3	13
4	45	4	0	15	8	0	3	8	7
5	59	4	14	11	0	7	4	2	17
6	32	5	15	0	0	0	3	0	9
Teachers	41	6	6	5	4	2	4	6	8

Note. N = Total Number

Design

A cross-sectional design was used to explore the relationship between children's self-concept, attachment security and teacher-child relationship quality. All measures were assessed concurrently.

Measures

Attachment Security Scale (Kerns, Klepac, & Cole, 1996; Appendix D). The Attachment Security Scale (Kerns et al., 1996) was used to assess children's perception of security in specific parent-child relationships. This is a self-report questionnaire designed for use with children during the period of middle childhood. The scale provides a continuous measure of attachment security, with items tapping the degree to which a child

feels an attachment figure is responsive and available, the child's tendency to rely on this person in times of stress and the ease in communicating with this person.

The questionnaire is comprised of 15 items and consists of a structured alternative format, in which each item consists of two opposite descriptions, for example, "some kids find it easy to trust their mum" but "other kids are not sure if they can trust their mum." The question format includes descriptions about the child's 'mum'. However, children were provided the option to answer the questions thinking about the person who: "looks after them most" to account for the circumstances when the child's main caregiver may be their father or another key adult.

First the child was asked to decide which pair of statements reflect them, and second, they decided if it is "really true" or "sort of true" for them. This structure decreases the tendency to give socially desirable responses (Harter, 1999; Harter, 1982). A mean score of the ratings was computed to form an attachment security score with higher scores indicating a more secure relationship.

In this study, a number of children queried the meaning of question six: "some kids do not really need their mum for much" but "other kids need their mum for a lot of things." It was also not clear whether the response implied positive or negative security in the attachment relationship. Therefore within the present study, the validity of this item was questionable, so a decision was made to remove responses from question six in the analyses. The internal reliability of the measure was good ($\alpha = .83$).

Currently, there is no gold standard measure of attachment for the period of middle to late childhood. However, several researchers have found the Security Scale to be internally consistent across a number of studies, with coefficient alphas ranging from 0.63 to 0.93 for attachment to the mother and 0.81 to 0.88 for attachment to the father (Kerns et al., 1996; Kerns, Tomich, Aspelmeier, & Contreras, 2000; Lieberman, Doyle, & Markiewicz, 1999; Mayseless, 2001; Verschueren, Buyck, & Marcoen, 2001). The measure also demonstrates high test-retest stability ($r = .75$, Median duration = 14 days; Kerns et al., 1996).

This measure was developed by Kerns et al. (1996) and has been used in America (e.g., Kerns et al., 1996), Israel (Granot & Mayseless, 2001) and UK (Bailey, 2014). In most cases, the samples consisted of children of White ethnicity and of working or middle class socio-economic status. In the Kerns et al. (1996) study, scores on the security scale showed adequate range (1.62-4.00). Their sample mean was 3.24 (SD = 0.57) and age

range test on was 9 -11 years. In the Granot & Mayseless study, scores on the security scale also showed adequate range (2.06-3.93). Their sample mean was 3.26 and age range sampled was 9.5 –11.5 years. Finally, in the Bailey (2014) study, scores on the security scale ranged from 2.07-3.87. The sample mean was 3.17 and the age range of the sample was between 8 – 11 years. In the present research scores on the security scale showed a similar range as previous studies (1.43-4.00) and mean (3.27). The age range of the sample was between 7 – 11 years.

Self-Perception Profile for Children (SPPC; Harter, 1985; 2012; Appendix E).

Children's self-concept was assessed by means of the Global, Scholastic (academic), Social, and Behavioural subscales of the Self-Perception Profile for Children (SPPC; Harter, 2012). These subscales respectively assess children's global evaluation of self; their perceived cognitive competence in the context of schoolwork (academic self-concept); their evaluation of their skills to make friends (social self-concept); and their evaluation of how they feel they do the right thing (behavioural self-concept). Each subscale consists of six items and the test format consists of structured alternatives as described in the description of the Attachment Security Scale (Kerns et al., 1996) above. A mean score is computed for each subscale to form a profile of the child's perceived competence with respect to the different domains.

The SPPC has been found to be a reliable and valid self-report measure for assessing children's self-perception (Harter, 2012). In this current study, Cronbach's alphas were .76, .77, .80 and .76, for general, academic, social and behavioural self-concept respectively.

The SPPC has been used for research in developmental, social, and clinical contexts (e.g., Leflot et al., 2010, Van Den Bergh & Marcoen, 1999; Muris, Meesters, & Fijen, 2003). The SPPC was designed for children aged between 8 to 11 years old, although it has been used on children ranging from aged 7 to 12 years of age (e.g., Leflot et al., 2010; Ziebel et al., 2009). The SPPC has been used in a range of countries including America (e.g Harter, 1985; 2012), Australia (e.g. Ziebell et al, 2009), Belgium (e.g. Leflot et al., 2010) and Poland (e.g., Gacek, Pilecka & Fusinska-Korpik, 2014).

Harter (1985; 2012) found in an American sample of children aged 8-11 years the mean scores of 3.04 for global self-concept, 2.97 for behavioural self-concept, 2.90 for social self-concept and 2.66 for academic self-concept. In the present study, the mean self-concept scores were slightly higher for global self-concept (3.08), behavioural self-concept (3.11) and academic self-concept (2.76) and similar for the social self-concept score (2.87).

Student-Teacher Relationship Scale – Short Form Teacher version (STRS; Pianta, 1992; Appendix F). The Student-Teacher Relationship Scale – Short Form is a 15-item Likert-type used to measure the quality of the main class teacher’s relationship with a given child. The STRS-short form (Pianta, 1992) measures a teacher’s perceived closeness (warmth and open communication, 7 items) and conflict (friction and difficulty, 8 items). The teacher used a 5-point Likert scale to indicate whether or not a statement “Definitely Applies” or “Definitely Does Not Apply” to their relationship with the student. Sample items from the scale include, “This child and I always seem to be struggling with each other” and “This child easily becomes angry with me.”

Scores were averaged for each subscale with higher scores indicating they perceived increased conflict or closeness with the child. The STRS (Pianta, 1992) shows high levels of test–retest reliability (.81) and internal consistency (.87; National Institute of Child Health and Human Development., 2006). Associations with the closeness and conflict scales and children’s academic performance and social development have been reported over the primary school years (Hamre et al., 2006). In this current study, question four from the closeness subscale was removed from further analyses: “This child is uncomfortable with physical affection or touch from me.” This was because in the schools recruited physical affection between the teacher and child was often discouraged in the interest of safeguarding.

The STRS (Pianta, 1992) has been used across a number of European and non-European countries and for children in early, middle and late childhood (e.g. Gavidia et al., 2014; Howes, 2000; Verschueren et al., 2012). For the present sample the closeness scale had a mean score of 4.09 (range 2.50-5.00) and produced a Cronbach’s alpha of .80. The conflict scale had a mean score of 1.27 (range 1.00-4.57) and produced a Cronbach’s alpha of .90. In a study with a similar age to this sample (7-11 years; Jellesam, Zee, Helma & Koomen, 2015), mean scores of the closeness scale was 4.36 (range: 2-5) and conflict scale mean score was 1.41 (range: 1-5). In Howes’ (2000) study for children in early to middle childhood the closeness mean score of 3.98 was reported (range: 2-5) and conflict mean score of 1.54 was noted (range 1-4.18).

Student-Teacher Relationship Scale- Student version (based on Pianta, 1992 Appendix G). The Student-Teacher Relationship Scale– Student Version is an adapted version of the STRS-short form (Pianta, 1992) to enable the child to report on the perceived quality of the relationship with their main class teacher (Bailey, 2014). Similarly

to the STRS-short from (Pianta, 1992), the STRS-student version is a 5-point Likert-type scale to measure how children perceived closeness (7 items) and conflict (7 items) with their teacher. Children were asked to indicate whether the statement they read either: definitely did not apply, not really, neutral/not sure, applies somewhat or definitely applies. Sample items for the closeness scale include, “I have a good relationship with my teacher” and “When I am upset, I go to my teacher for support.” Sample items from the conflict scale include, “I find it easy to get angry at my teacher” and “If my teacher tells me off, I feel angry or upset for a long time afterwards.” The STRS-student report has been found to have high internal reliability for the closeness $\alpha = .80$ and conflict $\alpha = .70$ subscales (Bailey, 2014). In this current study Cronbach’s alpha were good for the closeness subscale ($\alpha = .80$) and acceptable for conflict ($\alpha = .70$) subscales.

Scores were averaged for each subscale and, in addition, average scores for both teacher (Student-Teacher Relationship Scale- Teacher version) and child reports of closeness and conflict (Student-Teacher Relationship Scale- Student version) in the relationship were combined to provide an overall score of teacher-student relationship quality.

In the present research the mean score for student reports of closeness was 3.73 (range: 1.57-5.00). The mean score for student reports of conflict was 2.44 (range 1.00-4.57). This is similar to the scores found in the Bailey (2014) study on a UK sample of children aged 8-11 years where mean scores on the closeness scale was 3.47 (range: 1.00-5) and on the conflict scale was 2.45 (1.00-4.14).

Demographic Questionnaire. The main class teacher of the children participating was asked to disclose information about children in the study. This included information on the child’s class, year, and name of pupil, eligibility for free school meals (FSM) and whether they received pupil premium. Pupil Premium is additional funding for children whose parents are in the armed forces or for children who have been looked after continuously for more than six months (Department For Education and Education Funding Agency, 2014). FSM and pupil premium data was intended to be used to control for socio-economic status and children who may have had disrupted caregiving and school experiences. However, the response rate on whether children received pupil premium ($n = 8$) and FSM was extremely low ($n = 4$) so this data was not included in further analyses.

Procedure

The ethical application and data collection was jointly completed with a colleague also completing her thesis for the Educational Psychology Doctorate. This colleague was exploring the role of teacher-child relationships on children's behavioural outcomes. Therefore, in addition to the measures outlined above, teachers were asked to complete the Strengths and Difficulties Questionnaire – Teacher Report (Goodman, 1997), for each participating pupil.

Fifteen schools were approached to take part in the study. The researchers previously knew of these schools from their role as Trainee Educational Psychologists. The researchers sent letters out to schools to ask for their participation in the study (see Appendix H). Eight schools agreed to take part. Teachers were also provided with an information sheet about the study (see Appendix I). Once head teachers had consented to the research, letters were sent to parents asking for opt-in consent (see Appendix J).

Researchers carried out the study with consenting children in groups of three to ten in a quiet room on the school site. However, for children who reported literacy difficulties, the researcher read the questions to them individually. The children were asked to state their age, gender, school and class teacher before completing the questionnaires. Once the children had completed the three questionnaires (Attachment Security Scale; Kerns et al., 1996, Student-Teacher Relationship Scale; Pianta 1992, and Self Perception Profile; Harter, 2012), the children were asked to complete a mood enhancing activity and given a written debrief statement (Appendix K). The mood enhancing activity consisted of asking the children to write or draw three good things that have happened at school. Completion of the questionnaires took about 20 minutes.

The children's teachers were given copies of the student-teacher relationship measure (Pianta, 1992) and Strengths and Difficulties Questionnaire (Goodman, 1997; colleague's research project) for each of their pupils that took part. The questionnaires took approximately five minutes per pupil. Teachers were given up to two weeks to complete the questionnaires. Teachers were given the option to either post or ask the researchers to collect the questionnaires. Teachers were finally debriefed through a written statement (Appendix L).

Ethical considerations

Ethical approval was gained from the University of Southampton Ethics Committee, followed by approval from the Research Governance Office. Parental consent was gained for each participant. At the start of data collection children were reminded of their right to withdraw in verbal and written form (see Appendix M). Since this is a potentially sensitive topic, participants completed a positive mood activity at the end of the study and were debriefed.

At the point of recording data electronically, children were assigned a number and therefore data was fully anonymised. All data were saved in password-protected files and fully anonymised. Researchers did not have access to any personal data of the children beyond their age, gender, eligibility for free school meals and class teacher.

2.3 Results

Data Preparation

Missing data was accounted for by substituting the individual mean of that subscale. If more than 20% of a participant's data on a questionnaire was missing, the data for that participant was not used in the analysis. This resulted in data for eight participants being removed (4.67% of the total sample).

Prior to analysis, data inspection was conducted to explore the normality of the data. Histograms of the self-concept and teacher relationship quality scores were examined (Appendix N). All the variables, except for STRS teacher reports of conflict, had approximately normal distributions. A log transformation was considered for this variable. However, this did not improve the shape of the distribution. Therefore, for ease of interpretation, STRS teacher reports of conflict was kept as it was. The scatter plots indicate linearity assumptions were met and there were no obvious outliers.

Evidence of homoscedasticity was noted as the scatterplots of standardised residuals against values of the independent variables (Appendix O) showed a relatively random display of points, where the variables of residuals appears fairly constant over the range of values of the independent variable. The independent variables were also all examined for collinearity. Results of the variance inflation factor (all less than 1.4), and collinearity tolerance (all greater than .74) suggest that the estimated β are well established in the reported regression models.

Data analyses

First, descriptive statistics and bivariate correlations of the study variables were calculated (see tables 3 and 4). Bivariate correlations were performed to explore the correlations between the variables. Due to multiple comparisons, and to ensure Type 1 errors were not committed, a conservative significance level of $p < .01$ was used. This is a more conservative level used than the conventional criteria of .05 (5%) as the lower the significance level, the more the data must diverge from the null hypothesis to be significant and there will be less risk a false positive error will be made (Field, 2013). A decision not to use Bonferroni correction methods was made as some have argued this inflates type II errors (the probability of accepting the null hypothesis when the alternative is true; Perneger, 1998).

Cohen's (1988) conventions to interpret effect size were used in the explanation of findings (correlation coefficients of .10 is 'small', .30 is 'medium' and .50 is 'large' in terms of magnitude of effect sizes).

To evaluate the statistical effect of teacher and student reports of closeness and conflict (independent/predictor variables) on children's domain and global self-evaluations, a series of regression analyses with self-concept as the outcome were conducted. A separate set of analyses were conducted for academic and behavioural self-concept measures. Finally, a moderation analysis was conducted to explore whether the quality of the teacher-child relationship moderates the association between children's perceived attachment security and self-concept (global, behaviour, academic and social). Prior to discussion of each hypothesis a general overview of the data will be outlined.

Table 3.

Means, Standard Deviations for variables (N=163)

Variable	M	SD	Min-Max
Global Self-Concept	3.08	.61	1.33-4.00
Behaviour Self-Concept	3.11	.62	1.17-4.00
Academic Self-Concept	2.76	.67	1.00-4.00
Social Self-Concept	2.87	.71	1.00-4.00
Caregiver Security	3.27	.50	1.43-4.00
STRS Closeness (teacher)	4.09	.63	2.50-5.00
STRS Conflict (teacher)	1.27	.55	1.00-4.57
STRS Closeness (child)	3.73	.87	1.57-5.00
STRS Conflict (child)	2.44	.85	1.00-4.57
STRS Combined	4.11	1.9	-3.29-7.57
Age	9.07	1.13	7-11

Note. Student Teacher Relationship Scale (STRS)

Descriptive Statistics

Table three presents the means and standard deviations and the inter-correlations of all study variables are reported in Table three.

Child reports of closeness in the teacher relationship were positively correlated with teacher reports of closeness. In addition, child reports of conflict in the teacher relationship were positively associated with teacher reports of conflict.

In terms of gender, teachers reported higher levels of closeness to females compared to males ($r = .21$). However, as the study's central interest was the associations between teacher and parent relationships and children's self-concept, and this gender effect was small, this was not controlled for. A small effect for age on attachment security was also noted (see table three), with attachment security scores increasing with age. There also was a small positive effect of age on student teacher relationship scores combined ($r = .16$).

There was a moderate positive relationship between attachment security and student teacher relationship scores combined ($r = .247$). Exploring the associations between different aspects of teacher-child relationship, as expected, attachment security was positively associated with child reports of teacher closeness ($r = .21$) and had a negative association with child reports of teacher conflict ($r = -.23$). Attachment security accounted for 5% of variance in child reports of teacher closeness and 7% variance in child reports of teacher conflict indicating a small effect (see Cohen, 1988). There was no evidence for an association between attachment security and the teachers' reports of closeness or conflict in the relationship with the child (see table three).

Hypothesis one: Children's perceived attachment security to their caregiver will be correlated with their domain and global self-concept scores.

The correlations between attachment security, and global, behavioural, academic and social self-concept are reported in Table 4. As expected, attachment security was positively related to the children's global and three domain-specific self-concepts (r ranging from .30 to .48 indicating moderate associations, see Cohen, 1988). Attachment security accounted for a higher proportion of variance in global self-concept (25%) compared to behavioural (13%), social (10%) and academic self-concept (9%).

Table 4.

Summary of Correlations between Self-Concept Scores, Student Teacher Relationship Scores (STRS), Attachment Security, Gender and Age.

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Global Self-Concept	1								
2. Behaviour Self-Concept	.341***	1							
3. Academic Self-Concept	.538***	.393***	1						
4. Social Self-Concept	.506***	.152	.354***	1					
5. Attachment Security	.479***	.354***	.297***	.314***	1				
6. STRS Closeness (teacher)	-.028	.103	.099	.118	.048	1			
7. STRS Conflict (teacher)	-.131	-.238**	-.154*	-.018	-.113	-.306***	1		
8. STRS Closeness (child)	.051	.332***	.190*	.063	.214**	.302***	-.107	1	
9. STRS Conflict (child)	-.123	-.457***	-.231**	.043	-.229**	-.048	.198*	-.411**	1
10. STRS Combined	.106	.456***	.265**	.053	.247**	.576***	-.523***	.767***	-.703*
11. Gender (0-Male, 1-Female)	-.024	-.005	.002	.022	-.087	.215**	-.135	.101	-.001
12. Age	.037	-.031	-.066	.140	.208**	-.024	.077	.012	-.089

Note. Student Teacher Relationship Scale (STRS).

* $p < .05$. ** $p < .01$, *** $p < .001$.

Hypothesis two: The perceived quality of the teacher-child relationship (closeness and conflict) will be correlated with children's domain and global self-concept scores.

Multiple linear regression analysis was conducted in order to explore the relationship between the teacher and child reports of closeness and conflict in the relationship (predictor variables) and children's academic and behavioural self-concept (outcome variables). A separate set of analyses was conducted for these two aspects of self-concept. A regression analysis was not run for the global and self-concept dimensions because none of the teacher-child relationship scales correlated significantly with these two self-concept scales (see table 4). Results of the multiple linear regression analyses regarding the prediction of academic and behavioural self-concept are summarised in Table 5.

The regression model testing the association between teacher and child relationship variables and behavioural self-concept was significant [$F(4,158) = 13.53, p < .001$]. Together the four predictor variables (teacher and child reports of closeness and conflict) accounted for 26% of the variance in behavioural self-concept. Teacher reports of conflict, child reports of closeness ($\beta = .17, p = .03$), and child reports of conflict ($\beta = -.36, p = .000$), all significantly predict behavioural self-concept. However, teacher report of closeness was not a significant predictor of behavioural self-concept ($\beta = -.01, p = .865$). Similar conclusions are reflected in the correlation table (Table 4) that showed significant small to medium (see Cohen, 1988) associations between behavioural self-concept and teacher reports of conflict ($r = -.24$), closeness ($r = .33$) and child reports of conflict ($r = -.46$).

The regression model testing the association between teacher and child relationship variables and academic self-concept was also significant [$F(4,158) = 3.27, p = .013$], accounting for 8% of the variance in academic self-concept. However, teacher reports of closeness and conflict and child reports of closeness and conflict was not a significant predictor ($p > .05$), although, child reports of conflict was close to significance ($\beta = -.17, p = .053$). The correlation analysis indicated a small association between academic self-concept and teacher reports of conflict and child reports of closeness and conflict (r ranging from $-.23$ to $.19$). No association was found between teacher reports of closeness and child's academic self-concept (Table 3).

Table 5.

Linear regression: Effects of teacher and child reports of relationship closeness and conflict on children's global, academic, behavioural, and social self-concept.

Dependant Variable	Independent Variable	R ²	F (df)	β	SE β	p (β)
Academic Self-Concept		.08*	3.26 (4,158)			
	STRS Closeness (teacher)			.30	.09	.725
	STRS Conflict (teacher)			-.10	.10	.222
	STRS Closeness (child)			.10	.07	.253
	STRS Conflict (child)			-.17	.07	.053
Behavioural Self-Concept		.24*	13.53 (4,158)			
	STRS Closeness (teacher)			-.01	.08	.865
	STRS Conflict (teacher)			-.15	.08	.040
	STRS Closeness (child)			.17	.06	.030
	STRS Conflict (child)			-.36	.06	.000

Note. Student Teacher Relationship Scale (STRS).

*Indicates value significant at $p < .05$.

Hypothesis three: The perceived quality of the teacher-child relationship will moderate the association between children's perceived attachment security and self-concept (domain specific and global).

PROCESS (Hayes, 2012) was used to see whether the student teacher relationship moderated the relationship between attachment security (independent variable) and global, academic, behavioural or social self-concept (dependant variable). That is, whether the effect of attachment security on self-concept is dependant/changed by the student-teacher relationship.

For the sake of parsimony, and similar to comparable studies (e.g., Gavidia-Payne et al., 2014; Verschueren et al., 2012) a decision was made to combine the scores of closeness and conflict to create one aggregate score for this analyses. This decision to work with the total score was also chosen because there were not priori hypotheses about separate components of conflict and closeness or the role of different perspectives. Instead, the focus of this study was more on the different dimensions of self-concept.

To obtain this score, the average closeness scores (child and teacher) were added together and then subtracted from the combined mean conflict scores (child and teacher). This creates a possible range of scores between -8 to 8. A low score indicates a lower quality teacher-child relationship (higher levels of conflict and lower levels of closeness). In this study the mean score was 4.11 and range was. -3.29-7.57.

Four separate sets of regression analyses were conducted for all four aspects of self-concept. In the first step, two variables were included: a self-concept variable and attachment security. Next, the interaction term between the self-concept variable and student teacher relationship was added to the model.

There was no significant effect of the interaction between attachment security and student teacher relationship on global ($\beta=0.04, p > .05$), academic ($\beta=0.02, p > .05$), behavioural ($\beta= 0.32, p > .05$) or social self-concept ($\beta =-0.07, p > .05$). Therefore, student teacher relationship was not found to moderate the relationship between attachment security and self-concept (global, academic, behavioural or social).

The four regression models testing the association between student teacher relationship combined and attachment security for predicting global, academic, behavioural and social self-concept were all significant. Student teacher relationship scores combined ($\beta=0.07, p = .017$) and attachment security ($\beta=0.33, p = .002$) both significantly predicted academic self-concept. Student teacher relationship scores combined ($\beta=0.13, p = .000$) and attachment security ($\beta=0.32, p = .004$) also both significantly predicted behavioural self-concept. For global self-concept and social self-concept only attachment security contributed a unique significant effect ($\beta = 0.59, p = .000$ and $\beta = 0.44, p = .001$ respectively). Refer to Table 6 for partial regression coefficients of the interaction term.

Table 6.

Linear regression. Effects of teacher and child reports of relationship closeness and conflict combined X attachment security (interaction) on children's global, academic, behavioural and social self-concept.

Dependant Variable	Independent Variable	R ²	F (df)	β	SE β	t	p
Global Self-Concept		.23*	20.88 (2,158)				
	STRS Combined			0.01	0.04	-0.30	.765
	Attachment Security			0.59	0.08	7.83	.000
	Interaction			0.04	0.04	1.12	.265
Academic Self-Concept		.13*	8.49 (2,158)				
	STRS Combined			0.07	0.03	2.42	.017
	Attachment Security			0.33	0.11	3.09	.002
	Interaction			0.02	0.05	0.29	.771
Behavioural Self-Concept		.27*	30.22 (2,158)				
	STRS Combined			0.13	0.26	4.86	.000
	Attachment Security			0.32	0.11	2.96	.004
	Interaction			0.32	0.05	0.33	.740
Social Self-Concept		.11*	.7.37 (2,158)				
	STRS Combined			-0.01	0.32	-0.21	.836
	Attachment Security			0.44	0.11	4.15	.001
	Interaction			-0.07	0.05	-1.29	.198

Note. Student Teacher Relationship Scale (STRS)

*Indicates value significant at $p < .05$.

2.4 Discussion

This study explored the associations between teacher-child relationships (as characterised by perceived closeness and conflict) and children's global, academic, behavioural and social self-concept. This study also examined whether high quality teacher relationships may be particularly valuable for children who are less securely attached to their caregivers by acting as a buffer against low self-concept (global and domain specific). This chapter provides a brief overview of the key findings, relating to the aforementioned aims of the study. Potential explanations for the findings are provided and strengths and limitations of the research are discussed. Finally, implications for future research and educational psychology practice are outlined.

The results provide support for the hypothesis that attachment security is correlated with children's global, academic, social and behavioural self-concept. Children, with higher opinions of themselves, reported a higher level of security in their relationship with their caregiver. This finding is congruent with previous research (e.g., Laible, Carlo, & Roesch, 2004; McCormick & Kennedy, 1994) and is supportive with attachment research that a secure relationship to a primary caregiver leads to positive views of the self (Goodvin et al., 2008; Thompson, 2008).

The second hypothesis of the study was that teacher-child relationships, characterised by perceived closeness and conflict, would be associated with children's academic, social, behavioural and global self-concept. As expected, the results showed that children's behavioural self-concept was positively associated with child reports of closeness with their teacher, and negatively associated with child and teacher reports of conflict. Children's perceived academic self-concept was also correlated with teacher reports of conflict and child reports of closeness and conflict. However, in the regression model with all measures of the teacher-child relationship, although the model was significant, neither of the measures of the teacher perception of the relationship significantly contributed towards academic self-concept. Furthermore, neither the child's perceived global or social self-concept was associated with the perceived closeness or conflict in the teacher-child relationship. This was in contrast to expectations and findings from previous studies (e.g., Leflot, Onghena, & Colpin, 2010; Martin, Marsh, McInerney, Green, & Dowson, 2007; Reddy, Rhodes, & Mulhall, 2003).

However, only three previous studies have explored together both global and domain specific aspects of self-concept and the association to teacher relationships, and interestingly these have also found mixed associations between the variables (Leflot et al., 2010; Martin et al., 2007; Verschueren et al., 2012). Both Leflot et al., (2010) and Verschueren et al., (2012) also found no association between global self-concept and teacher-child relationships, although other aspects of self-concept including social and academic self-concept were related. Of further interest, is that Martin et al., (2007) and Verschueren et al., (2012) also explored the role of parent-child relationships and similarly to the findings of this study found global self-concept was more strongly associated with parent-child relationships as opposed to the quality of teacher-child relationships.

Taken together, these findings provide tentative support for recent research on the organisation and role of multiple attachment models which propose experiences in different interpersonal relationships (e.g. parents and teachers) may distinctly affect separate dimensions of children's self-concept (Sibley & Overall, 2008). This specialised effects model predicts that representations of particular relationships will exert their strongest effects on a child's socio-emotional development when the relational context relates to the area that representation refers to (Cozzarelli et al., 2000; Sibley & Overall, 2008). For example, the teacher-child relationship has been shown to be an important determinant of a child's behaviour (Birch & Ladd, 1998; Silver, Measelle, Armstrong, & Essex, 2005). In high quality relationships teachers provide and teach appropriate coping skills and children form a positive working model of the world that encourages positive behaviours (Birch & Ladd, 1998). Therefore, this may account for why closer, less conflicted relationships with teachers support a more positive view of the self in the behavioural domain specifically. On the other hand, in acknowledgement of the significance and durability of children's attachment to their caregiver, it is more likely that this relationship is more strongly related to global views of the self in comparison to the role of the teacher-child relationship (Verschueren et al., 2012).

Although child reports of closeness showed a non-significant trend to a correlation with children's academic self-concept in the regression model, the non significant associations between academic self-concept and all measures of teacher-child relationships is incongruent with previous findings (Leflot et al., 2010; Raufelder et al., 2013) and the specialised effect model of attachment.

However, research consistently demonstrates academic attainment as a key variable associated with academic self-concept (e.g. Guay, Marsh, & Boivin, 2003). In this study

academic attainment was not measured and therefore it was not controlled for. It is possible in this particular sample academic attainment had a more overriding influence upon children's academic self-concept in comparison to teacher-child relationships.

Children's social self-concept was also found not to be associated with the teacher-child relationship in contrary to previous findings in two studies (Leflot et al., 2010; Verschueren et al., 2012). However, both of these studies used a younger age range of children compared to this sample and therefore it is possible that in our sample of children in middle childhood other relationships at school may have had more of an influence on children's social self-concept. For example, research suggests that, for older children, peers play an increasingly important role for children's development and views of the self (Eccles, 1999; Troop-Gordon & Ladd, 2005). Negative peer social experiences can cause maladaptive self-evaluations specifically in the social domain (Jacobs, Reinecke, Gollan, & Kane, 2008; Kerns et al., 1996). For example, one longitudinal study noted that changes in social self-concept in middle childhood were predicted by changes in peer interactions (Troop-Gordon & Ladd, 2005). Therefore, in line with the specialised effects model whereby different relationships have differential impacts on children, it is plausible that for older children, peer relationships may be playing a more important role for children's social self-concept in comparison to teachers. Future research would benefit from exploring the role of multiple relationships (teachers, parent and peers) on children's self-concept in middle childhood.

It is also worth noting that there were relatively high means in self-concept scores for academic, global and behavioural self-concept in comparison to previous findings (e.g. Harter, 1985; 2012). Whilst it is possible children in 2016, in a UK sample have higher self-concept than a sample of children 20 years ago in the US, it is also plausible this indicates that there may be bias in the children's response, possible due to social desirability. This is a common issue when using self-reports and children may have presented a more flattering report of the self and reduced their range of responses. This restriction in scores can weaken the relations with other variables (Reio, 2010). Therefore, this possible bias in responses could contribute to the lack of associations found between measures of teacher-child relationships social and academic self-concept scores.

Teacher reports of closeness was the only dimension of teacher-child relationships that did not correlate with any indices of self-concept. This is unexpected, considering previous research has found it to be associated (e.g., Reddy, Rhodes, & Mulhall, 2003).

However, previous research has found that teacher-child conflict was a stronger predictor than teacher closeness for children's behaviour (Doumen et al., 2011). Interestingly, in this study child reports of conflict were slightly more strongly associated with self-concept measures compared to child reports of closeness. Therefore, it is possible that different attachment characteristics of teacher-child relationships may impact a child's development differentially. However, further research on a larger, more diverse sample is required before conclusions can be drawn about the nature of this effect.

The final hypothesis of the study explored whether the relationship with the teacher acts as a protective factor against low self-concept (domain and global) for children with lower attachment security. This prediction was in line with previous research that has shown a high quality relationship with a teacher can reshape the child's relational models, and therefore their behaviour and relationships (Burchinal et al., 2002; Buyse et al., 2011; Mitchell-Copeland et al., 1997). However, unexpectedly this study did not find that teacher-child relationships moderated the relationship between perceived attachment security and children's domain and global self-concept.

It is possible that the potential sampling bias in the self-concept scores, discussed earlier, may account for these non-significant findings. Another possible explanation may be due to recruitment bias. Due to the sensitive topic of research on relationship security and self-views, it is possible the sample may be biased towards reflecting the experiences of children with more secure, positive caregiver relationships and positive self-views who maybe were more willing and open to participate, and perhaps were more likely to have parents who completed the consent forms. The voluntary nature of the research means that information about those who chose not to participate is not available.

In this sample, the average security scale score was similar to the average scores found in previous studies (e.g. Bailey, 2014; Kerns et al., 1996). However, the sample used in these studies has included a relatively normal, homogenous population. It would be important to determine whether the findings would generalise to more diverse populations. Future research may benefit from recruiting samples of children who are considered more at risk of attachment difficulties. For example, children looked after by the Local Authority or children receiving specialist attachment interventions such as Nurture Groups (Bennathan & Boxall, 2013). For these particular children, the presence of a close and non-conflicted teacher relationship may function more as a protective factor.

However, the regression models did find that teacher relationships and attachment security both uniquely contributed towards academic and behaviour self-concept. This

indicates that the teacher relationship contributed towards the child's academic and behavioural self-concept over and above their caregiver attachment relationship, suggesting that teacher relationships are important for all children in these domains, and not just those with lower attachment security. The results also showed that only attachment security uniquely contributed to global and social self-concept and teacher-child relationships did not. As found in previous studies (e.g., Verschueren et al., 2012), the results indicate that each social relationship may make a distinct contribution to children's self-concept, on top of the effects of other relationships. This finding supports the specialised effect model theory discussed earlier (Sibley & Overall, 2008), with teacher relationship distinctly affecting behavioural and academic self-concept, and attachment security distinctly affecting children's global and social self-concept.

Limitations

Some specific limitations have already been highlighted and now general methodological limitations should be considered in relation to the current findings.

A key methodological issue in the study is its reliance upon self-report questionnaires. This approach was necessary to measure self-concept as this is a self-referential response and may not easily translate into observable behaviours (Conway & Lance, 2010). However, as mentioned previously, a potential problem for using self-report measures to measure teacher-child relationship and attachment security is the issue of socially desirable responses (Goffin & Gellatly, 2001). Previous attachment research on moderation have used direct observational methods which may have picked up more subtle differences in attachment behaviours and therefore a wider range of attachment security scores. For example, Mitchell-Copeland et al., (1997) used video recording and ratings to measure attachment and Buyse et al., (2011) drew upon home observations as indicators of children's attachment to their mothers. This study relied on the child's own reports of attachment security to their caregiver which may have been positively biased. Therefore, more extensive future research on the protective role of the teacher-child relationship in the prediction of self-concept, with more proximal measures of parent-child attachment quality and teacher-child relationship quality would be beneficial.

This study relied on obtaining the head teachers consent for teachers to participate. Teachers were provided with an information sheet outlining the details of the study, however, beyond this, information was not collected on how teachers volunteered to participate. Therefore, it is possible the sample may be biased towards either schools with

an agenda to show they have a positive relationship with children or towards teachers who feel they have positive relationships with children. In addition, teachers evaluation of their relationship with the children may be influenced by whether they were ‘asked’ by head teachers to participate or what their reputation is in school. Furthermore, children were asked to return consent forms to their teachers. This may have biased the number of consent forms returned depending on the child’s relationship with their particular teacher. Future research would benefit from using a more random or stratified sampling technique to recruit teachers in order to obtain a more representative sample and reduce bias.

To explore the moderating role of teacher-child relationships, a decision was made to create an aggregate score of teacher child relationship quality by combining both teacher and child reports of closeness and conflict. However, as noted in previous research (e.g. Doumen et al., 2011) and in this study, conflict in the teacher-child relationship may be particularly relevant to children’s self-concept and outcomes. In addition, the child’s appraisal of their relationship with their teacher appears to be of greater importance in terms of the impact on their self-concept than the teachers’ appraisal of the relationship. For example, teacher reports of closeness was found not to correlate with any measures of self-concept, whereas, child reports of closeness correlated with global and behavioural self-concept scores. Furthermore, the distribution of scores of teacher reports of conflict were more skewed than the scores from the children’s perspective on conflict which were more normally distributed (see Appendix N).

The relatively low correspondence between the children’s appraisal of the relationship quality compared to the teachers’ appraisal of the relationship raises questions about the meaning or significance of combining both perspectives. For example, according to attachment perspectives (Bowlby, 1980), positive perceptions of relatedness that is discrepant with others’ reports may reflect a defensive coping style. However, social motivational theories (Harter, 1986) suggest that children have a basic need for relatedness. According to this perspective, a child’s appraisal of his or her relationship with the teachers as being close and supportive, irrespective of the congruence with others’ perspectives of the relationship, can promote a child’s sense of belonging to the school and general perceived competence (Wu, Hughes, Kwok 2010). Therefore, for future research, it may be useful to explore the impact of the different dimensions of the teacher-child relationships and perspectives separately.

A further limitation is the cross-sectional design of the study. Thus, the results do not facilitate interpretation of the findings in casual terms, even though such interpretations are

based upon previous research (e.g., Leflot et al., 2010; Reddy et al., 2003). The results also need to be considered in the context of the bidirectional nature of teacher-child relationships. As positive self-concept is related to characteristics such as intelligence, competency, amenability (Gavidia-Payne et al., 2014; Guay, Larose, & Boivin, 2004) it is plausible that teachers experience closer, more positive relationships with these children. Further longitudinal studies are therefore needed to elucidate the exact nature of the connection between children's self-concept, attachment security and teacher-child relationships.

Teacher closeness and conflict accounted for a relatively small proportion of variance in some aspects of children's self-concept. Although the effects are not negligible it is plausible that other relationships children have at school contribute to their self-concept, for example emotional literacy support assistants or teaching assistants. Therefore, research exploring the children's experiences with different teachers together may contribute to the child's self-concept to a greater effect.

Finally, this study did not control for demographic characteristics such as gender, ethnicity and socio-economic status. Measuring and controlling for these demographic characteristics may be important, given that some studies have found differences in teacher-child relationship quality between socio-economic groups and gender (Koepke & Harkins, 2008; Meehan, Hughes, & Cavell, 2013; Ryan et al., 1994; Sabol & Pianta, 2012) and differences in self-concept have also been found between ethnic groups (Gray-Little & Hafdahl, 2000; Twenge & Campbell, 2001).

This present study focused on children's interpersonal relationships with teachers and their caregivers, and their contribution to children's self-concept. However, it is acknowledged that these factors are embedded within a complex system with multi-level interactions between the child and his or her contexts over time (Pianta, 1999). For example, at the most basic level, biological factors such as children's temperament, or the teacher's own belief and perceptions may play a role in the relationship (Hamre et al., 2006). External influences such as the school community also contribute or constrain the development of positive relationships. For example, smaller communities of teachers and children, and behavioural management strategies focusing on control over relational techniques, all impede the development of positive relationships (Hamre et al., 2006). Therefore, there is a need for future research, conducted across ample numbers of

classrooms and schools to better understand the factors that contribute to children's and teacher interpersonal relationships and a child's developmental outcomes.

Research and Practice Implications

Despite the limitations of the current research and the rejection of some hypotheses the study has key implications for both research and practice.

In addition to overcoming the aforementioned methodological limitations of the current study, future research could explore evidence-based interventions that support the development of positive self-concept (Gavidia-Payne et al., 2014). The findings of the study suggest that both caregiver and teacher relationships are important to children's self-concept. Therefore, it may be helpful to explore the factors relating to caregivers and teachers' interactions with children that support positive and secure attachments. This information could be used to support caregivers and teachers be aware of the characteristics that establish helpful, positive and secure relationships in order to facilitate the development of a child's self-concept. Related to this, it would also be of interest to investigate the determinants of teacher closeness and conflict such as personality, previous experience, training and the teacher's own self-concept and attachment experiences.

The current study aimed to increase the reliability and validity of findings by considering previously raised methodological concerns. This was the first known study to explore both the child and teachers perception of the relationship quality. A significant correlation was obtained between teacher and child reports of conflict, and teacher and child reports of closeness. This suggests that both may perceive the relationship with each other similarly. This provides some validation of the child's and teachers perceptions and supports the concept that teacher-child relationship is discrete and measureable phenomenon (Rey, Smith, Yoon, Somers, & Barnett, 2007). Furthermore, the findings support the view that children as young as seven can make reports about the relationship with their teacher in a reliable manner.

The results also indicate that different facets of children's self-concept may be differentially affected by teacher-child relationships. This highlights the importance of exploring multiple aspects of self-concept and teacher child relationships in future research.

The findings of the present study suggest that the teacher-child relationship may be particularly important for children's behavioural and academic self-concept. A child's perception of their behaviour has been associated with hyperactivity, pro-social behaviour,

anti-social behaviour and anxious behaviours (Sammons et al., 2008; Sylva, Melhuish, Sammons, Siraj-Blatchford, & Taggart, 2008). Academic self-concept, defined as the child's perceived cognitive competence as applied to school work (Harter, 2012), has been found to significantly affect academic adjustment and academic achievements (e.g., Guay et al., 2004; Marsh & Martin, 2011; Wouters, Germeijs, Colpin, & Verschueren, 2011). Therefore, this highlights the importance of teacher-child relationships not only for children's emotional adjustment but also their academic attainment. A key implication is supporting the application of knowledge about the teacher-child relationship across the many processes and levels of organisations in schools (Hamre & Pianta, 2006). Below, implications are discussed related to (i) school level approaches, (ii), classroom practices and (iii) the individual interactions between teachers and children.

At a school level, the structure and organisation of a school can greatly impact the way the child and teacher feels about the time they spent at school. A school with a positive, warm and socially supportive ethos can support the development of children's self-esteem as well as create warmth and friendliness in teacher-children relationships (Battistich, Solomon, Watson & Schaps, 1997; Hamre & Pianta, 2006). In addition, schools that provide time for teachers to meet and connect with children on a more personal level also supports more high quality positive teacher-child relationships (Hamre & Pianta, 2006).

At a classroom level, explicit teaching of social and emotional skills can support positive relationships. Curriculums that focus on social and emotional development such as PATHS (Promoting Alternative Thinking Strategies), as outlined in Greenberg, Kusche, Cook, & Quamma (1995) may be appropriate here. PATHS is designed to support children to identify and label feelings, reflect on social interactions and consider alternative solutions and interpretations of behaviour and social encounters. Such a curriculum can help improve the classroom environment and relationships in it through providing children with a larger emotional vocabulary and the skills and confidence to manage social interactions (Hamre & Pianta, 2006).

Teacher child relationships, and the interactions that promote them, may also be a specific target of intervention in the professional development of teachers. It would be valuable for teachers to be provided with support to learn how to facilitate close, supportive interactions with each child. Professionals involved in the development of teachers, such as Educational Psychologists may be suited to provide this support.

Educational Psychologists may play a key role to support teachers to counterbalance and overcome negative interactions and increase the frequency of positive interactions.

Teachers can learn specific strategies that will help them develop close relationships in the classroom such as through engaging in frequent social conversations, being available to children who are having a hard time, displaying positive regard for children's idea and using behaviour management strategies that clearly communicate expectations and caring (Hamre and Pianta, 2006). There are also a number of interventions designed specifically to create more warm interactions between children and teachers such a Primetime (Hughes, Cavell, & Jackson, 1999) and Student, Teachers, and Relationship Support (STARS; Hamre & Pianta, 2006). Key to such interventions is a focus on facilitating teachers and children to create new and more supportive ways of interacting with each other during the school day

Providing close, warm, supportive and non-conflicted interactions may allow teachers to increase their positive role for children's continuing development through supporting the child's self-concept. However, it should also be kept in mind that multiple relationships and developmental contexts need to be considered in the determination of a child's self-concept. Particularly, not only teacher-child relationships, but also parent-child relationships, children's relationships with peers and other school staff could be considered as a focus of support and intervention.

Conclusions

The majority of previous research on the determinants of children's self-concept has focused on the influence of family relationships, particularly the parent-child relationship (Goodvin et al., 2008; Verschueren et al., 1996). However, contemporary research is focusing on the effect of the teacher-child relationship on a child's socio-emotional development (Pianta, 1999; Sabol & Pianta, 2012). This is one of a few studies that connects both areas of research by exploring the connections between teacher-child relationships, parent-child attachment security and children's perceptions of themselves. Furthermore, it is one of only a few studies that have explored the role of both closeness and conflict in teacher-child relationships and different domains of self-concept, and the first exploring this for children in middle childhood utilising both child and teacher views of the relationship. This is an important area to explore considering the increasing body of evidence highlighting the importance of individual differences in children's self-concept for their adjustment (e.g., Guay, Marsh, & Boivin, 2003; Rudolph, Hammen, & Burge,

1995; Trzesniewski et al., 2006) and the significance of the middle childhood years as a foundation to support future development (Bosmans & Kerns, 2015; Verschueren, 2015)

The present study provides some evidence for an important link between the quality of teacher-child relationships, attachment security and aspects of children's self-perceptions in middle childhood. Specifically, attachment security related to children's global, academic, behavioural and social self-concept and positive teacher relationships further contributed to children's behavioural and academic self-concept. There was no evidence for a moderation effect, suggesting that teacher relationships are beneficial for behavioural and academic self-concept in all children, not just those with lower attachment security. There was no evidence that teacher relationship added anything over and above parent relationships to the child's global and social self-concept. Finally, results indicated that reports about the student-teacher relationship; from the child's view; and information about conflict was more predictive of academic and behavioural self-concept. It is hoped the present findings will support directions for future research as well as contribute towards supporting the socio-emotional development of children.

Appendices

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Appendix A Search Terms for Systematic Literature Review

1. PsycINFO via EBSCO

Search terms:

(DE Self Concept OR Self Esteem OR Academic Self Concept OR Self Confidence OR Self Evaluation OR Self Perception OR Self Appraisal OR Self Awareness OR Self Worth) AND DE Teacher Student Interaction

(Note- DE = Subject)

Limiters:

Publication Year: 1990 - 2015

Language: English

Publication Type: Peer Reviewed Journals

Exclude: Dissertations

2. Web of Science

Search terms:

TOPIC: Self Concept OR Self Esteem OR Academic Self Concept OR Self Confidence OR Self Evaluation OR Self Perception OR Self Efficacy OR Self Appraisal OR Self Awareness OR Self Worth

AND TOPIC: "student-teacher relationship" OR "teacher-child relationship*" OR "teacher-child interaction*" OR "Teacher-student interaction*" OR "student-teacher interaction*" OR "Teacher-student relationship*" OR "child-teacher relationship*" OR "child-teacher interaction*"

(Note: TOPIC searches title, abstract, keywords and keywords plus)

Limiters:

Timespan: 1990-2015

Languages: English

Journal Articles

Appendix B Reasons for Exclusion of Studies after Full Assessment

All titles and abstracts of the papers identified from the electronic databases were screened. 38 were identified as relevant and retrieved in full text. In addition one article was retrieved in full following a hand search, resulting in 39 full papers. 25 papers were excluded for the following reasons:

1. Studies where the association between the child's self-concept and teacher interactions/relationships was not measured (n =10).
2. The child's interaction/relationship with their teacher not measured (n = 9)
3. The self-concept of the child was not measured (n = 5)
4. Full text was not written in English (n = 1

Appendix C Data Extraction Table

Table A6 - Data Extraction Table

Author(s)	Study characteristics	Participant Characteristics	Measures	Outcomes
1. Colwell and Lindsey (2003)	Country: Texas, USA Design: Cross-sectional	N: 47 Age range: 43-60 months (M = 60.36) Gender: 27 boys and 20 girls Ethnicity: 40 European American, 2 American & 3 Hispanic and Asian. SES: 80% upper and middle class	Self Concept: Feelings about Myself and Peers (FAMP). Teacher Relationship: Naturalistic observations. Measured dimensions of: teacher interaction time, cooperation, emotion and aggression	Inter-correlations: Males, females Proportion of Time. -0.26, -0.14 Cooperation 0.35*, -0.35* Aggression -0.27*, -0.17 Positive emotion 0.35*, 0.41* Negative emotion 0.08, -0.04 * p = < 0.10 Positive emotions both linked to cooperative with teachers high s cooperative lower self-perceptio teachers and were more aggressi association was noted for girls.
2. Cugmas (2007)	Country: Slovenia Design: Cross-sectional	N: 120 Age range: 6-10 years Gender: 61 boys and 59 girls.	Self Concept: Scale of Self Perception for School Children (SPSC): academic competence, artistic competence and motor competence. Teacher relationship: Scale of children attachment to kindergarten teacher (CAKT). 129 item teacher perception of attachment behaviour to themselves. Five point Likert scale.	Correlational Analyses Pearson's Secure attachment: Academic Competence 0.25 p = Artistic Competence 0.22, p = < Motor Competence 0.03 non sig Avoidance: Academic Competence -0.18, p Artistic Competence 0.26, p < 0.0 Motor Competence non signific Trustfulness, disorganised and r Dependence only correlated with
3. Doumen, Buyse, Colpin and Verschueren (2011)	Country: Belgium Design: Longitudinal	N: 139 Age range: First grade Gender: 70 boys. SES: 80% higher SES	Self Concept: Pictorial Self Evaluation Scale (PSES), Self-Description Questionnaire (SDQ) and Puppet Interview (Cassidy, 1988). Measured T2 –	T1 teacher conflict related to PS esteem at T2 (-0.22, p = < 0.01). Teacher-Child Conflict at T1 pr = -0.43, p < 0.05)

Jan- March.				
Teacher Relationship: Student Teacher Relationship Scale – Conflict Subscale (STRS). (Teacher Report). Measured T1 in October-Dec				
4. Gavidia-Payne, Denny, Davis, Francis & Jackson. (2014).	Country: Australia. Design: Cross-sectional.	N: 219 Age: 7-14 years (M = 9.7) SES: 33 triads rural and 186 urban locations	Self Concept: Beck Youth Inventory- Self Concept Scale (BYI –SCI). Measures Self-Competence and Self Worth. Teacher Relationship: Student Teacher Relationship Scale Short Form (STRS – SF). Teacher Report	Self-concept and rural t r/p mod but no correlation with self-conc No sig d/n between rural and url Self-concept not related to educ
5. Leflot, Onghena & Colpin, (2010)	Country: Belgium Design: Longitudinal	N: T1 570 and T2 563 Age: M = 7.5 Gender: 282 boys. Ethnicity: >95% Belgium nationality. SES: Higher education (65% mothers, 57% fathers) Remaining (bar 2) finished school.	Self Concept: Self Perception Profile for Children Dutch Adapted (SPPC): Global, academic, social and behavioural self-concept. (Changed to 3 point likert scale). Teacher Relationship: Teacher as Social Context (TASC) subscales of autonomy (A), involvement and structure (S). 4-point likert scale. Teacher report.	Bivariate Pearson sig correlator Global T1: A. Global T2: I & A Academic T1: S & A. Academic Social T1: I, S & A. Social T2: I Behavioural T1: I, S & A. Behav Hierarchical regressions. Social contribute towards. But not beh
6. Martin, Marsh, McInerney, Green & Dowson (2007)	Country: Australia Design: Cross sectional	N: 3450 Age: 12-18 years (M = 14.03) Gender: 1,311 female, 2,139 male. SES: High SES.	Self Concept: Self Description Questionnaire II- Short (SDQ II S) General and academic self-esteem. Six items Likert scale. Teacher Relationship: Child report. Authors' own 4-item scale. Parent Relationship: Self Description Questionnaire 11 Short (SDQ 11-2) 4 items for parent r/p.	Composition and correlations of different amongst gender or age. Correlations of self-concept and at p = < .001. Teacher (parent): . (.47) SEM for unique and combined e controlling for gender, age and p (teacher and parent). Results- te particularly on academic self co = .17; p< .001). However, parer significant in non academic dorr (teacher β = .39; p < 0.01; paren

7. Raufelder, Sahabandu, Sánchez-Martínez & Escobar (2015)	Country: Germany Design: Cross-sectional	N: 1088 Age: M = 13.7 Gender: 587 girls, 502 boys	Self Concept: Individual School Self Concept Scale (ISSC) ($\alpha = .89$) six items five point likert scale. Teacher Relationship: Teacher –student relationship. (TSR) Five items ($\alpha = .78$) on how well each statement described them e.g. “I get on well with most teachers”. Four point likert scale.	Bivariate correlations between v with higher levels in individual : SEM to include direct effects. The direct effect between indivi significant ($B = .27, \beta = .38, SE :$
8. Reddy, Rhodes & Mulhall (2003)	Country: US Design: Longitudinal	N: 2585 Age: 11-14 years Gender: 1300 girls. Ethnicity: 82.2% European American, Hispanic (6.2%) Asian American (3.2%) African American (1.8%) 1.8% other. SES: 24 % free school meals.	Self Concept: Six item General Self-Esteem subscale of the Self-Evaluation Questionnaire. Four point scale. Teacher Relationship: Teacher support subscale shortened of a revised Classroom Environment Scale (Trickett & Moos, 1973). Students rated on 5-point scale how often presented statement true of the teachers at school	Changes in perceptions of teach self-esteem and depression. Students perceiving increasing t decreases in depressive symptom Competing model was also teste from perceptions of teacher supp than the reverse.
9. Roos, Miedema, Iedema, 2001	Country: the Netherlands Design: Cross sectional	N: 72 Age: M = 63 Months Gender: 36 boys SES: low to middle class families.	Self-Concept: Pictorial Scale of Perceived Competence and Social Acceptance for Young Children. Maternal Acceptance, Peer acceptance and physical & cognitive competence. Teacher Relationship: Student Teacher Relationship Scale (STRS) Five point likert scale. Teacher report. Conflict, closeness and dependency.	Structural Equation modelling. More optimal (more closeness a resulted in a more positive self - Explained variance of concept o this is 59%.
10. Sarkova et al., (2014)	Country: Slovenia Design: Cross-sectional	N: 3694 Gender: 1884 girls, 1810 boys Age: 13-16 years (M = 14.4)	Self Concept: Rosenberg Self-esteem Scale (RSE) using two factors: ‘positive self-esteem and ‘negative self-esteem’. Teacher Relationship: Pupil report on fifteen statement responded expressed opinions	Associations with self-esteem at +ve Self-esteem $\beta .12 (.19)$ -ve self-esteem $B = -.06 (-.27)$ $p = < .00$

			about teachers. Likert Scale. Cronbach's alpha for this scale 0.83.	
11. Skaalvik & Skaalvik (2013).	Country: Norway Design: Cross sectional	N: 8971 Age: 9-16 years	Self Concept: SDQ II subscale of general academic self concept Teacher Relationship: Three items measuring student perceptions of teachers as emotion ally supportive.	Zero order correlations students supportive related to academic s SEM analysis for latent variable emotionally available directly ar concept (Beta = .23). Structural model of relations bet middle school students indicatet to academic concept and effort f elementary children.
12. Valeski & Stipek (2001).	Country: US Design: Cross sectional	N: 225 and 127 Age: Kindergarten and first grade. Gender: Kindergarten: 119 girls, 106 boys. First grade: 56 girls and 71 boys. Ethnicity: 35% African American, 34% White, 28 % Latino, 2% Asian, 1% Native American SES: all low income families.	Self Concept and Teacher relationship: Feelings About School (FAS). Assess perceptions of math and literacy competence, feelings to teachers and general attitude towards school. Give point likert scale.	No sig differences in gender for First grades significantly more p literacy than kindergartens. Correlations with feelings about Perceived competence math .34 Perceived competence literacy .3
13. Verschueren, Doumen & Buyse (2012)	Country: Belgium Design: Longitudinal	N: 113 Age: M = 6.2 years Gender: 59 female Ethnicity: 91% Belgium, 9% unspecified.	Self Concept: Self-Description Questionnaire (SDQ-I). Global self, school and peer relations self concept subscales. Teacher Relationship: Student-Teacher Relationship Scale Dutch Adapted (STRS). Teacher report. Parent Relationship: Attachment Q-Set (Dutch Version). Observation of mother attachment behaviours (several hours).	Inter-correlations: Teacher-child relationship and s Global: .10 Academic: .25* p < .01 Social .25* p < .05. Parent Child relationship and se Global .35*, p , .001 Academic .24*, p =< .05 Social .18 Path Analyses: Specialised effect model suppor Domain specific links between e self-concept and general self cor

				Indirect effect model supported: academic self-concept through i
14. Vervoot, Bosmans, Doumen, Minnis (2014)	Country: Belgium Design: Cross sectional	N: 66 Gender: 50 boys Age: 8.52 Ethnicity: 96% Caucasian	Self Concept: Self-concept. Self-Description Questionnaire- I (SDQ-I). General Self scale and peer (social) relations scale. Teacher Relationship: Child Appraisal of the Relationship with Teacher Scale (CARTS). Closeness, conflict and dependency. (Child self report).	Zero-order correlations between Global (Social) Self concept all Closeness: .39 $p = < .01$ (.42, $p =$ Conflict: -.14 and -.10 Dependency .36, $p = < 0.01$ (.34

Note: d/n; difference, r/p; relationship, T; Time, SEM: Structural Equation Modelling.

Appendix D Attachment Security Scale**What I am like with my Mother**

Instructions (to be read out and given to the child)

This questionnaire is what you are like with the person who looks after you the most. Like how you act or feel about them. For most kids, this is usually their mum. However, for some kids this can be their dad or another adult. If it is not your mum answer the questions thinking about that person. Please write which of these people you are writing about in the box below. For example 'my mum or my dad'.

Please write which of these people you are writing about i.e. mum or my Dad in the box below. Each question talks about two kinds of kids, and we want to know which kids are most like you. Decide first whether you are more like the kids on the left side or more like the kids on the right side, then decide whether that is sort of true for you, or really true for you, and circle that phrase. For each question you will only circle one answer. Let's try a practice question.

Person I am writing about:

Really True for me	Sort of True for me		Sort of True for me	Really True for Me
Practice Question				
☐	☐	Some kids would rather play sports in their spare time	BUT Other kids would rather watch T.V	☐
☐	☐			
☐	☐	Some kids find it easy to trust their mum.	BUT Other kids are not sure if they can trust their mum.	☐
☐	☐	Some kids feel like their mum interrupts them a lot when they are trying to do things.	BUT Other kids feel like their mum lets them do things on their own.	☐
☐	☐	Some kids find it easy to rely on their mum for help.	BUT Other kids think it's hard to rely on their mum.	☐
☐	☐	Some kids think their mum spends enough time with them.	BUT Other kids think their mum does not spend enough time with them.	☐
☐	☐	Some kids do not really like telling their mum what they are thinking and feeling.	BUT Other kids do like telling their mum what they are thinking and feeling.	☐
☐	☐	Some kids do not really need their mum for much.	BUT Other kids need their mum for a lot of things.	☐
☐	☐	Some kids wish they were closer to their mum	BUT Other kids are happy with how close they are to their mum.	☐

☐	☐	Some kids do not really need their mum for much.	BUT	Other kids need their mum for a lot of things.	☐	☐
☐	☐	Some kids wish they were closer to their mum	BUT	Other kids are happy with how close they are to their mum.	☐	☐
☐	☐	Some kids worry that their mum does not really love them	BUT	Other kids are really sure that their mum loves them	☐	☐
☐	☐	Some kids feel like their mum really understands them.	BUT	Other kids feel like their mum does not understand them.	☐	☐
☐	☐	Some kids are really sure their mum will not leave them.	BUT	Other kids sometimes wonder if their mum might leave them.	☐	☐
☐	☐	Some kids worry that their mum might not be there when they need her.	BUT	Other kids are sure their mum will be there when they need her.	☐	☐
☐	☐	Some kids think their mum does not listen to them.	BUT	Other kids do think their mum listens to them.	☐	☐
☐	☐	Some kids go to their mum when they are upset.	BUT	Other kids do not go to their mum when they are upset.	☐	☐
☐	☐	Some kids wish their mum would help them more with their problems.	BUT	Other kids think their mum helps them enough.	☐	☐
☐	☐	Some kids feel better when their mum is around.	BUT	Other kids do not feel better when their mum is around.	☐	☐

Appendix E Self Perception Profile

What am I like (Revised, Harter 2012)

Really True for me	Sort of True for me	Sample Sentence		Sort of True for me	Really True for Me
☐	☐	Some kids would rather play outdoors in their spare time	BUT	Other kids would rather watch T.V	☐
☐	☐	Some kids feel that they are very good at their school work	BUT	Other kids worry about whether they can do the school work assigned to them	☐
☐	☐	Some kids find it hard to make friends	BUT	Other kids find it pretty easy to make friends	☐
☐	☐	Some kids often do not like the way they behave	BUT	Other kids usually like the way they behave	☐
☐	☐	Some kids are often unhappy with themselves	BUT	Other kids are pretty pleased with themselves	☐
☐	☐	Some kids feel like they are just as smart as other kids their age	BUT	Other kids aren't so sure and wonder if they are as smart	☐
☐	☐	Some kids know how to make classmates like them	BUT	Other kids don't know how to make classmates like them	☐
☐	☐	Some kids usually do the right thing	BUT	Other kids often don't do the right thing	☐

☐	☐	Some kids don't like the way they are leading their life	BUT	Other kids do like the way they are leading their life	☐	☐
☐	☐	Some kids are pretty slow in finishing their school work	BUT	Other kids can do their school work quickly	☐	☐
☐	☐	Some kids don't have the social skills to make friends	BUT	Other kids do have the social skills to make friends	☐	☐
☐	☐	Some kids usually act the way they know they are supposed to	BUT	Other kids often don't act the way they are supposed to	☐	☐
☐	☐	Some kids are happy with themselves as a person	BUT	Other kids are not often happy with themselves	☐	☐
☐	☐	Some kids often forget what they learn	BUT	Other kids can remember things easily	☐	☐
☐	☐	Some kids understand how to get peers to accept them	BUT	Other kids don't understand how to get peers to accept them	☐	☐
☐	☐	Some kids usually get in trouble because of the things they do	BUT	Other kids usually don't do things that get them into trouble	☐	☐
☐	☐	Some kids like the kind of person they are	BUT	Other kids often wish they were someone else	☐	☐
☐	☐	Some kids do very well at their classwork	BUT	Other kids don't do very well at their classwork	☐	☐
☐	☐	Some kids wish they knew how to make more friends	BUT	Other kids know how to make as many friends as they want	☐	☐
☐	☐	Some kids do things they know they shouldn't do	BUT	Other kids hardly ever do things they know they shouldn't do	☐	☐

☐	☐	Some kids are very happy the way they are	BUT	Other kids wish they were different	☐	☐
☐	☐	Some kids have trouble figuring out the answers in school	BUT	Other kids almost always can figure out the answers	☐	☐
☐	☐	Some kids know to become popular	BUT	Other kids do not know how to become popular	☐	☐
☐	☐	Some kids behave themselves very well	BUT	Other kids often find it hard to behave themselves	☐	☐
☐	☐	Some kids are not very happy with the way they do a lot of things	BUT	Other kids think the way they do things is fine	☐	☐

Appendix F Student Teacher Relationship Questionnaire (Teacher)

STUDENT-TEACHER RELATIONSHIP SCALE – SHORT FORM (Teacher version)

Robert C. Pianta

Child: _____ Teacher: _____

Year: _____

Eligible for free school meals: _____ Pupil Premium: _____

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

Definitely does not apply	Not really	Neutral, not sure	Applies somewhat	Definitely applies
1	2	3	4	5

1. I share an affectionate, warm relationship with this child.	1	2	3	4	5
2. This child and I always seem to be struggling with each other.	1	2	3	4	5
3. If upset, this child will seek comfort from me.	1	2	3	4	5
4. This child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5. This child values his/her relationship with me.	1	2	3	4	5
6. When I praise this child, he/she beams with pride.	1	2	3	4	5
7. This child spontaneously shares information about himself/herself.	1	2	3	4	5
8. This child easily becomes angry with me.	1	2	3	4	5
9. It is easy to be in tune with what this child is feeling.	1	2	3	4	5
10. This child remains angry or is resistant after being disciplined.	1	2	3	4	5
11. Dealing with this child drains my energy	1	2	3	4	5
12. When this child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
13. This child's feelings toward me can be unpredictable or can change suddenly.	1	2	3	4	5
14. This child is sneaky or manipulative with me.	1	2	3	4	5
15. This child openly shares his/her feelings and experiences with me.	1	2	3	4	5

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Appendix G Student Teacher Relationship Scale (Child)

Student Teacher Relationship Scale (Pianta's Revised)

Think about how you feel about your teacher.

Tick the box that applies to your relationship with your teacher.

Your teacher will not see your answers.

Scale:

	Definitely does not apply/ not true	Not really	Neutral Not sure	Applies somewhat	Definitely applies/true	
X	1	2	3	4	5	✓

	1 X	2	3	4	5 ✓
1. I have a good relationship with my teacher					
2. I seem to always struggle with my teacher					
3. When I am upset, I can go to my teacher for support and comfort					
4. I feel uncomfortable if my teacher stands too close to me					
5. I value my relationship with my teacher					
6. I feel proud when my teacher praises me					
7. I like sharing my information about myself with my teacher					

8.	I find it easy to get angry with my teacher					
9.	My teacher understands how I am feeling in class					
10	If my Teacher tells me off, I feel angry or upset for a long time afterwards					
11	I can tell my teacher how I feel and what I've been doing					
12	My teacher gets angry easily					
13	When I am in a bad mood with my teacher it takes me a long time to get over it					
14	The way I feel about my teacher can change quickly					

Appendix H Headteacher Letter

Dear Headteacher,

Our names are Beth Turner and Sarah Delo. We are both third year trainee educational psychologists from the University of Southampton. We are writing to request the opportunity to carry out a piece of research in your school for our thesis.

We are investigating how parent and teacher relationships support children to be curious in their learning, and confident in their friendships and approach to their environment. We are particularly interested in the role that teachers, through their relationships with children, can play in promoting the development of positive behaviours, wellbeing and self-concept (the feelings the children have towards themselves).

The study would involve children from years 3-6 completing three short questionnaires on their relationships with their teacher and a parent and how they feel about themselves. This can be done online, or if preferred we can provide paper questionnaires. Completion should take no longer than 20 minutes. The online questionnaires will have an audio link so that children with literacy difficulties can have the questions read to them to assist them. On of use would be available at each session to provide further assistance if there were any difficulties or questions about the study.

Should you decide to take part, teachers will also be asked to fill in questionnaires about their relationship with each child in the study and a questionnaire on that child's behavior in class. This should take no more than 5 minutes per child

We will provide a letter to parents/guardians explaining the study and ask parents/guardians to consent to their children taking part in the study. After the study we will fully debrief the children and the parents/guardians via letters. We can also provide copies of the questionnaires to the school should parents want to see them before they choose to allow their child to take part in the study.

I understand that taking part may cause some disruption to the school day but in return I would like to offer an information pack about ways of supporting children with attachment difficulties in the classroom.

If you want to take part in this study please return the slip below to Beth Turner and Sarah Delo Building 44a, University of Southampton, SO17 1BJ, UK by the _____

If you have any questions about the study, please do not hesitate to contact Beth Turner on bt1g13@soton.ac.uk or Sarah Delo on sld2g13@soton.ac.uk and we can arrange a meeting to discuss any queries you have in person.

Yours sincerely

Study title: Can teacher-student relationships protect children from externalising and internalising behaviours, and low self-concept in middle childhood?

Researcher name: Beth Turner and Sarah Delo

Study reference: 14723

Ethics reference:

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

I have read and understood the letter above (Version 1, 26.04.15)

☐

And I have had the opportunity to ask questions about the study

I agree to take part in this research project and agree that the researchers

May assess children during their school attendance

☐

I understand that families that meet the requirements of the study

will be approached via letters being sent home with the child, and an

“opt in” option to the parents would be provided

☐

I understand the school’s participation is voluntary and

we may withdraw at any time without any legal rights being affected

☐

Name of School Establishment (print name) _____

Name of Consenting Head Teacher (print name) _____

Signature of consenting Head Teacher _____

Date : _____

Appendix I Teacher Information

Dear Teacher,

Our names are Xx and Xx. We are both third year trainee educational psychologists from the University of Southampton. We are writing to request your participation in a study regarding how parent and teacher relationships support children to be curious in their learning, and confident in their friendships and approach to their environment

We are particularly interested in the role that teacher relationships can play in promoting the development of their pupils positive behaviours, wellbeing and self-concept (the feelings a child has towards themselves).

This will involve completing a few quick questionnaires. You will be asked about some of the children in your class regarding their behaviour and your relationship to them. Personal information will not be released to or viewed by anyone other than the researchers involved in this project, and the results of this study will not include your name or any other identifying characteristics.

Completion and return of these questionnaires will be taken as evidence of you giving informed consent to be included as a participant in this study and for your data to be used for the purposes of research. The published results of this research project will maintain your confidentiality and any participation is voluntary and you may withdraw at any time.

A summary of this research project will be supplied to you upon request. To request a project summary or If you have any questions please contact xxxx

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.

Yours Sincerely,

Appendix J Parent Information and

Dear Parent/Guardian,

Invitation to take part in a research project: Can relationships with teachers help children to increase positive behaviours and self-concept (how the child views themselves) in middle childhood?

Our names are Beth Turner and Sarah Delo. We are both studying on a Doctoral programme in Educational Psychology. We are writing to you to ask your permission for your child to be involved in a research project with The University of Southampton. Before you decide whether you want your child to take part in the study, here is the key information that you should know:

What is the purpose of this study?

We are investigating how parent and teacher relationships support children to be curious in their learning, and confident in their friendships and approach to their environment. We would like to investigate how children's relationships with those around them (i.e. parents and teachers) impact on their wellbeing in school and allow them to develop positive learning behaviours and self-concept (how they view themselves).

Why has my child been invited?

All children from year 3 to 6 are being asked to take part in this study.

What will happen to my child if I take part?

If you are happy for your child to take part in this research they will complete three quick surveys (approximately 5-20 minutes) on the computer in school asking them about their relationships to key people in their life. If your child has difficulty with reading then the questions can be read out by audio link on the computer. A researcher will be present at each session to support your child should they need the question explaining or need help with their computer.

After the questionnaires, your child will complete an activity regarding their three best memories at school. We will then check whether your child has any questions before we finish. We will also send home contact details for ourselves should you have any further questions. Their teacher will also complete a parallel questionnaire about your child.

Are there any benefits in my taking part?

This research will help to add to the field of Psychology and Education's current understanding of the extent to which teacher-student relationships can help student learning and wellbeing in the

Consent

classroom. This research could potentially lead to further support from teachers for children in schools.

Are there any risks involved?

We have tried to ensure that the questions in this study do not cause any distress. However, it is possible to experience some anxieties when completing questionnaires about relationships, and support is available from the class teacher and a researcher who will be present. Every endeavour will be taken to make pupils feel comfortable and they will be able to withdraw from the research at any point.

What will happen with the results from this research?

The results will be written up in our thesis and we will provide the school with a summary of the study that parents can access through members of school staff.

What do I have to do?

If you are happy for your child to take part in this study, then you should fill out the consent form below and send it back to school. If you would like to see a copy of the questionnaires before you decide if you want your child to be involved in this study, a copy will be available at school for parents to look at. If you wish to do this please ask your child's class teacher or a member of staff to give you access to the school's copy.

Will my child's participation be kept confidential?

Yes your child's responses will be kept on a password-protected computer. Your child will be given. Your child's personal details will not be included in the write up.

What happens if something goes wrong?

This piece of research has been reviewed and approved by The University of Southampton's Ethics Committee. In the unlikely case of concern or complaint please contact the Research Governance Manager (02380 595058, or email: fshs-rgo@soton.ac.uk)

Where can I get more information?

Should you wish to discuss the study in further detail please contact X

**IF YOU ARE HAPPY FOR YOUR CHILD TO TAKE PART IN THIS
STUDY PLEASE COMPLETE THE CONSENT FORM BELOW
BY _____**

CONSENT FORM (26.07.15, version 1.1)

Research: Can relationships with teachers help children to increase positive behaviours and self-concept (how the child views themselves) in middle childhood?

Researchers name: Xx and Xx

Study reference:

Ethics reference: 14723

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

I have read and understood the information sheet (26.07.15, Version 1,1) about my child's participation in this study and have had the opportunity to ask questions about the study.

☐

I agree for my child to take part in this research project and agree for my data to be used for the purpose of this study

☐

I understand my child's participation is voluntary and that they may withdraw at any time without their legal rights being affected

☐

Data Protection

I understand that information collected about my during my participation in this study will be stored on a password protected computer and that this information will only be used for the purpose of this study. All files containing any personal data will be made anonymous.

Name of Child: _____

Child's Date of birth: _____

Name of parent/guardian: _____

Signature: _____

Relationship to child: _____

Date _____

Appendix K Child Debrief Statement

Can relationships with teachers help children to increase positive behaviours and self-concept (how the child views themselves) in middle childhood?

Debriefing Statement (*verbal and written*) (Version 1.1, 26.07.15)

Thank you very much for your help with my project. The aim of this research was find out how important teachers are in helping young children to be comfortable in class and be confident learners. Just to remind you that your answers will not be shared with anyone. Does anyone have any questions before I let you go back to class? If you feel that you want to talk about anything the questionnaires have brought up for you let your teacher know or you can speak to me afterwards.

Thank you again for helping me with my project

If you or your parent/guardian wish to have a copy of the research findings or if you or your parent/guardian have any further questions please contact either xxxx at xxxx

Thank you for your participation in this research.

Signature _____ Date _____

Name_____

If you or your parent/guardian 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 Teacher Debrief Statement

Can relationships with teachers help children to increase positive behaviours and self-concept (how the child views themselves) in middle childhood?

Teacher's Debriefing Statement (Version 1.1, 26.07.15)

The aim of this research was to explore the role that teacher relationships can play in promoting the development of their pupils positive behaviours, wellbeing and self-concept (the feelings a child has towards themselves).

It is expected that teachers can act as a protective factor for vulnerable students in particular those who do not feel secure in their relationships. Your data will help our understanding of the importance of the teacher-student relationship especially for vulnerable students.

Once again results of this study will not include your name or any other identifying characteristics. The research did not use deception. If you wish to have a copy of the research findings or if you have any further questions please contact either xx at [xx email](#) or xx at xx email

Thank you for your participation in this research.

Signature _____ 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 M Child Consent Form

Hello,

My name is (xx) from the University of Southampton. I am here to ask you if you would mind answering some questions for a research project that I am working on.

I am looking at children's relationships with their parents and their class teachers and how this might affect them at school.

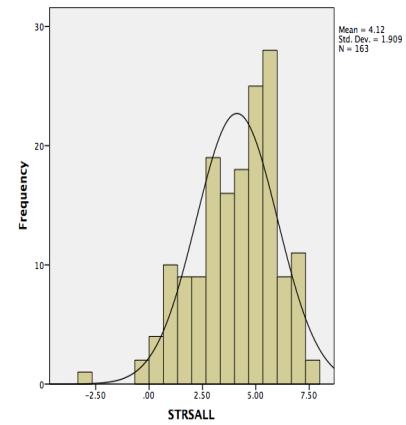
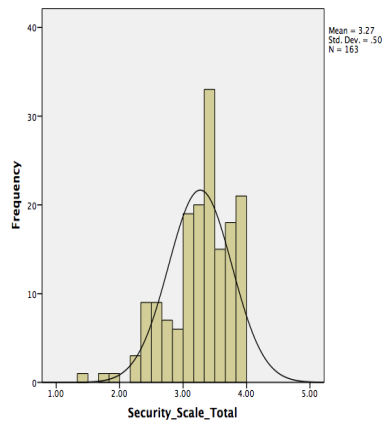
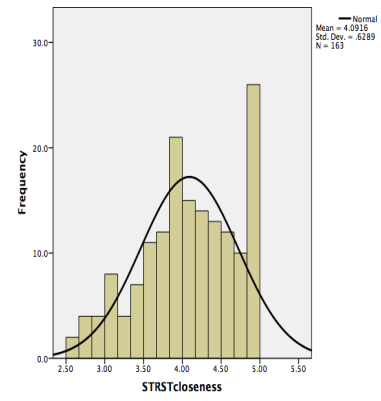
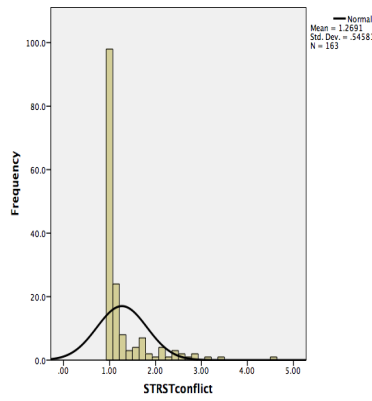
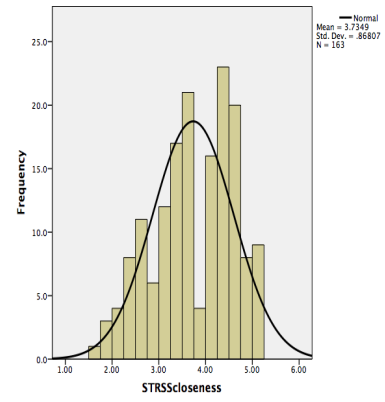
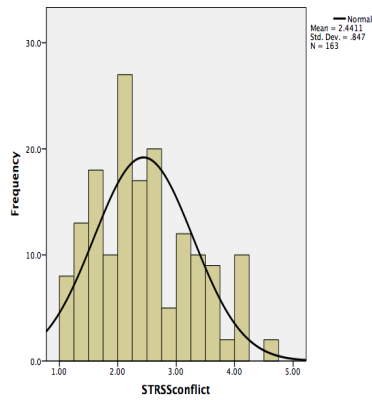
You do not have to take part in this activity. If you do not want to then please tell an adult that you would like to go back to class. You can go back to class at any point during this session. If you have any questions please ask them now.

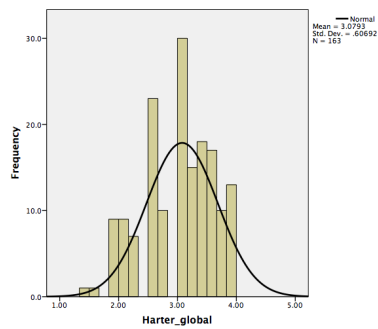
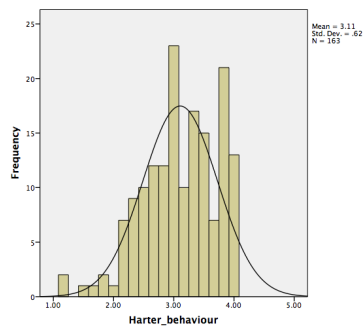
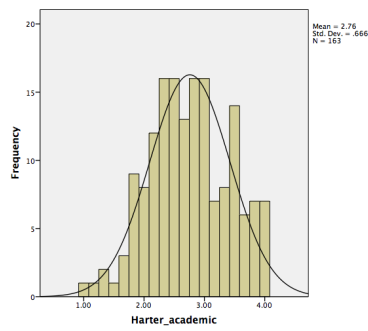
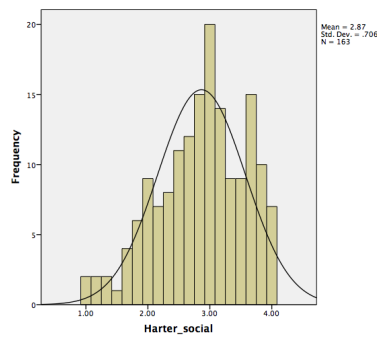
If you are happy to help us with this study, please circle the yes or name face if you agree with the questions below:

☺ YES ☹ NO

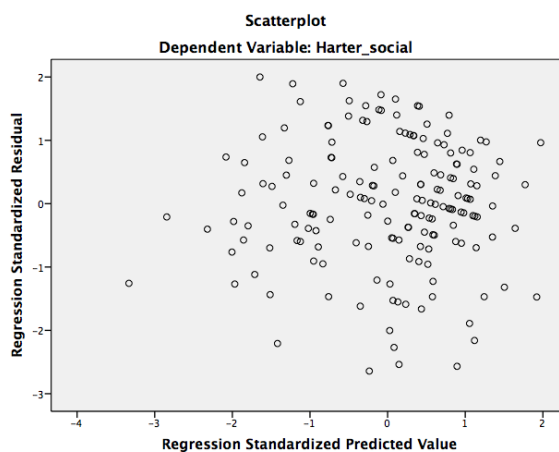
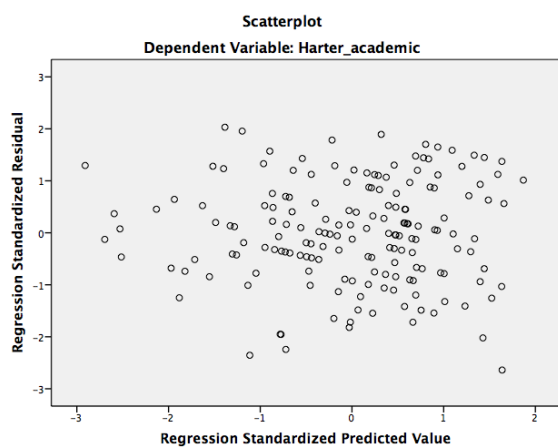
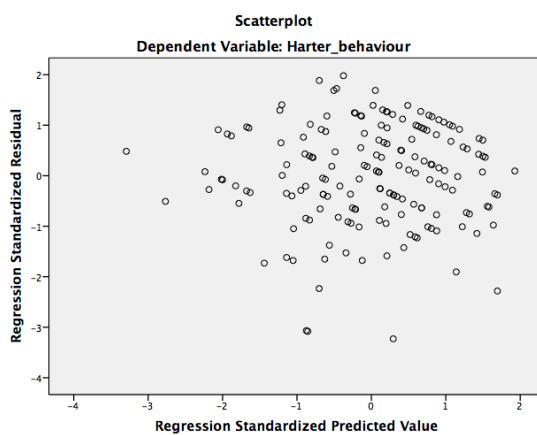
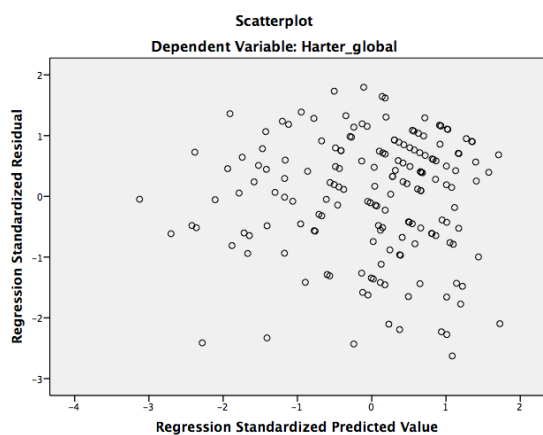
Have you read about this project above?	☺	OR	☹
Has someone talked to you about this project?	☺	OR	☹
Do you understand what this project is about?	☺	OR	☹
Have you asked all the questions that you want?	☺	OR	☹
Do you know that it's okay to stop taking part at any time?	☺	OR	☹
Are you happy to take part?	☺	OR	☹

Appendix N Histograms of Self-Concept Scores and Teacher-Child Relationship Scores





Appendix O Scatterplots of standardised residuals against values of the independent variables



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