

Does young children's free play predict social competence in
preschool?



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List of abbreviations

ADHD	Attention deficit hyperactivity disorder
ASBI	Adaptive Social Behaviour Inventory
ASC	Affective social competence
ASD	Autism spectrum disorder
BDI	Battelle Developmental Inventory
BEEOS	Behaviour and Emotion Expression Observation System
CBS	Child Behaviour Scale
ChIPPA	Child-Initiated Pretend Play Assessment
CUREC	Central University Research Ethics Committee
K-S test	Kolmogorov-Smirnov test of normality
MC	Making Choices intervention
NICHD	National Institute of Child Health and Human Development
NLD	Nonverbal Learning Disabilities
PIPPS	Penn Interactive Peer Play Scale
PPVT	Peabody Picture Vocabulary Test
SCIP	Social Competence Intervention Program
SD	Standard deviation
SDQ	Strengths and Difficulties Questionnaire
SEEC	Vineland Social-Emotional Early Childhood Scale
SEN	Special Educational Needs
SES	Socio-economic status
TC	Target child
TCOM	Target Child Observation Method

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Abstract

It is well documented that both play and social competence serve an important role in promoting the development of young children. The relationship between play and social competence is well established. However, methodological approaches in research to date has been limited to observational data combined with parent reports or teacher reports, or questionnaire reports exclusively. Therefore, the current study aimed to investigate the relationship between play and social competence employing a multimethod and multisource approach. Measures of play ability were obtained from observations and teachers. Measures of social competence were obtained from parents and teachers. Results revealed that despite being somewhat related to teacher-reported play, observed play did not predict social competence. Results also showed that teacher-reported play did predict social competence. It was concluded that there was evidence supporting the predictive relationship between play and social competence. However, further research would be required to investigate the predictability of observed play.

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Chapter 1: Introduction

Young children spend a huge amount of time and energy on play (Furlow, 2001). Play is especially important during the preschool years, which most often provide children with their first meaningful interactions with peers (Fabes, Gaertner, & Popp, 2006). It is also at this age that the activities of other children start to become interesting (Kington, Gates, & Sammons, 2013). Play is commonly considered to be the involvement in an exploratory activity from which children derive pleasure, that may or may not involve interaction with peers (Mellou, 1994). More recent research considers play as an important contributor to almost every aspect of child development (Skaines, Rodger, & Bundy, 2006). Theorists such as Vygotsky (1978) argued that play is essential to the development of language, problem-solving and cognitive skills, as well as to developing understanding in social values and expectations. A plethora of evidence supports these claims. Children who are found to engage in high levels of prosocial play, including play involving conflict, regulate their emotions better, and display improved language and negotiating skills (Johnson, Finlon, & Izard, 2016). They are also found to show better understanding of the perspectives of others (Kington et al., 2013). Good players are found to perform better academically, specifically in literacy ability (Doctoroff, Greer, & Arnold, 2006; Mendez, Fantuzzo, & Cicchetti, 2002).

Questionnaires are commonly found to be reliable measures of play ability, particularly if completed by teachers (Webster-Stratton & Lindsay, 1999). However, teacher-reports are susceptible to bias and often require a degree of inference to be made (Milfort & Greenfield, 2002). The inclusion of data obtained by an independent observer provides information on naturally occurring and spontaneous behaviour that is less likely to be influenced by bias (Neisworth & Bagnato, 2004).

Social competence is characterised by effectiveness in social interaction. This includes the ability to recognise the emotions and desires of the self and others in order to interact appropriately (Campbell et al., 2016). Social competence has been found to be a key predictor of young children's future academic performance. Socially competent children are more likely to be rated by their peers as likeable, thus

promoting social interaction and friendships (Denham & Holt, 1993). Children who are perceived as being likeable and who can effectively develop relationships with their peers are found to adjust to school more easily (Ladd, Kochenderfer, & Coleman, 1996). This in turn promotes a positive attitude towards school and learning, reducing delinquency and drop-out rates, thereby promoting academic achievement (Denham, 2006).

Questionnaires are the most common measure of children's social competence. Evidence suggests that teachers provide the most accurate and stable report (Howes, 1988). Parents and teachers often show low levels of agreement on questionnaire measures of social competence (Renk & Phares, 2004). This discrepancy is attributed to the context-dependent nature of social competence. The appropriate social response in preschool, may not be considered appropriate, or may not be applicable to social situations in the home and with parents. However, Goodman (1997) suggested that a discrepancy between parent- and teacher-reported social competence is less likely if both complete the same questionnaire.

The relationship between play and social competence is well established. Children's involvement in play is crucial to the development of social skills. The more experience children have interacting with peers, the more socially competent they are likely to be (Harper & Huie, 1985). Positive play interaction makes children feel more comfortable around their peers, resulting in more displays of positive affect, which makes children more approachable and likeable (Charlesworth & Hartup, 1967; Howes, 1990). Peer interaction also develops play complexity. Children who engage in more complex play are more likely to be rated by teachers and parents as being socially competent (Swindells & Stagnitti, 2006). Play also exposes children to more displays and experiences of emotion, and emotion plays a key role in social competence. Higher levels of affective experience teaches children how to regulate their emotional state (Veiga, Neto, & Rieffe, 2016). It also teaches them how to respond appropriately to the emotional expressions of their peers in order to continue play (Veiga et al., 2016). Existing research investigating the relationship between play and social competence commonly used parent and teacher questionnaire reports, or observational data compared with either teacher or parent reports. To the author's

knowledge there are no published studies that combine play ability and social competence reports obtained from an independent observer, teachers and parents.

1.1 The current study

The current study endeavoured to explore the relationship between three-year-old children's play ability and social competence using a multimethod, multisource approach. Previous literature demonstrates the relationship between the two constructs, specifically that play ability can predict social competence. Play promotes children's understanding of appropriate behaviours and emotions during interaction with peers, thus promoting social competence. However, the majority of the literature reviewed has relied predominantly on questionnaire data. Previous research utilising observation measures often only included additional reports from either parents or teachers. As such, the current study aimed to utilise reports from teachers, parents, and an independent observer. The data obtained through questionnaires and observations was used to conduct a quantitative analysis on holistic illustrations of children's play and social skills. The choice of research topic was motivated by the author's previous experience in teaching special educational needs (SEN) children social and play skills, as well as experience recording detailed information on these skills and the children's behaviours.

1.2 Structure of the dissertation

Chapter 1 has presented an overview in to the rationale behind the current study. The chapter included a brief description of the key concepts addressed by the study, and the aims that it hopes to achieve. Chapter 2 reviews and discusses the current literature considering the play skills and social competence of young children. This chapter discusses conceptualisations of each concept, as well as defining behaviours and the importance of these skills in children's future social and academic success. The review also considers the methods by which social competence and play skills can be assessed, and discusses a need for multisource approach to the measurement of both. Chapter 3 discusses the relationship between play skills and social competence as investigated in current literature. This chapter presents the aims

and research questions for the current study. Chapter 4 describes the methodology of the study and provides descriptions of the data collection measures. The research design, recruitment and participants, procedure and ethical considerations are also described. Chapter 5 presents the quantitative analysis and results. Chapter 6 discusses the results with reference to previous literature and the current study's research questions. This chapter also addresses the limitations of the findings and considers possible direction for future research.

Chapter 2: Literature Review

2.1 Play skills

Play is an important and natural activity in the young child's life (Lowenthal, 1997). Interest in social interaction with other children is demonstrated from very early on in life and further develops as the child reaches preschool age, when the activities of other children, what they say and do, become increasingly interesting (Kington et al., 2013). Many argue that play serves as an important aspect of and a window from which to view young children's development; integrating the physical and social experience with emotion, language, and cognitive development (Isenberg & Quisenberry, 2002; Korir, Nancy, & Mutea, 2016; Stagnitti & Unsworth, 2000).

The essential role of play in young children's development was discussed in detail by theorists such as Vygotsky and Piaget. Vygotsky (1978) discussed how social learning, as facilitated by play, precedes and influences development. He argued that the rules established by play scenarios allow children to develop ideas and an understanding of social norms, as well as the expectations and consequences of these norms. Alternatively, Piaget (1962) believed that play followed development. He argued that once the child has learnt about their environment, they are able to play and derive entertainment from it. There exists a great deal more dispute on the subject of play from its definition to the behaviours that constitute it. Despite this, there is much evidence regarding the long-term effects play can have on development, including academic achievement. This evidence demonstrates the importance of play and social interaction with peers. There exist many formats in which play can be measured. Multisource reports of play allow for holistic depictions of how well a child can interact with his/her peers. The inclusion of multimethod reports allows for information on a variety of play behaviours across several contexts.

2.1.1 Defining play

There is much dispute surrounding young children's play behaviour; it is an area involving a great deal of ambiguity not only regarding its definition, but also in the purpose that it serves and the behaviours which manifest it (Stagnitti, 2004).

Mellou (1994) described classical and modern theories of play. Classical theories define play regarding its purpose; as a means of using excess energy or as an evolutionary process that allows for the acquisition of skills that the child will require in later life (Mellou, 1994). Modern theories are concerned with the role of play in child development. They argue that play serves as a means for children to develop cognitive skills such as flexibility, problem solving and conflict resolution through the exploration of previously experienced and potential social scenarios. Such theories include those proposed by Vygotsky who believed that play served to develop numerous developmental skills. For example, he argued that speech during play, referred to as 'inner speech', allows children to develop their language skills and vocabulary, which is crucial because language is critical to cognitive development (Vygotsky, 1962). Vygotsky (1978) also argued that play allows children to develop their understanding of the world, and how to navigate social situations through observing and imitating behaviour in a social situation free from consequences. This exploration through play enables children to understand different roles and scenarios, as well as the values and expectations of their culture (Bodrova & Leong, 2015). Vygotsky (1978) also believed that play was key to developing skills in regulating internal processes, such as memory, thought and problem-solving skills. The assistance, or scaffolding, of a more competent person within the zone of proximal development allows the child to develop their current problem-solving ability. The importance of the zone of proximal development in play was supported by Freund (1990). She showed that children who played with their mother on a problem-solving task showed greater improvement on a second attempt at the task, performed alone, compared to children who only attempted the task alone. This supports Vygotsky's (1978) notion that play is important to promote skill development in young children. Therefore, Vygotsky (1978) defined play as the engagement in an activity to develop skills and fulfill needs. In contrast, theorists such as Piaget believed that play does not serve as a tool for learning. Alternatively, Piaget (1962) defined play as engagement in activity for pleasure and recreation, and for practicing things that the child had already learnt. Piaget (1962) argued that play allows the child to assimilate experiences and information to develop schema that organise their thought and behaviour for future reference in the same or similar situations. As such, Piaget's

theories regarding play were not about the development of knowledge but the assimilation of it and its application to future scenarios.

Current research focuses on definitions based on modern theories of play. Furthermore, commonly used conceptualisations define play similarly to Piaget (1962), as activities which provide children with intrinsic rewards; activities that are enjoyable. Additionally, play can be both realistic or it can transcend reality and involve object substitution and make-believe (Goodman, 1994; Stagnitti, 2004). Play is influenced by many factors specific to the child, such as social contexts and culture (Vygotsky, 1978). Therefore, different play types and manifestations can be observed, dependent on age, gender, culture and play setting (Korir et al., 2016). Play is also described as a process. The child is not concerned with a final product of play, only the process that the activity allows them to participate in (Stagnitti, 2004). Korir et al. (2016) discussed how children utilise play as a means of learning about their environment; it serves as a way to practice potential social situations and learn about their consequences without any real implications. They also argued that play is dynamic, allowing the child to learn about themselves and explore their position within the world in different contexts and situations. This suggests that the child's focus and attention is on the exploration of a sequence of events and the process involved in arriving at the outcome. However, Vygotsky (1978) disagreed and argued that during the preschool age and beyond, play is only enjoyable if the outcome is interesting. He also argued that "pleasure cannot be regarded as the defining characteristic of play" (Vygotsky, 1978, p.92). This suggests that it is the outcome that motivates children to play, and not the pleasure obtained from the process of play. Instead, he argued that children play to fulfill their needs. This suggests that the product of the play is important as the child engages in play to arrive at an outcome that achieves their desires.

2.1.2 Play behaviours

There are numerous ways in which play can be manifested. Play can both transcend and reflect reality (Stagnitti, 2004). It can involve imagination, object substitution, and symbolic representation (McAloney & Stagnitti, 2009), with and without the involvement of peers. As this paper is concerned with the effectiveness

of peer play, behaviours will be considered regarding the involvement, or lack of, peers. Play behaviours that are indicative of social skills can be considered as either prosocial, i.e. positive, adaptive behaviours, or problematic, such as aggression and withdrawal (Merrell, 1996). Prosocial play involves cooperative behaviours, such as sharing, turn taking and helping (Gagnon & Nagle, 2004; Kington et al., 2013). Whereas maladaptive play may involve destructive behaviours aimed at peers' play, refusal to share and rejection of peers' play ideas (Uren & Stagnitti, 2009). More recent research has also begun to investigate the role of non-interactive play; a form of play that may also be indicative of social skill as it involves withdrawal from or avoidance of the peer group. Such solitary play has been found to be associated with poor social and cognitive skill (Coolahan, Fantuzzo, Mendez, & Mcdermott, 2000; Farmer-Dougan & Kaszuba, 1999). Howes (1988) argued that children who engage more often in solitary play experience fewer opportunities to develop their social and communication competencies.

Johnson, Finlon and Izard (2016) described three categories of children's peer play, as identified by the Behaviour and Emotion Expression Observation System (BEEOS): social interactions, non-interactive play behaviours and solitary non-play. The social interactions category was further defined by whether interaction is positive, i.e. involving cooperation, helping, and positive gestures or comments, or whether interaction is negative, i.e. involving aggression, fighting or arguing. Non-interactive play behaviours were also split. Parallel play involves the child being engaged in play similar to their peer and in close proximity, but without physical or verbal interaction. Solitary play involves the child playing alone, without a nearby peer and directed primarily at the play object or activity. Solitary non-play involves the child not being engaged in any form of play or interaction with peers. Each type of play is suggested to have differing importance in promoting or hindering young children's development.

2.1.3 The importance of play skills in young children

Modern theories of play, particularly those proposed by Vygotsky, suggest that involvement in play is important to the development of social and cognitive skills. Involvement in successful and interactive play has been found to relate to adaptive and prosocial behaviours (Ollendick, Weist, Borden, & Greene, 1992). Whereas, lack

of involvement in or rejection from peer play have been found to be detrimental to emotion and language development, as well as to be related to increased aggressive behaviour (Doctoroff et al., 2006; Farmer-Dougan & Kaszuba, 1999).

As previously discussed, negative play behaviours can be categorised as either disruptive, commonly involving aggressive behaviour, or withdrawn, involving disconnection from peer play. Both types of negative play behaviour have been found to be associated with detrimental developmental outcomes. McAloney and Stagnitti (2009) investigated play ability using the Child-Initiated Pretend Play Assessment (ChIPPA). They found that children who did not participate in complex pretend play were more likely to engage in disruptive behaviours to disturb the play of their peers. Additionally, children who displayed little object substitution and less elaborate play were less likely to engage with their peers and more likely to engage in aimless behaviours, such as wandering around the classroom. Farmer-Dougan and Kaszuba (1999) found that children who engaged in less complex and less elaborate pretend play were observed to be more disruptive in the classroom. Additionally, children who demonstrated poor play skills, as demonstrated by limited involvement in pretend play or involvement in higher levels of solitary play, were found to be less developed cognitively in constructs such as social, motor and communication, as assessed by the Battelle Developmental Inventory (BDI). Doctoroff et al. (2006) found that children observed to demonstrate high levels of aggression during peer interaction as well as children observed to engage in high levels of solitary play both demonstrated poor literacy ability. Levy (1984) argued that children who engage in high levels of solitary play are more likely to experience difficulties on measures of academic achievement due to limited linguistic stimulation and awareness. Children rated by their teachers as disconnected on the Penn Interactive Peer Play Scale (PIPPS) were rated as being less involved in the classroom as well as inattentive during classroom activities (Coolahan et al., 2000).

Researchers suggest that children who engage in negative play behaviours hinder development because they prevent the child from experiencing prosocial peer interaction, leading to them missing out on experiences key to development (Parker & Asher, 1987). It is commonly found that children who demonstrate high levels of aggression during play were more likely to be rejected from the peer group (Dodge,

1983). Furthermore, children who engage in disruptive play behaviours are less likely to integrate themselves in to the peer group; they are more likely to disagree and divert attention away from play and on to themselves (Hazen & Black, 1989). Such behaviours can lead to these children being ignored or rejected from the peer group (Ladd, Price, & Hart, 1988), therefore, resulting in reduced opportunity to engage in and learn from peer play (Gagnon & Nagle, 2004). This lack of experience may put children at risk of problems with adjusting to school. Ladd (1990) discussed how children who were rejected from peer groups at the start of kindergarten, were more likely to avoid school due to negative attitudes and demonstrated poor academic performance at the end of the year. Lacking ability to integrate and communicate with the peer group could lead to increased occurrences of aggressive behaviour, thus leading to rejection, or withdrawal from play. Both situations lead to missed opportunity to develop peer communication and interaction (Mendez & Fogle, 2002). As a result, missed play opportunity can negatively affect problem solving (Gmitrova & Gmitrov, 2003) and self-organising skills (Gagnon & Nagle, 2004; McAloney & Stagnitti, 2009), which in turn hinder academic performance in key subjects, including literacy, maths and science.

Conversely, children who can engage in prosocial peer interaction are found to benefit in several ways. Play with peers allows children to develop problem-solving skills as well as promoting flexibility; factors that are key when a child wants to enter another's play situation and during conflict. Conflict resolution teaches children how to reach an agreement in their shared play process, developing language and negotiating skills, as well as emotion regulation (Doctoroff et al., 2006; Johnson et al., 2016; Martin & Dombey, 2002). Experiences of conflict during play also promote the development of skills such as self-control and verbal ability (Gagnon & Nagle, 2004). For play to progress, disagreements between peers must be resolved by effectively regulating emotions, and communicating ideas and compromises to reach a consensus. Play is also a key means by which children can develop their understanding in others' perspectives (Kington et al., 2013). Through play, children learn about the feelings and desires of other children leading them to consider perspectives other than their own (Castro, Mendez, & Fantuzzo, 2002). For a child to seem an attractive

playmate, they must be able to understand that their peers have their own ideas and desires, and to acknowledge and include these in the play scenario.

Furthermore, maintaining successful peer play has been found to be related to academic achievement (Ollendick et al., 1992). As previously mentioned, unsuccessful peer interaction is more likely to lead to rejection from the peer group. However, children who can interact successfully with their peers and therefore have more friends, are more likely to hold positive attitudes towards school and learning, more likely to be motivated to learn and participate as well as demonstrate task persistence and good academic performance (Coolahan et al., 2000; Doctoroff et al., 2006; Gagnon & Nagle, 2004). Mendez, Fantuzzo and Cicchetti (2002) found that play interaction related to children's language ability. Children who were rated as being successful players demonstrated higher scores on the receptive and expressive vocabulary components of the Peabody Picture Vocabulary Test (PPVT), compared to children rated as disruptive or disconnected. Doctoroff et al. (2006) found that good play interaction was related to literacy skills, such as expressive and receptive vocabulary, verbal fluency and letter recognition, as measured by a battery of assessments. Coolahan et al. (2000) suggested that school success related to play as peer acceptance, as facilitated by play ability, increased motivation and engagement in school, thereby benefitting academic ability.

In summary, as the research considered suggests, play ability in young children is paramount to development. Unsuccessful play, both characterised by disruptive or withdrawn behaviours, results in children missing out on key opportunities to promote skills important in future social interaction as well as future academic performance, such as language ability and classroom engagement. However, when children are able to play successfully with their peers, they develop an understanding of their and others' emotions, as well as others' perspectives. Successful play ability also promotes interaction and the development of friendships, which increases motivation and encourages positive attitudes towards school and learning.

2.1.4 Methods of measuring play skills

There exist numerous ways in which play behaviours can be measured, including collecting information from multiple sources, such as parents, teachers and

professionals. One of the most commonly used ways in which young children's play is assessed is questionnaires, which can be completed by both parents and teachers. Evidence suggests that teacher-reports of peer play behaviour are most accurate (Milfort & Greenfield, 2002; Webster-Stratton & Lindsay, 1999). However, questionnaire reports of peer play do not directly assess observable peer play as they require a degree of inference (Denham et al., 2012; Johnson et al., 2016). The inclusion of observational data alongside teacher-report data is important to providing accurate and reliable information (Arnold, 1997). Data obtained through observation may allow for information to be collected on natural and realistic social behaviour as well as play constructs that are not accessed by questionnaires (Neisworth & Bagnato, 2004; Thomas, Shapiro, Dupaul, Lutz, & Kern, 2011).

Questionnaires are effective at assessing children's play ability because they do not rely on the cooperation of the child, which can be difficult to obtain especially with preschool children (Fewell & Rich, 1987). Gagnon and Nagle (2004) investigated parent and teacher reports of preschool children's play ability using the Penn Interactive Peer Play Scale (PIPPS). They found that there were good levels of agreement between parent and teacher ratings. Therefore, they argued that the use of both informants was important in increasing the ecological validity of play assessments as together they provided a collection of information about children's play behaviours in different contexts. As previously mentioned, children's play varies according to context (Korir et al., 2016). However, a large body of evidence suggests that parent and teacher ratings of children's play ability differ (Achenbach, McConaughy, & Howell, 1987; Cai, Kaiser, & Hancock, 2004; Winsler & Wallace, 2002). McAloney and Stagnitti (2009) argued that discrepancy between parent ratings and independent ratings, e.g. teachers or professionals, of children's play is due to the different contexts in which the play is observed. Swindells and Stagnitti (2006) also suggested that parents and professionals interpret play in different ways, especially as parents are subject to bias and are more likely to emphasise their children's positive attributes.

Therefore, teachers are often reported to be the most reliable informants of children's play behaviour (Webster-Stratton & Lindsay, 1999). Milfort and Greenfield (2002) argued that this is because teachers can observe children interacting with their

peers in a variety of contexts and over long periods of time. However, teacher reports may lack validity and can also be susceptible to bias, particularly if the assessment requires inferences to be made and does not involve direct observation (Milfort & Greenfield, 2002). Teacher reports of children's play behaviour may be influenced by the teacher's history with the child, the child's academic performance, and assessments concerned with the child's peer play ability may be influenced by the child's ability to interact with the teacher (Foster, Inderbitzen, & Nangle, 1993; Webster-Stratton & Lindsay, 1999). As such, teacher reports of children's peer play ability may not be truly reflective of the child's ability to interact with their peers.

Questionnaire reports of children's social behaviour require a degree of inference and commonly don't directly assess observable social behaviour (Johnson et al., 2016). They are more likely to assess constructs that are indicative of and related to play, such as externalising or internalising behaviours or emotion expression and regulation (Denham et al., 2012; Thomas et al., 2011). Therefore, it is recommended that assessments of children's peer play ability include information about naturally occurring behaviours obtained by an independent observer (Neisworth & Bagnato, 2004). Observations have been found to provide valid and reliable data on play behaviour (Ostrov & Keating, 2004). The inclusion of such may provide an additional perspective. Independent observers are less likely to be influenced by previous experience with the child; the information obtained from observation is more likely to be based on the behaviours and interactions shown at the time of observation (Milfort & Greenfield, 2002). The inclusion of an independent observer can allow for natural, spontaneous behaviour to be observed in the realistic context of peer interaction (Neisworth & Bagnato, 2004). Observations may also provide information on constructs of peer interaction that may not be measured by questionnaires (Thomas et al., 2011). As a result, this may produce a more reliable and accurate representation of a child's peer play behaviour.

However, there are limitations. It can be difficult for observers to obtain accurate accounts of children's play without becoming obtrusive to the play (Foster et al., 1993). The presence of the observer may also affect the child's play and cause them to behave differently. This factor is particularly salient when observers don't have a lot of time to observe each child, and as such only obtain a snapshot of the

child's behaviours (Milfort & Greenfield, 2002). However, Arnold (1997) argued that short observations can still provide accurate and stable representations of children's peer play behaviour. Furthermore, observations often require extensive training and multiple observations to ensure for reliability, which may not be possible due to resource availability (Johnson et al., 2016). However, it could be argued that the inclusion of multiple sources may provide unique and useful perspectives on children's social interactions, and that combined, these multiple sources may provide accurate and reliable information (Milfort & Greenfield, 2002). As such, research investigating children's peer interactions, should endeavour to include a multimethod, multisource approach that includes data collected through observations and questionnaires.

2.2 Social competence

The way in which young children interact socially and the effectiveness of their interactions influences their development (Fabes et al., 2006). The nature and quality of these interactions are determined by social competence, a skill required for the judgement of appropriate and inappropriate social behaviours (Swindells & Stagnitti, 2006) to promote positive interaction and encourage future interaction. The importance of social competence begins as early as preschool, when most children experience their first meaningful interactions with peers (Fabes et al., 2006).

Social competence is a broad construct, reflective of numerous social judgements and behaviours required to interact successfully (Howes & Matheson, 1992). As such, many definitions and representations of social competence exist. A key factor identified to play a role is emotion. Successful social functioning and likeability relies on the correct identification of the social partner's emotions to allow for an appropriate and meaningful response (Denham, McKinley, Couchoud, & Holt, 1990). Additionally, the recognition and expression of one's own emotional experience contributes to social competence. Dysregulated displays of emotions, such as anger, can result in children being perceived as less likeable by their peers (Denham et al., 2003). As well as influencing peer relations at preschool, social competence has also been found to be important in predicting future academic achievement. Socially competent children commonly outperform less competent peers in school adjustment

and measures of literacy ability such as vocabulary, as well as being less likely to demonstrate problem behaviour (Cohen & Mendez, 2009; Doctoroff, Greer, & Arnold, 2006; Downer & Pianta, 2006; Ladd, Kochenderfer, & Coleman, 1996). As with definitions of social competence, numerous measures of the construct exist with little agreement on the best (Fabes et al., 2006). Observational techniques can be used to record behaviours during peer interaction (Clopet & Bulotsky-Shearer, 2016) and questionnaires can obtain reports from teachers, peers and parents (Renk & Phares, 2004). This section is concerned with identifying a useful conceptualisation of social competency and interpreting the role of emotion, as well as the role that social competence plays in predicting future social and academic success, and the best methods that can be used to measure it.

2.2.1 Defining social competence

Social competence is a widely researched topic within education literature encompassing a variety of cognitive, emotional, and behavioural skills and abilities (Arnold & Lindner-Müller, 2012). However, due to its multi-faceted nature, it can be difficult to identify the behaviours that constitute it to produce an accurate assessment of social competence ability (Rose-Krasnor, 1997). Social competence is commonly described as the effectiveness of an individual's interaction with the people around them (Fabes et al., 2006). However, such definitions remain somewhat abstract regarding what constitutes 'effective'. Campbell et al. (2016) specified how, for interaction to be considered effective and a child socially competent, the child must be able to establish and maintain positive relationships with peers and adults, identify and regulate their own emotions, and communicate those emotions to their social partner. Such explanations of social competence demonstrate its complexity and the numerous abilities that a child must coordinate to be considered competent.

Models have been developed to illustrate social competence and its underlying components. Two such examples include Rose-Krasnor's (1997) social competence prism, which illustrates the components believed to underlie social competence, and Halberstadt, Denham and Dunsmore's (2001) model of affective social competence (ASC), which describes the importance of the affective experience of the individual and the other in social interaction. Rose-Krasnor (1997) developed

the social competence prism as a means of organising and illustrating the underlying components and the behaviours that constitute social competence. The social competence prism demonstrates how a hierarchy of social skill, social status and relationships, and behavioural outcomes are important to an individual's ability to meet developmental goals (Stump, Ratliff, Wu, & Hawley, 2009). Goals. The ability to meet developmental goals, such as forming lasting and meaningful relationships with peers, through interaction shows that the individual is capable of successfully balancing their own needs with the needs of another (Attili, 1990; Bost, Vaughn, Washington, Cielinski, & Bradbard, 1998). The social competence prism is constructed of three tiers. The top level is theoretical, and is most representative of the broad definition of social competence as 'effectiveness in interaction'. At this level, social competence is demonstrated by the effectiveness of the behaviours that are the product of a system designed to meet short- and long-term developmental goals through interaction with peers. The middle, index level reflects important social constructs such as relationships, group status and sequences of interaction. This tier is composed of the 'self' domain, which considers personal goals to be the priority and the 'other' domain, concerned with the needs and desires of others. The final, motivations and skills level describes the social, emotional and cognitive skills that form the foundations of social interaction and relationships. This level shows how affect regulation and recognition are key to understanding the other's emotional state to allow for correct response and communication. Similar to this final tier, Halberstadt et al. (2001) developed the model of affective social competence (ASC). ASC emphasises the role of emotion in social competence. Halberstadt et al. (2001) argue that social competence requires an assimilation of experiencing emotion, communicating that experience and receiving emotional information from others in return. The model demonstrates the progression through each component that is required for effective interaction. Specifically, the individual must be aware of the experience, expression and retrieval of emotional information. They must be able to identify each component before understanding it to manage and respond to it.

These definitions and models illustrate the role of the individual and the other in social competency. Effective interaction requires the individual to be aware of their own desires and emotional state in order to communicate it to the social partner. The

individual must also be aware of and understand the other's needs and emotional state to allow for appropriate response, thus promoting the development and maintenance of a meaningful relationship. However, Rose-Krasnor's (1997) social competence prism places emphasis on the affective experience and regulation of the individual. The social competence prism only considers the other at the index level, with regard to their needs and perspective, but not their emotional experience. The final level of the social competence prism concerned with affect only emphasises the individual's affective experience. In comparison, Halberstadt et al.'s (2001) ASC considers the affective experience of both the individual and the other. They argue that social competence requires an integrated system that involves experiencing affect, and sending and receiving affective messages. The ASC suggests that socially competent behaviour requires effective recognition and understanding of others' emotions, in conjunction with the effective regulation and communication of one's own affective experience. As will be discussed now, both the individual's and the other's emotional experience play an important role in promoting effective interaction and socially competent behaviour.

2.2.2 The role of emotions in social competence

The ability to recognise, understand and regulate emotions of the self and others is key in social competence (Denham, 2006; Halberstadt et al., 2001). Emotion knowledge and the correct identification of peers' emotions increases the likelihood that a child will respond with appropriate behaviours and statements to their peers' feelings and desires (Denham, 1986). As a result, the individual demonstrates to those around them, such as teachers, parents and peers, their social competence ability, thus making it more likely that they will be sought out for future interaction (Bierman & Welsh, 2000; Denham et al., 2003; Fabes et al., 2006). Emotion regulation and communication is also key to social competence. Ensuring one's own feelings and ideas are demonstrated appropriately increases likeability (Eisenberg et al., 1995).

Children who demonstrate more knowledge of emotions are more likely to respond appropriately to their peers' displays of emotions, thus promoting positive interaction and the development of relationships (Denham et al., 1990; Strayer, 1980). Emotion knowledge, allowing for correct emotion identification, promotes prosocial

behaviours such as cooperation, empathetic responses and appropriate statements (Izard et al., 2001). Denham et al. (2003) discussed how young children's knowledge of emotions and their ability to understand the negative emotions of their peers related to their social competence, as rated by their teacher. Such findings can be interpreted with reference to the model of affective social competence (ASC) discussed above. Emotional knowledge allows for correct identification of the other's emotional state, thereby promoting an appropriate response. The appropriate response then makes the child more socially attractive, increasing the likelihood that their peers will seek out future interaction with them (Bierman & Welsh, 2000).

The ASC model and the social competence prism described the importance of emotion regulation, and sending meaningful and appropriate messages of one's own emotional experience. Mathieson and Banerjee (2010) discussed how children, perceived by their parents to be successful at regulating their emotional state, were more likely to be rated as socially competent by their teacher. Denham et al. (2003) discussed how lapses in children's ability to regulate their emotions predicted lower teacher-reported social competence scores. Furthermore, they found that children rated by their teachers as less socially competent and who demonstrated dysregulated displays of anger or negative emotion were perceived by their peers as less likeable. Such displays of negative emotion makes a child appear less appealing to interact with. Denham (2006) suggested that when assessing children's social competence, they ought to demonstrate emotion regulation in social situations such as sharing, turn-taking, and cooperation in play and task completion. For social interaction to be effective, children must ensure their own goals and desires as well as their peers' feelings and wishes, are acknowledged and met, while demonstrating the appropriate emotional response. In contrast, dysregulated and inappropriately vented emotions can create an adverse experience, interfering with interaction (Denham et al., 2003).

2.2.3 The importance of social competence in young children

Social competence has been found to stabilise and become a key predictor of perceived likeability and school performance at three- to four-years-old (Denham & Holt, 1993; Williams, Ontai, & Mastergeorge, 2007). Social competence has been

found to predict successful adjustment when beginning kindergarten, transition from kindergarten to grade school, motivation to learn, and academic performance in first grade (Ladd, Birch, & Buhs, 1999; Ladd, Kochenderfer, & Coleman, 1996; Mendez & Fogle, 2002; Downer & Pianta, 2006). Longitudinal effects include reduced delinquency and drop-out rates in later school years (Ladd & Profilet, 1996; Parker & Asher, 1987), which benefit socioeconomic outcomes in the long term (Heckman, 2008).

Social behaviours and interactions as early as preschool can impact peer relationships; promoting or hindering academic achievement (Clopet & Bulotsky-Shearer, 2016). Children who display more positive emotions are rated by their teachers as being more prosocial and friendly (Denham et al., 2003). These children have been found to respond more appropriately and effectively to their peers' emotions and are therefore rated as being more likeable by their peers (Denham et al., 1990). Evidence suggests that young children who are socially competent perform better than their peers on academic measures at first grade and that they are less likely to display problem behaviours in school (Downer & Pianta, 2006; Bornstein, Hahn, & Haynes, 2010). Similar effects have been found in populations of at-risk children from low socio-economic status (SES) backgrounds. Cohen and Mendez (2009) investigated peer interaction in four-year-old children attending Head Start classrooms and their receptive vocabulary as measured by the Peabody Picture Vocabulary Test (PPVT). They found that effective play interaction, as an indicator of social competence, was moderately positively associated with PPVT scores, and disconnection from peer interaction had a small negative association with vocabulary scores. Denham et al. (2003) suggested that children who are well liked in school hold more positive attitudes towards school and learning, and thus participate more. This demonstrates the benefits of socially competent behaviour on academic performance as it promotes motivation and involvement in learning even at extremely young ages and at the beginning of children's school careers.

Ladd et al. (1996) investigated kindergarten children's self-perceived friendship quality and its effect on their adjustment to school. As previously discussed, children who are more socially competent are more likely to be perceived as likeable by their peers (Denham et al., 1990), therefore such children are likely to have more

friendships. Ladd et al. (1996) found that friendships promoted successful adjustment as it provided the children with the emotional resources required to adjust successfully. They found that perceived friendship conflict negatively impacted adjustment. They discussed how perceived conflict resulted in declining levels of involvement within the classroom and lower ratings of school enjoyment. Additionally, as previously discussed, the role of emotion understanding and regulation is key in promoting children's social competence. Shields et al. (2001) discussed the importance of emotion understanding and regulation in classroom adjustment for young children entering preschool. They found that children who could identify the emotional context in a social situation and who could take another's perspective showed less problem behaviours and adjusted more successfully. The evidence considered demonstrates the importance of social competency in promoting successful adjustment to the early school years as a result of effective peer interaction and positive peer experience.

Conversely, evidence demonstrates the negative impact of lacking social competence ability on academic achievement. Doctoroff, Greer and Arnold (2006) investigated literacy ability, including expressive and receptive language skills and verbal fluency. They found these abilities to be negatively associated with behaviours that hinder children's prosocial interaction, and therefore social competence, such as whining and crying, and solitary play. Emergent literacy difficulties were demonstrated most commonly by children who displayed high levels of negative affect and who commonly chose to play alone. Children who demonstrate fewer peer prosocial behaviours and high levels of aggression, are at risk of peer rejection, delinquency and dropping out of school (Ladd & Profilet, 1996). A report by Raver and Knitze (2002) discussed how social competence at preschool age was a stronger predictor of academic performance in first grade, even after controlling for cognitive skill and family background. They also found that antisocial and aggressive behaviour demonstrated by three- and four-year-old children in preschool related to future delinquency and dropping out of school. This is supported by review evidence showing that the long term effects of poor peer relations early in life increases individuals' risk of dropping out of school, involvement in criminality and experiences of mental illness in later life (Parker & Asher, 1987; Ladd & Profilet, 1996).

Interventions have been found to be effective in promoting prosocial behaviour and reducing incidences of anti-social behaviours, such as aggression. Fraser et al. (2005) investigated the Making Choices (MC) intervention, which aimed to develop young children's social information processing skills, including social competence. They found that the intervention was effective at increasing social competence skills and decreasing incidences of aggressive behaviour. MC was effective as it promoted the accurate interpretation and processing of social information which helped children engage in more prosocial behaviours. Social competence interventions have also been found to be effective for children with social disorders. Such interventions aim to improve social competency behaviours such as initiation, interaction and response to social situations (Whalon, Conroy, Martinez, & Werch, 2015). The Social Competence Intervention Program (SCIP) was found to be effective at improving social interactions, and reducing aggressive behaviours and solitary play behaviours in children with autism spectrum disorder (ASD), nonverbal learning disabilities (NLD) and attention deficit hyperactivity disorders (ADHD) (Glass, Guli, & Semrud-Clikeman, 2000) and these effects were generalisable to naturalistic settings throughout school (Guli, Semrud-Clikeman, Lerner, & Britton, 2013). Although there is a lack of evidence regarding the longitudinal effects of such interventions, it could be expected, by examining the evidence considered above, that interventions found to be effective in promoting social competence could produce long-term, beneficial effects on school adjustment, performance, drop-out rates and delinquency.

2.2.4 Methods of measuring social competence

There exists numerous ways in which social competence can be measured that are reflective of its multi-faceted nature (Arnold & Lindner-Müller, 2012). However, just as there is limited consensus regarding the definition of social competence, agreement on the most accurate measurement of it is also restricted (Fabes et al., 2006). The most commonly implemented assessments of young children's social competency include observations and questionnaires. Questionnaires are considered to access reliable and valid measures of social competence, particularly if completed by teachers (Howes, 1988). However, due to the multidimensional nature of social

competence, multi-informant ratings may be important in providing holistic and accurate depictions of social competency that remain stable across contexts.

Often in preschool settings, social competency is measured through observations of peer interactions (Clopet & Bulotsky-Shearer, 2016). As a complex social skill, extensive and detailed observation data from multiple contexts and settings is required to infer social competency (Denham, 2006; Koenig, De Los Reyes, Cicchetti, Scahill, & Klin, 2009; Renk & Phares, 2004). However, the use of such observational methods often requires extensive training to ensure high levels of fidelity and reliability (Downer, Booren, Lima, Luckner, & Pianta, 2010). As such, these instruments can be time consuming and may limit the scope of the research.

Another commonly used strategy to assess social competency is questionnaires, such as the Adaptive Social Behaviour Inventory (ASBI) (Hogan, Scott, & Bauer, 1992) and the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997). Both have been found to be reliable and valid measures of social competence in young children and suitable to be completed by both parents and teachers (Goodman, 1997; Greenfield, Wasserstein, & Gold, 1997). Prior to the development of the ASBI, social competence was ascertained through observing a lack of problem behaviours. However, as social competence is a multifaceted construct, an assessment was required that evaluated more than this, and included aspects of prosocial behaviour and peer interaction (Hogan et al., 1992). The ASBI was developed to assess three constructs of young children's social behaviours by investigating expressive, complying, and disruptive behaviours (Greenfield, Iruka, & Munis, 2004). This therefore allowed for a more holistic representation of social competence that included the range of underlying constructs. The SDQ was developed to provide a succinct tool that aimed to assess children on five related dimensions in order to generate a representation of their social ability. The five dimensions included conduct problems, emotionality, hyperactivity, relationships with peers, and prosocial behaviours (Goodman, 1997). Evidence suggests that the SDQ is effective at assessing prosocial behaviour, and thus children's ability in social interaction and their relationships with peers in both high- and low-risk populations (Bourdon, Goodman, Rae, Simpson, & Koretz, 2005; Goodman & Scott, 1999).

Evidence suggests that teacher completed questionnaires provide the most accurate representation of young children's social competence. Teacher-reported social competence scores have been found to be the most stable over time and most predictive of future social competence (Howes, 1988). It has also been shown that parents provide less accurate representations or representations with low levels of agreement with teacher-reported social competency (Renk & Phares, 2004). Parents are often biased towards highlighting their child's positive qualities (Swindells & Stagnitti, 2006). Furthermore, social competence behaviours are often context dependent (Waters & Sroufe, 1983). Therefore, differences may exist between parents and teachers as they are exposed to different experiences of the child's social competence ability due to the difference in the settings in which they observe the child (Renk & Phares, 2004). This is supported by evidence that shows that informers who play a similar role in the child's life, for example, mother and father, are more likely to show higher levels of agreement in their ratings (Achenbach et al., 1987). Similarly, Renk and Phares (2004) found that the informants with the highest level of agreement in social competency ratings were teachers and peers. This is most likely due to teachers and peers observing the target child's social competency skills within the same setting, i.e. the classroom. However, high levels of agreement between parent- and teacher-reported social competence have been found when both completed the same questionnaire (Goodman, 1997).

It is recommended that assessments are obtained from multiple sources, particularly when the informants include parents and teachers, as both often have different experiences of a child's social competence ability. However, as Lieberman (1977) discussed, children who have good social competency skills should be able to vary their prosocial behaviours by context by evaluating their current social and emotional situation to respond appropriately. The appropriate response in one context may not be appropriate in another. The inclusion of multiple informants, influenced by several contexts, when assessing social competence ability is likely to provide a more holistic representation of social competence skill.

Chapter 3: The present study

3.1 Background and rationale

The research and evidence discussed so far considers the importance of young children's play ability and social competence. The current study will investigate the relationship between the two constructs. Play ability promotes successful development (Piaget, 1962; Vygotsky, 1978). As social competence is dependent upon the child's development (Vaughn et al., 2000), this would suggest that peer interaction is critical to the development of social skills, and thus social competence (Burdette & Whitaker, 2005; Howes & Matheson, 1992). Mathieson and Banerjee (2010) argued that this is the case because play functions as a way for children to develop their social communication skills. The existing literature suggests that the more involvement young children experience with peers, the more socially competent they are found to be (Harper & Huie, 1985). Conversely, the less time children spend interacting with peers, the more withdrawn they are and the less likely they are to engage in positive social behaviours (Lamb et al., 1988; Volling & Feagans, 1995). Therefore, such children are more likely to be rated as less socially competent (Nelson, Hart, & Evans, 2008). Furthermore, withdrawal from or lack of participation in peer interaction can have detrimental effects (Doctoroff et al., 2006; Levy, 1984).

Play is believed to be linked to social competence due to the experiences that it provides young children with. Children who engage in more peer play have been found to demonstrate higher levels of positive affect (Howes, 1990), and children who express positive emotions are more likely to be perceived as likeable by their peers (Denham et al., 2003). Social learning theory suggests that positive experiences with peers allows children to feel comfortable around their peers, thus allowing them to display higher levels of positive affect and be more engaged and prosocial (Charlesworth & Hartup, 1967). Likeability would lead to increased positive peer interaction and therefore social competence as perceived by raters such as teachers (Denham et al., 2003, 1990). Children who demonstrate more elaborate and complex play ability, as rated by the Child-Initiated Pretend Play Assessment (ChIPPA), were rated to be better at social interaction with their peers and adults (Farmer-Dougan &

Kaszuba, 1999; Swindells & Stagnitti, 2006). Furthermore, Newton and Jenvey (2011) discussed how children with high observed social play scores, rated by a trained researcher, were found to be more socially skilled, as rated by the Preschool and Kindergarten Behaviour Scales, completed by parents. Additionally, they also found that children who were observed to engage in high levels of solitary play were less socially skilled. Solitary play was the best negative predictor for variance in social competence, accounting for 30% of the variance (Newton & Jenvey, 2011, p.767). Therefore, children who engage in more play and complex play are more likely to be rated as socially competent by numerous sources. Whereas lack of involvement in play is likely to result in reduced perceived social ability.

The link between play and social competence is believed to involve emotion. As previously discussed, emotion plays a key role in social competence (Denham, 1986; Eisenberg et al., 1995). Denham et al. (2003) discussed how play encourages the development of emotion understanding. More engagement in play exposes children to the causes and consequences of emotion thereby promoting an understanding in other's perspectives, as well as the regulation and communication of one's own emotions (Denham et al., 2003; Veiga et al., 2016). As a result, a better understanding of emotion allows children to interact in a socially competent manner with their peers (Mathieson & Banerjee, 2010). Veiga et al. (2016) argued that the ability to identify, correctly respond to, regulate and express emotion allows children to understand others' behaviours and respond in an appropriate way. Veiga et al. (2016) also discussed how play provides opportunity to develop conflict resolution skills and perspective taking, all of which contributes to socially competent behaviour. Similarly, social cognitive theory argues that more involvement in peer interaction provides children with the opportunity to learn about emotion, develop language and communication skills to promote effective compromise and conflict resolution skills (Dunn & Cutting, 1999). Play provides children with the opportunity to develop their understanding in their peers' and their own emotions in order to produce appropriate and meaningful interaction with their peers.

3.2 Aims

The aim of the current study was to further investigate the relationship between social competence and play in young children. Evidence suggests that social competence is best assessed through the use of questionnaires completed by teachers. Teachers have been found to be the most reliable and best predictors of social competence (Howes, 1988). Parents have been found to provide representations with higher levels of agreement with teachers when both complete the same questionnaire (Goodman, 1997). Therefore, the current study will aim to replicate such findings and investigate whether a significant difference in social competence reports are found if parents and teachers complete the same questionnaire. A multisource approach is also recommended due to the context-dependent nature of social competence (Achenbach et al., 1987; Waters & Sroufe, 1983).

Due to the complex nature of natural play interactions, observations are recommended as a reliable and valid method of assessing young children's play ability (Neisworth & Bagnato, 2004; Ostrov & Keating, 2004). Questionnaires often assess a limited number of constructs that are only related to play ability and require a degree of inference (Thomas et al., 2011). However, due to limitations of observations, Arnold (1997) suggested that play ability is best assessed when both teacher-report play and observational play data is included to avoid bias. Teacher completed questionnaires are found to produce the most reliable and accurate information on play ability (Milfort & Greenfield, 2002; Webster-Stratton & Lindsay, 1999). To the author's knowledge, there are no published studies investigating play ability and social competence that combine observational data with reports obtained from both teachers and parents (Table 1). There is a need for research to triangulate observations of play with reports obtained from teachers and parents (Mathieson & Banerjee, 2010).

Table 1. Methods used in previous research investigating play ability and social competence.

	Observations	Teacher-report	Parent-report
Clopet and Bulotsky-Shearer (2016)	X	X	
Denham et al. (2003)	X	X	
Gagnon and Nagle (2004)		X	X
Johnson, Finlon and Izard (2016)	X	X	
Kington, Gates and Sammons (2013)	X	X	
Ladd and Profilet (1996)	X	X	
McAloney and Stagnitti (2009)	X	X	
Mendez and Fogle (2002)		X	X
Newton and Jenvey (2011)	X		X
NICHD (2001)	X		X

Therefore, the current study will aim to compile numerous accounts of children's play ability and social competence before investigating whether there exists a predictive relationship.

3.3 Research questions

The following research questions will be addressed:

1. Does observed free play correlate with teacher-reported play ability?
2. Do parent and teacher reports of social competence differ significantly?
3. Does observed free play predict social competence?
4. Does teacher-reported play ability predict social competence?

Chapter 4: Methods

4.1 Research design

The current study utilised a nonexperimental, quantitative, cross-sectional design. This involved questionnaire data collection at one point in time, obtained from the teachers and parents of three-year-old children attending preschool. The research also involved observation data collected at one point in time for each participating child, obtained by the researcher. The questionnaire and observation data were collected to investigate the relationship between play ability and social competence. The current design aimed to provide additional support for the predictive relationship between play ability and social competence, while utilising multisource (i.e. an independent observer, parents and teachers) and multimethod (i.e. observations and questionnaires) data. The design also aimed to investigate whether observed play ability correlated with teacher-reported play ability, as measured by the Penn Interactive Peer Play Scale (PIPPS). A further aim included an investigation in to whether parent- and teacher-reported social competence were significantly different, as rated by the Adaptive Social Behaviour Inventory (ASBI).

4.2 Recruitment and participants

4.2.1 Recruitment

Participants were recruited from preschools in Surrey. The managers of the preschools were initially contacted via post (n=9), which included an information letter (Appendix A) and an information leaflet (Appendix E). This involved convenience sampling as the preschools were accessible to the researcher and were suitable to the research aims and requirements (Punch & Oancea, 2014). Two preschools responded with interest to participate. In response, parent information letters (Appendix B) and consent forms (Appendix C), and the same information leaflets were provided to the preschool manager. These were distributed to the parents of three-year-old children attending the preschool detailing information on parent and child participation, and the questionnaires and observation measures that would be used in the study. Parents

were requested to return the consent forms to the preschool manager as soon as possible.

4.2.2 Participants

The final sample consisted of 36 three-year-old children across the two preschools. There were 20 female and 16 male children, aged 3.0-3.9 years-old ($M=3.5$, $SD=.25$). Social competence and play ability questionnaires were completed by teachers for 36 children. Social competence and family demographics questionnaires were completed by parents for 32 children. Further characteristics of the sample are presented in the results chapter.

4.3 Measures

The current study utilised several instruments to collect data: a parents' questionnaire, social competence questionnaire, play ability questionnaire, and free play observations.

4.3.1 Family demographics

The parents' questionnaire (Appendix D) addressed five sections: background information, child and family language, your child at home, your child at preschool, and parent information. The 'background information' was used to obtain information on the child, such as age and gender, and who was completing the questionnaire. The 'child and family language' section collected information regarding the child's language ability and the number of languages spoken at home. Child language ability has been found to influence social competence. Children with poor language skills are likely to be less able to communicate and interact effectively with their peers, thus reducing perceived social competence (Fabes et al., 2006). The 'your child at home' section requested information regarding the number of siblings and the child's birth order, as well as information on the frequency of playdates. Siblings have been found to be a strong influencer of social competence (Maccoby, 1992), particularly if there are more siblings or the siblings are older (Ruffman, Perner, Naito, Parkin, & Clements, 1998). Frequent peer interaction promotes social competence (Harper & Huie, 1985;

Lamb et al., 1988), therefore, social competence is likely to be influenced by the number of playdates that children attend. The 'your child at preschool section' asked about how long the child had been attending preschool. Social competence is influenced by length of time spent in childcare; the longer a child has attended preschool, the more socially competence they are found to be (Lamb et al., 1988; Volling & Feagans, 1995). The 'parent information' section obtained data on highest level of parent education and parent employment.

4.3.2 Social competence

The Adaptive Social Behaviour Inventory (ASBI) (Hogan et al., 1992) was originally developed to be completed by mothers of three-year-old children to assess social development in the home. However, it has since been validated for use with teachers to rate the social competence of children aged three- to five-years-old attending preschool (Greenfield et al., 1997). The ASBI consists of 30 items rated on a three-point Likert scale (1 = rarely or never, 2 = sometimes, 3 = almost always). The items make up three dimensions: express, comply, and disrupt. The express scale reflects emotionally expressive and emotion understanding behaviours. The comply scale consists of cooperative behaviours, such as sharing and helping. The disrupt scale reflects negative behaviours, such as teasing and worrying. The reliability coefficients for the original sample were .79 for the express and comply subscales, and .71 for the disrupt subscale (Bryant, Burchinal, Lau, & Sparling, 1994, p.298). The disrupt subscale coefficient was lower due to there being fewer items (Evangelou & Sylva, 2003). For multi-dimensional scales reliability coefficients of above .70 are acceptable (Mcwayne, Sekino, Hampton, & Fantuzzo, 2007, p.9). Therefore, the ASBI can be considered internally consistent.

4.3.3 Teacher-reported play ability

The Penn Interactive Peer Play Scale (PIPPS) (Fantuzzo et al., 1995) was developed to assess the peer play ability of children from low socio-economic status (SES) backgrounds attending Head Start programs. Recent research suggests that the PIPPS is suitable for use with other populations of preschool children (Gagnon &

Nagle, 2004). The teacher version of the PIPPS consists of 32 items regarding peer play interaction in the school and classroom, and takes approximately 10-15 minutes to complete. The items are rated on a four-point Likert scale (1 = never, 2 = seldom, 3 = often, 4 = always). The items make up three dimensions: play interaction, play disruption, and play disconnection. Play interaction reflects children's play strengths; their prosocial play behaviours. Play disruption is characterised by negative play behaviours, such as aggression and interruption of peer play. Play disconnection involves withdrawn behaviours and lack of participation in peer play. The PIPPS allows for the identification of children who can successfully interact with their peers, and those who are less successful (Fantuzzo, Coolahan, Mendez, Mcdermott, & Sutton-Smith, 1998; Uren & Stagnitti, 2009). The reliability coefficient for the PIPPS overall was .79, and the coefficients for the subscales were .90 for play interaction and play disruption, and .89 for play disconnection (Fantuzzo et al., 1995, p.110). Because it is a multidimensional scale, with coefficients above .70, the PIPPS can be considered internally consistent (Mcwayne et al., 2007, p.9).

4.3.4 Observed play ability

The Target Child Observation Method (TCOM) (Sylva, Roy, & Painter, 1980) was developed by the Oxford Preschool Research Group with the aim of making psychology research findings accessible to and informative for practitioners caring for and working with children under the age of five. The TCOM was designed to identify four main categories of children's behaviour: action codes, social codes, language codes and play bout codes. Action codes were concerned with the actions and activities that the target child (TC) engaged in. Social codes referred to whether the TC was involved in interaction or not, and if so, with whom. Language codes concerned what the TC said, to whom, and any language directed at them. Play bout codes referred to strings or themes of activity that the TC engaged in. The observations last for 20 minutes, and the data is recorded in 30 second intervals. Sylva et al. (1980) also recommended that use of the TCOM involved observation beginning and ending ten minutes either side of the recorded observation, to obtain a sense of the child's play and to allow the child to become accustomed to the observer's presence. They also

suggested notes be taken regarding previous activity, any events occurring near the TC, and that all data be coded immediately after observation.

Data for the current study was collected using a TCOM record sheet (Appendix F). The sheet recorded information on the TC's activity, the language spoken by and directed at the TC, including the direction (e.g. TC -> peer, or peer -> TC), the task, i.e. the type of activity, and the social setting, i.e. whether play was interactive, parallel or solitary. Data collected using the record sheet was coded immediately after the observation. The observations were coded to show the number of minutes that the child spent engaged in solitary play, parallel play and interactive play, as well as in aimless behaviour. The observations were also coded to show the number of minutes that the TC spent talking to a peer, being spoken to by a peer, talking to a teacher, being spoken to by a teacher, talking to themselves or in silence. This data was used to calculate the percentage of the 20-minute observation that the child spent engaging in each behaviour. Additionally, the number of instances that aggression was directed at an object, a peer, a teacher, or the child themselves, and the number of instances that the child demonstrated positive emotion and negative emotion were coded.

4.4 Procedure

Once the completed consent forms were returned, a copy of the ASBI (Appendix G) and the PIPPS (Appendix H) were given to the 'key teacher' of each participating child. These questionnaires were completed by the teachers independently and at their own convenience, and were returned to the researcher as soon as possible. The parent questionnaire (Appendix D) and the ASBI were distributed to the parents of the participating children to be completed at the parents' convenience at home and returned to the researcher as soon as possible. The researcher discussed and devised an observation schedule with the preschool managers and staff, to ensure all participating children were observed in a timely manner, and without causing disruption to the preschool routine.

During the observations, the researcher introduced herself and established rapport with the TC. The researcher briefly explained to the child what to expect and

obtained verbal assent from them. The child was then prompted to begin or continue playing as they wished. The researcher observed for ten minutes, without recording any data to allow the child to be comfortable with her presence and for the researcher to get an idea of the child's play. The researcher then observed the child playing, recording data on the observation record sheet (Appendix F), recording the main activities and language that occurred in each 30 second interval for 20 minutes. An interval timer that was set for 20 minutes was used to alert the researcher via headphones to the start of each interval; a 'beep' was sounded every 30 seconds. The information recorded on the observation record sheets was coded immediately after observation.

4.5 Ethical considerations

The study received ethical approval from the University of Oxford Central University Research Ethics Committee (CUREC, Appendix I). The University of Oxford is committed to strict ethical guidelines. As such, research should adhere to approved protocols, particularly when it involves working with children, children in schools, and teachers (CUREC, 2017). These protocols adhere to guidelines put in place by the British Educational Research Association (2014).

The preschool managers were provided with a letter (Appendix A) and an information leaflet (Appendix E) detailing comprehensive information on the study regarding the measures that would be used and all aspects of child, preschool staff, and parent participation. Informed consent was obtained from the preschool manager and staff regarding the completion of questionnaires. Once the manager had agreed, letters (Appendix B) and consent forms (Appendix C), and the same information leaflets were distributed to parents by the managers. The leaflets described the questionnaires that the parents would be asked to complete and what would be expected of the participating children. As such, informed consent was obtained from the parents on behalf of the children, as they were under 16-years-old. All participants were made aware of their right to withdraw from the research without giving a reason at any time.

In accordance with data protection, all participants were anonymised; their names were replaced with identification numbers. Names were removed and replaced with identification numbers on all hard copy data, such as questionnaires and observation recording sheets, and the data was stored in a locked cabinet. No names were recorded electronically, and all the electronically stored data were stored securely on a password protected computer. Only the researcher and the supervisor had access to the data. Analyses were carried out at the group level; data was analysed for the whole group of children and not for individual children. No individual child's ability as determined by either questionnaires or observations were divulged to teachers or parents.

Prior to observation, the researcher explained what was required of the participants to them and answered any questions before obtaining verbal assent. The procedure of the research was explained in full and the participants were informed that they had the right to withdraw at any time. The observations and any interactions between the researcher and preschool staff and children were carried out in a professional and sensitive manner. Observations were conducted within the normal classroom environment to ensure participant comfort and to minimise anxiety. The researcher ensured that they did not intervene in any of the children's activities unless asked to do so by preschool staff, or if the safety of a child was at risk.

Chapter 5: Results

This section presents the results for the quantitative analysis of the parent-reported social competence, teacher-reported social competence and play ability, and of the observational data. Social competence was measured using the Adaptive Social Behaviour Inventory (ASBI). Teacher-reported play ability was measured using the Penn Interactive Peer Play Scale (PIPPS). Observational data was collected using the Target Child Observation Method (TCOM). This section aims to investigate the data with regards to the research questions. Descriptive statistics were carried out on the raw data to inspect for normality, skewness and kurtosis. Results are then presented according to the research question in which they aim to answer.

5.1 Sample characteristics

The current study involved a sample of 36 three-year-old children. Observation data and teacher-completed questionnaires were obtained for all 36 children. Demographic characteristics were obtained from a parent-completed family demographics questionnaire, which was completed for 32 of the children. The demographic characteristics are summarised in Table 2.

Table 2 shows that there were almost an equal number of children from both preschools and that the majority of the parent questionnaires were completed by mothers. Approximately a third of the children were an only child, and most of the children with siblings had one sibling. Most of the children included in the sample spoke English as their first language. The native languages for the children whose first language was not English, were French, Spanish and Polish. Furthermore, several children were able to speak more than one language; these included French, Spanish, Polish and Italian.

Table 2. Demographic characteristics of the sample.

Variable	Sample (n=32)
Preschool	
<i>A</i>	52.8%
<i>B</i>	47.2%
Parent completing questionnaires	
<i>Mother</i>	97.2%
<i>Father</i>	2.8%
Siblings	
0 (<i>only child</i>)	30.6%
1	46.9%
2	12.5%
3+	6.3%
Can speak in sentences	100%
English as first language	88.9%
Speaks more than 1 language	
2 <i>languages</i>	28.1%
3 <i>languages</i>	3.1%

5.2 Analytic strategy

The analyses used in the current study varied according to the research question. A Pearson correlation coefficient was used to investigate the first research question regarding whether observed play and teacher-reported play ability were correlated. An exploratory analysis was included investigating the separate play constructs observed and assessed by the PIPPS. The second research question considering whether parent- and teacher-reported social competence differed was investigated using a paired-samples t-test, as data were collected on the same participants in different conditions (i.e. parent- and teacher-reported) (Brace, Kemp, & Snelgar, 2006). Regression analyses were employed for the third and fourth research questions. The regressions for research question 3 investigated whether the variables obtained from the play observations predicted the outcomes of parent- and teacher-reported social competence. The regressions for research question 4 investigated whether teacher-reported play ability predicted parent- and teacher-reported social competence.

5. 3 Descriptive statistics

5.3.1 Observed play variables.

Table 3 presents the mean, standard deviation (SD), skewness and kurtosis values for the variables obtained from the play observations. These variables included the types of play that the target child (TC) engaged in: solitary, parallel, and interactive. These variables also included the amount of speech that was exchanged between the TC and their peers. This consisted of speech directed from the TC to a peer, speech directed from a peer to the TC, and total speech with a peer, which was a sum of the two previous variables.

Table 3. Mean, SD, and skewness and kurtosis values of play behaviours and peer speech observed during the 20-minute observations.

Variable	Mean	SD	Skewness		Kurtosis		
			Statistic	Std. Error	Statistic	Std. Error	
Solitary play							
<i>Number of minutes</i>	3.74	4.40	1.38	.39	1.81	.77	
<i>Percent</i>	18.68	22.01	1.38	.39	1.81	.77	
Parallel play							
<i>Number of minutes</i>	8.92	4.98	.19	.39	-.93	.77	
<i>Percent</i>	44.58	24.92	.19	.39	-.93	.77	
Interactive play							
<i>Number of minutes</i>	4.39	4.08	.98	.39	.34	.77	
<i>Percent</i>	21.94	20.39	.98	.39	.34	.77	
TC to peer speech							
<i>Number of minutes</i>	3.32	2.50	1.50	.39	2.57	.77	
<i>Percent</i>	15.47	11.66	1.68	.39	3.94	.77	
Peer to TC speech							
<i>Number of minutes</i>	2.03	1.54	1.39	.39	1.93	.77	
<i>Percent</i>	9.26	6.49	1.02	.39	.25	.77	
Total peer speech							
<i>Number of minutes</i>	5.35	3.57	1.11	.39	1.01	.77	
<i>Percent</i>	24.74	15.45	.94	.39	.69	.77	

Note: variables as recorded using the Target Child Observation Method.

Number of minutes = total number of minutes that the child spent engaged in the specified behaviour, percent = the percentage of the 20-minute observation that the child spent engaged in the specified behaviour

For the observed types of play, not all the data were normally distributed. The Kolmogorov-Smirnov test (K-S test) of normality (Table 4) revealed that only the variable of parallel play was normally distributed as this value was non-significant ($p=.20$). The variable of interactive play was approaching non-significance ($p=.04$), and the variable of solitary play was highly significant ($p=.001$). Therefore, the data for these two variables were not normally distributed. Figure 1 shows that the distribution of the data for the solitary and interactive play variables demonstrate positive skewness, suggesting that the data are clustered at the low values (Pallant, 2013).

Table 4. K-S test values for the observed types of play and speech with a peer.

Variable	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Solitary	.21	36	.001
Parallel	.09	36	.20
Interactive	.149	36	.04
TC to peer	.20	27	.007
Peer to TC	.19	27	.009
Total peer speech	.15	27	.12

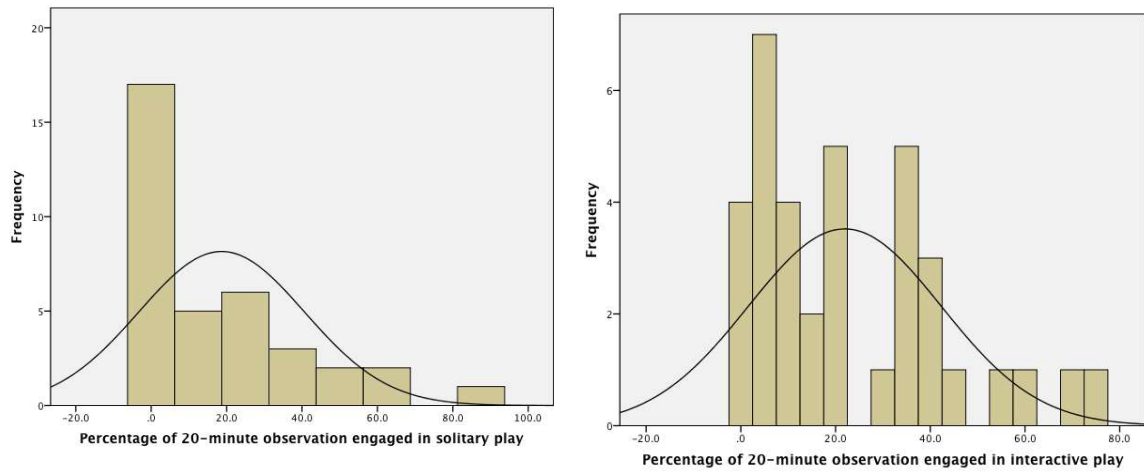


Figure 1. The distribution of the data for the solitary and interactive play variables with normality curves.

Similarly, for the language exchanged between the TC and their peers, not all data were normally distributed. The K-S test of normality (Table 4) showed that the variable of total peer speech was normally distributed as it was non-significant ($p=.12$). The variables of TC speaking to peer ($p=.007$) and the variable of peer talking to TC ($p=.009$) were extremely significant. Therefore, the data for these variables were not normally distributed. Figure 2 supports this as it shows how the data for these variables were positively skewed.

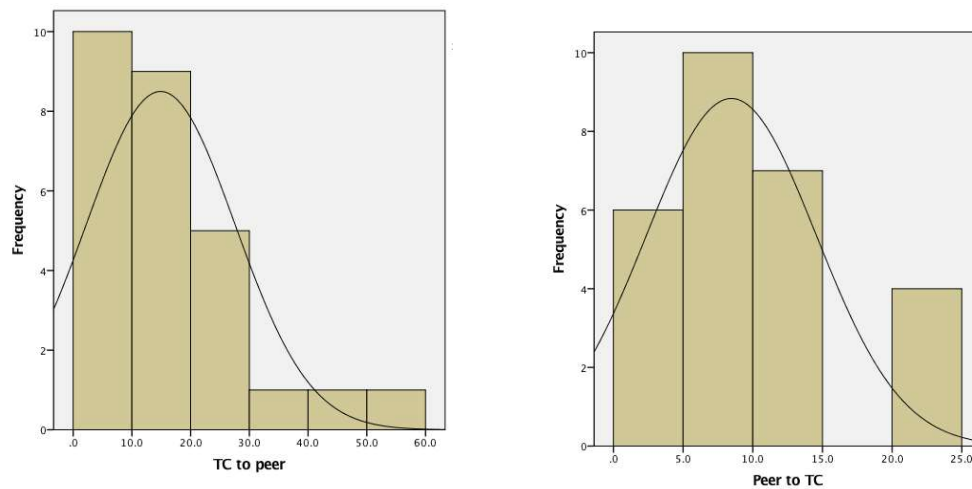


Figure 2. The distribution of the data for the TC to peer and peer to TC speech variables with normality curves.

Tabachnick and Fidell (2014) recommend that with non-normally distributed data, the data can be transformed to improve the analysis. Therefore, transformations were applied in order to normalise the distribution of the data. Tabachnick and Fidell (2014) recommend that with moderately positively skewed data, as is the case here, a square root transformation should be used. After the transformation was carried out on the data for the four variables, the data were found to be normally distributed. The K-S test for normality revealed that all variables were normally distributed after transformation as they were all non-significant (Table 5).

Table 5. K-S test values of the transformed data for the solitary and interactive play variables, and the TC to peer and peer to TC speech variables.

Variable	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Solitary play	.12	25	.20
Interactive play	.12	32	.20
TC to peer speech	.11	36	.20
Peer to TC speech	.14	36	.08

Note: data normalised using the square root transformation

5.3.2 Questionnaire variables.

Table 6 presents the mean, SD, skewness and kurtosis values for the variables obtained from the social competence questionnaires (ASBI), as completed by both parents and teachers, and from the teacher-reported play ability questionnaire (PIPPS).

Table 6. Mean, SD, and skewness and kurtosis values of parent- and teacher-reported ASBI scores, and teacher-reported PIPPS scores.

Variable	Mean	SD	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
ASBI						
<i>Parent-report</i>	78.93	7.05	-1.09	.45	.93	.87
<i>Teacher-report</i>	79.53	7.14	-.30	.39	-1.27	.77
PIPPS	99.86	11.92	-.23	.39	-1.11	.77

Note: PIPPS was completed by teachers only

ASBI=Adaptive Social Behaviour Inventory; PIPPS=Penn Interactive Peer Play Scale

The K-S test for normality (Table 7) revealed that only the PIPPS scores data were normally distributed as the value was non-significant ($p=.20$). The parent-reported ASBI score ($p=.01$) and the teacher-reported ASBI score ($p=.02$) variables were both significant, and therefore not normally distributed. Figure 3 shows that the

data for these variables demonstrate negative skewness whereby there is a clustering of scores at the high values (Field, 2013). Therefore, following the recommendation of Tabachnick and Fidell (2014), the data for these variables were transformed. Transforming negatively skewed data first requires reflecting each score to make the skewness positive before applying the transformation (Tabachnick & Fidell, 2014). In this case, the square root transformation was used because the skew was moderate.

Table 7. K-S test values for parent- and teacher-reported ASBI scores and teacher-reported PIPPS scores.

Variable	Kolmogorov-Smirnov		
	Statistic	df	Sig.
ASBI			
<i>Parent-report</i>	.19	27	.01
<i>Teacher-report</i>	.19	27	.02
PIPPS	.12	27	.20

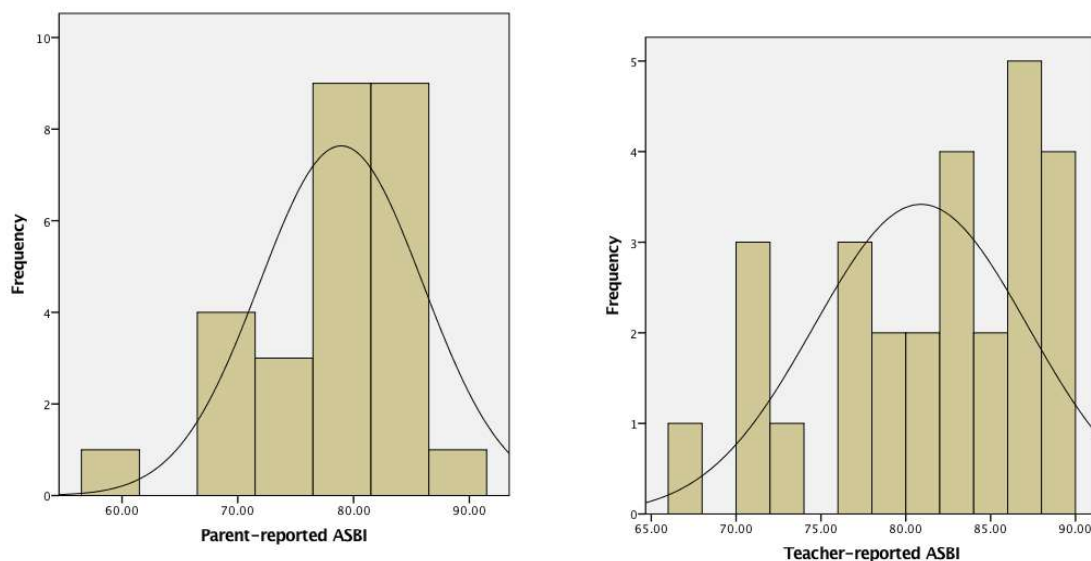


Figure 3. The distribution of the data for parent- and teacher-reported ASBI scores with normality curves.

After the transformation, the data for the variables parent- and teacher-reported ASBI scores were found to be normally distributed. The K-S test of normality (Table 8) revealed that after the transformation, the parent-report ($p=.20$) and the teacher-report ($p=.20$) variables were normally distributed, as the values for both were non-significant.

Table 8. K-S test values of the transformed data for parent- and teacher-reported ASBI variables.

Variable	Kolmogorov-Smirnov		
	Statistic	df	Sig.
ASBI			
<i>Parent-report</i>	.13	27	.20
<i>Teacher-report</i>	.12	36	.20

5.4 Results

5.4.1 Research question 1

Does observed free play correlate with teacher-reported play ability?

This question was concerned with the relationship between the variables obtained from the play observations and the scores obtained from the PIPPS questionnaire completed by the teachers. The Pearson r correlation coefficient is used to “provide a numerical summary of the direction and the strength of the relationship between two variables” (Pallant, 2013, p.127). A Pearson r correlation coefficient was appropriate because the research design was non-experimental as no variables were manipulated during the study (Brace et al., 2006).

All the variables included in the analysis were inspected for normality, and transformed if the data were not normally distributed, therefore the assumption of a Pearson r correlation for normality was met. Another assumption of a Pearson r correlation coefficient is that of homoscedasticity, whereby the scores for one variable should demonstrate similar variability to the scores in the other variable (Pallant,

2013). The data should demonstrate an even spread (Field, 2013). Homoscedasticity was examined using scatterplots and the assumption was met.

The Pearson r correlation coefficient revealed that PIPPS scores were only significantly correlated with the percentage of the 20-minute observation that the child spent engaged in solitary play ($r=-.37$; $p=.02$). This demonstrates a moderate, negative correlation. This suggests that the higher the child's score on the PIPPS questionnaire, the less time they spent engaged in solitary play. Although non-significant, the relationship between PIPPS scores and observed time engaged in parallel play was approaching significance ($r=.28$; $p=.09$). This demonstrates a moderate, positive relationship, whereby the better the child's play ability, as rated by their teacher, the more likely they were to engage in parallel play with their peers.

However, PIPPS scores were not significantly correlated to the other observed play variables; interactive play ($r=.09$; $p=.62$), TC to peer speech ($r=.04$; $p=.83$), peer to TC speech ($r=-.19$; $p=.28$), and total peer speech ($r=-.03$; $p=.85$).

As the PIPPS contains three underlying constructs that it aims to measure, additional correlational analyses were carried out to investigate whether these constructs were related to any of the observed play variables. The three underlying variables are play interaction, play disruption and play disconnection. The play interaction and play disconnection subscales aimed to assess children in similar constructs as the interactive and solitary play variables obtained from the observations. Therefore, the PIPPS items comprising the play interaction subscale were added together to produce a play interaction score for each child. The items comprising the play disconnection subscale were added together to produce a play disconnection score. To the author's knowledge, such an analysis has not been carried out before by existing research. Additionally, the sample size was small. Therefore, this analysis can only be considered exploratory.

The Pearson r correlation coefficient revealed that the PIPPS play interaction scores were not significantly correlated with observed time engaged in interactive play ($r=.06$; $p=.73$). The PIPPS play disconnection scores were found to be significantly correlated with observed time engaged in solitary play ($r=-.47$; $p=.004$). This demonstrates a moderate, negative correlation. A negative correlation between these two variables was unexpected, and will be discussed in detail in chapter 6.

5.4.2 Research question 2

Do parent and teacher reports of social competence differ significantly?

This question is concerned with the level of agreement in the ASBI scores obtained from parents and teachers. Therefore, the analysis aimed to investigate whether there was a significant difference between the scores reported by parents and the scores reported by teachers. The data were obtained for all the children at both levels of the independent variable, i.e. parent- and teacher-reported ASBI score. Therefore, a paired samples t-test was appropriate (Brace et al., 2006).

When checking for normality using a paired samples t-test, because the analysis is concerned with the difference between the two sets of scores, a new variable of the difference between the scores must be created. The distribution of the data for this variable should then be checked for normality (Field, 2013). Table 9 shows the descriptive statistics for the newly computed variable of the differences between parent- and teacher-reported ASBI scores.

Table 9. Mean, SD, and skewness and kurtosis values for the difference between parent- and teacher-reported ASBI scores variable.

Variable	Mean	SD	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Difference in ASBI scores	1.96	8.01	-.50	.45	.30	.87

The K-S test for normality (Table 10) showed that the data for the difference in ASBI scores variable was not normally distributed. Figure 4 suggests that the data was slightly negatively skewed. Therefore, data transformation was carried out to normalise the data before proceeding with the paired samples t-test. The data was reflected before applying the square root transformation, because the skew was only moderate (Tabachnick & Fidell, 2014). After the transformation, the K-S test was not significant ($p=.14$) (Table 11), suggesting that the data were normally distributed. Therefore, proceeding with the paired-samples t-test was appropriate.

Table 10. K-S test values for the difference between parent- and teacher-reported ASBI scores.

Variable	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Difference in ASBI scores	.18	27	.02

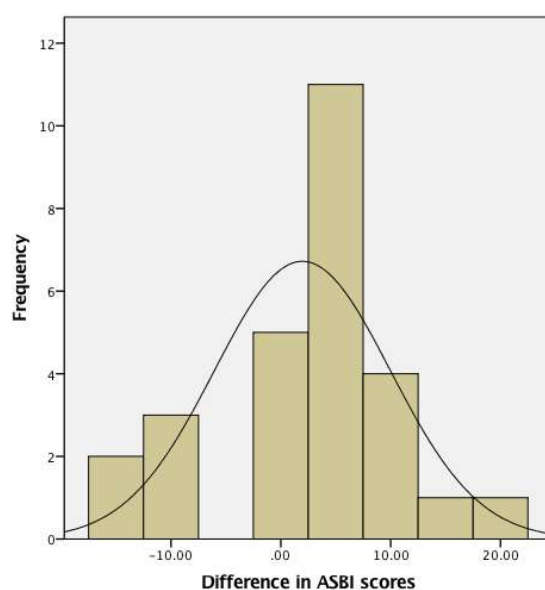


Figure 4. The distribution of the data for the difference between parent- and teacher-reported ASBI scores with normality curve.

Table 11. K-S test values for the difference between parent- and teacher-reported ASBI scores variable after data transformation.

Variable	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Difference in ASBI scores	.15	27	.14

The paired samples t-test revealed that there was not a significant difference between the parent-reported ASBI scores ($M=2.99$; $SD=1.09$) and teacher-reported ASBI scores ($M=2.84$; $SD=1.05$), $t_{(26)}=-.65$; $p=.52$. This suggests that parents and teachers demonstrated agreement when assessing children's social competence using the ASBI.

5.4.3 Research questions 3 and 4

The variables of observed play and teacher-reported play ability served as independent or predictor variables in the current study, therefore a regression analysis was suitable. Regression analyses investigate if one or more independent variable can be used to predict a dependent variable (Foster, 2001). Social competence was scored by both parents and teachers. The research questions considered whether play (observed or teacher-reported) predicted ASBI scores as reported by parents and teachers.

There were some missing data due to parent-questionnaires only being returned for 32 of the children. As regressions are sensitive to small sample sizes, values for the four participants with missing parent-reported social competence data were replaced with the mean (Pallant, 2013).

5.4.3.1 Research question 3

Does observed free play predict social competence?

Prior to the regression, correlational analyses were carried out on the variables that would be entered in to the model to investigate the inter-relations between the possible predictor variables and the outcome variables. According to Tabachnick and Fidell (2014), better regression models are created when there is a strong degree of correlation between the predictor and outcome variables. The correlational analyses also investigated any relationships between the predictor variables being entered in to the regression, as high correlations of above .9 between independent variables indicates multicollinearity (Pallant, 2013, p.157). Multicollinearity limits the inferences that can be made from the model and the ability to assess the influence of each predictor variable (Field, 2013).

There were two outcome variables for research question 3: parent- and teacher-reported ASBI scores. The possible predictor variables were: percentage of observation engaged in solitary play, parallel play and interactive play, and speech directed from the TC to a peer, from a peer to the TC and total speech with a peer. There were also seven additional variables obtained from the family demographics questionnaire: age (in years and months), age began talking in sentences (in months), number of languages that the child could speak, number of languages spoken in the home, number of siblings, how frequently the child attended playdates (as rated on a 5-point likert scale) and time spent in preschool (in months). These variables were included as existing literature suggests that they influence children's social competence.

The inter-relations between the variables are presented in Appendix K. The correlation analysis revealed that none of the possible predictor variables were significantly related to the outcome variables of parent- and teacher-reported social competence. This suggested that it would be unlikely that any of the variables entered in to the model would predict a significant amount of the variance of the outcome variables. The correlation analysis also revealed that one of the variables, total speech with a peer, was highly related to the other variables of speech from the TC to a peer ($r=.92$; $p<.001$) and speech from a peer to the TC ($r=.72$; $p<.001$), and the interactive play variable ($r=.78$; $p<.001$). High correlations such as these are indicators of multicollinearity. Therefore, the variable of total speech with a peer was removed from the analysis.

A multiple regression was performed to investigate whether variables obtained from the play observations would predict social competence as reported by parents and teachers. For each regression, the first model contained three predictor variables: percentage of observation engaged in solitary play, parallel play and interactive play. A second model was investigated with the addition of the variables of speech directed from the TC to a peer and speech directed from a peer to the TC. A third model included the seven variables obtained from the family demographics questionnaire: age, age began talking in sentences, number of languages spoken by the child, number of languages spoken in the home, number of siblings, frequency of playdates and time spent in preschool.

For parent-reported social competence, as shown in Table 12, the first model explained 4% ($R^2=.04$) of the variance ($F_{(3,32)}=.47$; $p=.71$). The second model explained 13% ($R^2=.13$) of the variance in parent-reported ASBI scores ($F_{(2,30)}=.91$; $p=.49$). The third model explained 33% ($R^2=.33$) of the variance in parent-reported ASBI scores ($F_{(7,23)}=.92$; $p=.54$). However, none of the models were significant. Therefore, none of the independent variables significantly predicted the outcome variable of parent-reported ASBI scores.

Table 12. Model summary for observed play and parent-reported ASBI scores.

Model	R	R^2	Change statistics				Sig. F change
			Adj. R^2	F change	df1	df2	
1	.21	.04	-.05	.47	3	32	.71
2	.36	.13	-.01	1.54	2	30	.23
3	.57	.33	-.03	.95	7	23	.49

For teacher-reported social competence, as shown in Table 13, the first model explained 9% ($R^2=.09$) of the variance ($F_{(3,32)}=1.11$; $p=.36$). The second model explained 23% ($R^2=.23$) of the variance in teacher-reported ASBI scores ($F_{(2,30)}=1.80$; $p=.14$). The third model explained 30% ($R^2=.30$) of the variance ($F_{(7,23)}=.81$; $p=.64$). However, none of the models were significant. Therefore, none of the independent variables significantly predicted the outcome variable of teacher-reported ASBI scores.

Table 13. Model summary for observed play and teacher-reported ASBI scores.

Model	R	R^2	Change statistics				Sig. F change
			Adj. R^2	F change	df1	df2	
1	.31	.09	.001	1.11	3	32	.36
2	.48	.23	.10	2.68	2	30	.09
3	.55	.30	-.07	.31	7	23	.94

5.4.3.2 Research question 4

Does teacher-reported play ability predict social competence?

Correlational analyses were performed between PIPPS scores and parent-, and teacher-reported ASBI scores to investigate PIPPS scores as a potential predictor variable. The correlational analyses were also used to investigate any relationships between the independent variables (Appendix L). The analyses revealed that the PIPPS score variable was significantly correlated with parent- ($r=-.42$; $p=.03$) and teacher-reported social competence ($r=-.77$; $p<.001$), and therefore may be a possible predictor variable. The correlational analysis also revealed that none of the independent variables were significantly correlated. Therefore, there was no evidence of multicollinearity.

A regression was performed to investigate whether the variable of teacher-reported play ability would predict social competence as reported by parents and teachers. For each regression, the first model contained the teacher-reported PIPPS scores as the predictor variable. A second model was investigated containing the PIPPS score and the seven additional variables obtained from the family demographics questionnaire.

For parent-reported social competence, as shown in Table 14, the first model explained 12% ($R^2=.12$) of the variance ($F_{(1,34)}=4.42$; $p=.04$). Therefore, the first model containing PIPPS scores as the predictor variable significantly predicted the outcome variable of parent-reported ASBI scores. The second model explained 36% ($R^2=.36$) of the variance in parent-reported ASBI scores ($F_{(7,27)}=1.89$; $p=.10$). However, the addition of the demographic variables in the second model meant that the second model did not significantly predict parent-reported ASBI scores.

Table 14. Model summary for teacher-reported play and parent-reported ASBI scores.

Model	R	R ²	Change statistics				Sig. F change
			Adj. R ²	F change	df1	df2	
1	.34	.12	.09	4.42	1	34	.04
2	.60	.36	.17	1.46	7	27	.22

For teacher-reported social competence, as shown in Table 15, the first model explained 58% ($R^2=.58$) of the variance ($F_{(1,34)}=47.52$; $p<.001$). The second model explained 68% ($R^2=.68$) of the variance in teacher-reported ASBI scores ($F_{(7,27)}=7.23$; $p<.001$). Both models were significant. Therefore, both models significantly predicted the outcome variable of teacher-reported ASBI scores.

Table 15. Model summary for teacher-reported play and teacher-reported ASBI scores.

Model	R	R ²	Change statistics				Sig. F change
			Adj. R ²	F change	df1	df2	
1	.76	.58	.57	47.52	1	34	.000
2	.83	.68	.59	1.20	7	27	.34

5.5 Summary of results

Results from the Pearson correlation coefficient analysis revealed that the only observation variable that was significantly correlated with teacher-reported PIPPS scores was amount of time spent engaged in solitary play. The relationship between the observed play variable of parallel play and PIPPS scores was approaching significance. The other observation variables concerned with interactive play, and speech between the TC and a peer were not significantly correlated with PIPPS scores. This suggests that observed solitary play was related and parallel play may be related to teacher's perspectives of young children's play ability. Furthermore, the

exploratory analysis showed that observed time engaged in solitary play was significantly related to the PIPPS subscale of play disconnection. However, time observed in interactive play was not related to the play interaction subscale.

Results from the paired-samples t-test revealed that there was not a significant difference between the parent-reported and the teacher-reported ASBI scores. This suggests that there is agreement between parents and teachers when assessing children's social competence using the same questionnaire.

Results from the regression analyses revealed that the variables obtained from the play observations did not predict a significant amount of variance in parent- or teacher-reported social competence. Furthermore, the addition of the demographic variables did not significantly improve the ability of the models to predict parent- and teacher-reported social competence. This demonstrates that the observed play behaviours were not predictive of parent- or teacher-reported social competence.

Results from the second regression analysis showed that teacher-reported play ability did predict a significant amount of variance in parent-reported social competence. However, the inclusion of the demographic variables meant that the second model did not significantly predict parent-reported social competence scores. The final regression analysis showed that teacher-reported play ability predicted teacher-reported social competence, and that this was very significant. The inclusion of the demographic variables in a second model slightly improved upon the first model, but this was not significant. However, overall the second model still predicted a significant amount of variance in teacher-reported social competence. These results suggest that teacher-reports of play ability are predictive of social competence as rated by parents and teachers.

Chapter 6: Discussion and conclusion

The aim of the current study was to investigate the relationship between three-year-old children's play ability and their social competence using a multimethod, multisource approach. This chapter will discuss the results of the current study with reference to the existing literature. The research questions will be discussed with reference to possible explanations for the findings. The limitations of the current study will be considered along with possible solutions. Suggestions for future research are made, and the chapter closes with some final concluding remarks.

6.1 Discussion of results

6.1.1 Research question 1

Does observed free play correlate with teacher-reported play ability?

The first research question was explored using Pearson's r , to investigate whether the variables obtained from the play observations correlated with the teacher-reported Penn Interactive Peer Play Scale (PIPPS) scores. The observation variables included the type of play: solitary, parallel and, interactive. They also included speech between the target child (TC) and their peers: speech directed from the TC to a peer, from a peer to the TC, and total speech with a peer. The analysis revealed that the variable of solitary play was significantly correlated to the PIPPS scores. The Pearson's r revealed a moderate negative correlation, which would suggest that the better the child was rated to play by their teacher, the less likely they would be to engage in solitary play. Additionally, the relationship between PIPPS scores and observed time engaged in parallel play was found to be approaching significance. The results revealed a moderate, positive relationship whereby the better the child was rated to play by their teacher, the more they were observed to engage in parallel play with their peers. Field (2013) discussed how a small sample size limits the likelihood of finding a significant result. Therefore, it is possible that this result would be found to be significant were the sample size increased.

These findings are consistent with existing literature. Children who are better players are more likely to engage in peer interaction, and children who are less

competent players are more likely to play alone (McAloney & Stagnitti, 2009). Therefore, it would be expected that children with higher PIPPS scores would be observed spending more time interacting with peers. Conversely, it would be expected that children with lower PIPPS scores would be more likely to be observed spending time in solitary play. The current findings regarding the correlations between PIPPS scores and observed parallel, and solitary play support these expectations.

However, none of the other variables obtained from the play observations were significantly related to PIPPS scores. There are several reasons, specific to the use of observations, why this may have been the case. The quality of the data obtained may have been influenced by the limited amount of time permitted per observation and the presence of the observer. Short observation times only provide a snapshot of children's behaviours and abilities. Furthermore, the presence of the observer may have also impacted the TC's play behaviour, and the play behaviour of their peers, which may have influenced the observed types of play. The limitations specifically regarding the use of observational methods will be discussed in detail later in this chapter. It is possible that the limited number of correlations found between observed play and teacher-reported play ability may have been due to less accurate reports of observed play behaviours for these reasons.

Furthermore, previous research that has found a relationship between observed play and teacher-reported play ability have utilised more structured observation methods than the one employed in the current study. For example, McAloney and Stagnitti (2009) used the Child-Initiated Pretend Play Assessment (ChIPPA), which involves scoring children on a specified list of play activities. They found that scores regarding play ability were significantly related to teachers' reports of children's interactions with their peers. They found that children who engaged in less complex play were more likely to be reported as disruptive or withdrawn from peer interaction. However, the ChIPPA assesses pretend play ability in a one-on-one format. Therefore, the difference in results may be due to the current study investigating different constructs of play behaviour compared to the ChIPPA assessment.

It has been suggested that questionnaires commonly do not directly assess observable peer play behaviours (Johnson et al., 2016). Furthermore, questionnaires

assessing play behaviours often require a degree of inference to be made about the child's play ability (Denham et al., 2012). It could be suggested that the play observations and the PIPPS questionnaire assessed different aspects of play behaviour. Therefore, it may not be surprising that a limited number of relationships were found between the variables of the different methods.

However, as the PIPPS aims to assess children in three, underlying play constructs, it was possible that these constructs would better relate to the observed play behaviours separately. The PIPPS aims to assess children's play interaction, i.e. play strengths, play disruption, i.e. behaviours that disturb the play of others, and play disconnection, i.e. withdrawal from peer play (Fantuzzo et al., 1995). It could be hypothesised that the play interaction subscale of the PIPPS may relate to observed time engaged in interactive play. Similarly, it could be hypothesised that the play disconnection subscale may relate to observed time spent in solitary play. Therefore, additional correlational analyses investigating the separate PIPPS subscales of play interaction and play disconnection, and the observed time engaged in interactive and solitary play were carried out. The analyses revealed that only the PIPPS play disconnection subscale was significantly related to observed time spent in solitary play. However, this relationship was found to be moderately, negatively correlated. It would be expected that, as the two variables aim to show the same play behaviour of disconnection from peer interaction, the relationship between them would be positive. This was not the case. This may provide further evidence that the PIPPS questionnaire and the play observations assessed different constructs of play. However, as this analysis was exploratory, due to it not being carried out before by existing research and the small sample size, firm conclusions cannot be drawn from these results.

6.1.2 Research question 2

Do parent and teacher reports of social competence differ significantly?

The second research question was investigated using a paired samples t-test to determine whether there was a significant difference between parent- and teacher-reported social competence. The findings showed that parents and teachers did not significantly differ in their reports.

These findings disagree with previous literature; parents and teachers are commonly found to show low levels of agreement on questionnaire reports of children's social competence. Evidence commonly suggests that teachers provide the most accurate reports. Teacher-reported social competence is commonly found to remain stable and be the most predictive of future social competence (Howes, 1988). In comparison, parents' reports of their child's social competence are found to be less accurate (Renk & Phares, 2004), as they are often found to emphasise their child's positive attributes (Swindells & Stagnitti, 2006). Additionally, this discrepancy is attributed to the different scenarios in which parents and teachers observe children's peer interactions, and due to the context dependent nature of social competence (Waters & Sroufe, 1983). Research suggests that informants who play a similar role in the child's life are more likely to show the highest level of agreement (Achenbach et al., 1987). Therefore, as teachers and parents play different roles and observe children in different contexts, their reports are expected to be different.

However, there is evidence to suggest that parents and teachers show higher levels of agreement when they complete the same questionnaire (Goodman, 1997). Therefore, it is likely that the current results were obtained because both parents and teachers completed the Adaptive Social Behaviour Inventory (ASBI). Furthermore, socially competent children should be aware of the social setting and vary their social behaviours accordingly (Lieberman, 1977). Therefore, it could be expected that parent and teacher reports would not differ significantly, as the child should demonstrate similar levels of social competence across situations.

6.1.3 Research questions 3 and 4

The third and fourth research questions were investigated using multiple regression analyses. The regressions for the third research question were used to determine whether variables obtained from the observations could significantly predict a large amount of variance in the social competence scores, as rated by parents and teachers. The first model included the type of play that the TC was observed engaging in; solitary, parallel and interactive. A second model included the amount of speech observed between the TC and their peers: directed from the TC to a peer, and from a peer to the TC. The third model included seven demographic

variables that previous research has suggested can influence children's social competence. The regressions for the fourth research question were used to investigate whether the scores obtained from the PIPPS could predict a significant amount of variance in the parent- and teacher-reported social competence scores. A second model was investigated including the additional demographic characteristics.

6.1.3.1 Research question 3

Does observed free play predict social competence?

The first regression for the third research question revealed that the first model including the observed types of play only predicted a very small amount of variance (4%) in parent-reported ASBI scores. This model was non-significant. The second model with the addition of the observed speech variables improved upon the first model somewhat as it predicted 13%. However, this model was also non-significant. Finally, the inclusion of the demographic characteristics improved the predictability of the third model to 33%. This too was non-significant. These results suggest that observed play does not predict parent-reported social competence.

The second regression revealed that the first model predicted 9% of the variance in teacher-reported ASBI scores. The second model predicted 23%, and the third model predicted 30%. However, all three models were shown to be non-significant. Therefore, this suggests that observed free play does not predict teacher-reported social competence.

The findings that the variables obtained from the play observations did not predict social competence are not consistent with previous research. There is limited evidence regarding the relationship between observed play and parent-reported social competence. However, the evidence that there is suggests that there is a relationship. Newton and Jenvey (2011) found that solitary play observed in preschool was significantly and negatively associated with parent-reported social skill. Additionally, when entered in to a regression analysis, solitary play significantly predicted 32% of the variance in overall social skill (p.767). However, Newton and Jenvey (2011) used a structured checklist during their observations, and as will be discussed later in this section, the observational methods used in the current study

may have lacked structure. Furthermore, it is also notable that Newton and Jenvey (2011) only found a significant relationship between solitary play and parent-reported social competence. Therefore, this may suggest that the relationship between observed overall play ability and parent-reported social competence is limited.

The relationship between observed play ability and teacher-reported social competence is more established, as there has been a great deal more research conducted on the topic (see Table 1). Ladd and Profilet (1996) conducted observations investigating prosocial behaviours, such as positive interaction with and response to peers, and asocial behaviours, such as withdrawal and self-exclusion. They found that several of these observed behaviours were related to social skills, as rated by teachers using the Child Behaviour Scale (CBS). Similarly, Kington, Gates, and Sammons (2013) collected observational data using the Behaviour and Emotion Expression Observation System (BEEOS) and social competence data using the ASBI. They found that children who were observed to engage in more positive interactions were more likely to be rated as socially competent on the ASBI by their teachers. However, their analysis only revealed small correlations between the ASBI subscale of expressiveness and observed prosocial behaviour, and the ASBI subscale of compliance and observed negative interactions. McAloney and Stagnitti (2009) found that children who were rated by the CHIPPA as more elaborate players were rated as more socially interactive by their teachers. However, the CHIPPA specifically assessed pretend play ability in a one-on-one setting with an assessor. Therefore, it may not be appropriate to compare such findings with the results of the current study. Clopet and Bulotsky-Shearer (2016) found that observed social competence behaviours were related to teacher-reported play, using the PIPPS. However, their observations were concerned with the assessment of social competence, whereas the current study's observations aimed to assess play ability. Therefore, the different results may not be surprising.

The findings that the additional demographic characteristics did not improve the predictability of the models contradicts existing literature. The demographic variables included in the analysis included age at the time of observation and, as an indicator of language ability, the age that the child began speaking in sentences, and the number of languages that the child could speak and that were spoken in the home. The number of siblings at home, how frequently the child attended playdates and the

length of time that they had attended preschool were also included. Evidence suggests that children with stronger language skills are better able to communicate with their peers. The ability to communicate effectively with one's peers makes a child appear more socially competent (Fabes et al., 2006; NICHD Early Child Care Research Network, 2001). Additionally, having siblings in the home increases the number of opportunities children have to practise their social skills. Therefore, it would be expected that children with more siblings at home would appear more socially competent as they are able to socialise with similar age children at home (Maccoby, 1992). Furthermore, attending playdates influences social competence as they also provide children with additional opportunities to socialise and interact with peers. Therefore, having more experience socialising with peers promotes social competence (Harper & Huie, 1985; Lamb et al., 1988). Finally, the more time children have spent attending preschool or nursery will also present increased opportunities for peer interaction. The longer children attend preschool, the more socially competent they are likely to be (Lamb et al., 1988; Volling & Feagans, 1995). Therefore, it would be expected that the inclusion of such demographic characteristics would improve the predictability of the model as it would be expected that they would influence social competence. As this was not the case with the current results, the findings were unexpected.

6.1.3.2 Research question 4

Does teacher-reported play ability predict social competence?

The first regression analysis for the fourth research question revealed that the first model including the PIPPS scores did predict a significant amount of the variance in parent-reported social competence. The inclusion of the demographic characteristics in the second model increased the amount of variance that the model predicted from 12% for the first model to 36% for the second model. However, the second model was not significant. This suggests that for parent-reported social competence, teacher-reported play ability is a predictor.

The second regression analysis revealed that the first model containing PIPPS scores predicted a huge amount of the variance in teacher-reported social

competence (58%) and that this model was very significant. The second model slightly improved upon the first as it predicted 68%. Furthermore, the addition of the demographic variables in the second model did not influence the significance of the model overall. The second model was also significant. These results suggest that teacher-reported play ability is a very strong predictor of teacher-reported social competence.

There has been limited investigation in to the relationship between teacher-reported play ability and social competence. The findings that PIPPS scores significantly predicted parent-reported social competence is not consistent with existing research. Gagnon and Nagle (2004) used the PIPPS to assess play behaviour and the Vineland Social-Emotional Early Childhood Scales (SEEC) to assess social competence. They found that teacher-reported PIPPS scores were not significantly related to parent-reported SEEC scores. This contrast in results may suggest that the ASBI and the SEEC assess different aspects of social competence. Therefore, the inconsistency in these findings may be due to the constructs assessed by the ASBI being more related to the PIPPS than the constructs assessed by the SEEC.

The finding that teacher-reported play ability was extremely predictive of teacher-reported social competence is possibly the least surprising result, and is consistent with existing research. It could be expected that the measures would be very related due to teachers observing children's play and social behaviours in the same context within the preschool. Social behaviours are context dependent (Waters & Sroufe, 1983). Therefore, it would be expected that teachers' perceptions of children's play ability would be very related to their perceptions of social ability. Gagnon and Nagle (2004) also compared teacher-reported PIPPS and SEEC scores. Their findings revealed significant moderate to high relationships between all the subscales of the PIPPS and the SEEC when both were completed by teachers (p.181). This suggests that the ASBI and the SEEC may not measure different constructs. It may suggest that parent and teacher ratings using the SEEC differ. In comparison, as shown in earlier findings, the parent and teacher social competence ratings in the current study, using the ASBI, were similar. Gagnon and Nagle's (2004) results are very similar to those of the current study. Both studies demonstrate that teacher-reported play ability is somewhat predictive of parent-reported social competence and very

predictive of teacher-reported social competence. This suggests that such findings may be replicable, and therefore reliable. This may also provide further evidence that teacher reports of play ability and social competence are accurate and reliable.

The findings that the addition of the demographic characteristics did not improve the predictability of the model in the first regression disagree with existing literature. As previously discussed, the demographic variables entered in to the analyses are commonly found to influence social competence. However, the second model for teacher-reported social competence including demographic variables remained significant. Although, it is likely that teacher-reported play ability was such a strong predictor of teacher-reported social competence that the effect of the demographic variables was small. This is supported by the results showing that the addition of the demographic variables did not significantly affect the model.

6.2 Limitations

The limitations of the current study primarily concern the restricted time availability of the researcher and the methodologies employed. The sample used in the current study was very small. Due to limited time, observational data and teacher-reported data were obtained for 36 children. Additionally, parent questionnaires were not returned for the whole sample; parent questionnaires were missing for four children. The small sample means that the results of the current study cannot be generalised to a wider population (Yin, 2014). Furthermore, the majority of the results for the current study were non-significant, which could be attributed to the small sample size (Field, 2013). A larger sample may have produced more significant findings that were generalisable to a wider population.

Due to time constraints, all observations were carried out by the author. Therefore, there was no ability to check interrater reliability, even on a small portion of the sample. The addition of another observer was not possible with the timeframe available and would have required additional DBS checks and ethical clearance. Furthermore, the use of video recordings to obtain observations by another observer later would also have required additional ethical clearance. Interrater reliability checks would have ensured rigorous and reliable data was collected.

Observation methods are commonly criticised for their limited scope. Observations only provide a small amount of data obtained from a snapshot of time and as a result may not provide a thorough assessment of play behaviours (Milfort & Greenfield, 2002). The data regarding each TC's play behaviour on the day of observation may have differed from their usual play behaviour. Arnold (1997) suggests that short observations are enough to obtain an accurate assessment of play behaviour. However, there are several factors that may have influenced the play behaviour of the TC on the day of observation. These factors may have resulted in play behaviour that was not typical of the child. During a couple of observations, teachers pointed out to the observer that the child they were observing was not playing as they normally do; generally they expressed the opinion that the child was usually more interactive. However, due to the anecdotal nature of this evidence, firm conclusions cannot be made.

A particularly salient factor is the presence of the observer. It can be difficult to obtain accurate observations of play behaviours without the observer becoming obtrusive to the play (Foster et al., 1993). However, trying to remain unobtrusive may have limited the quality of the data collected. The observer spent time at the start of their time at each nursery and of each observation to allow the children to become familiar with them. However, the children's awareness of the observer's presence was noticeable. Therefore, it is possible that the presence of the observer impacted the play behaviours of the TC, or their peers. Were it possible to complete multiple observations for each child, more accurate data may have been obtained.

Furthermore, as mentioned previously, the Target Child Observation Method (TCOM) used in the current study is less structured than play observation methods used in other research. The TCOM was developed to assess children's attention levels during the preschool day (Sylva et al., 1980). Many of the behaviours that were recorded using the TCOM were applicable to the current study. However, results may have been improved if the TCOM had been modified to better suit the current aims. Other observational methods, such as the checklist used by Newton and Jenvey (2011), have been found to relate to other sources, such as teacher-reported play ability. Such instruments may produce a more specific set of data regarding play behaviours than that obtained in the current study.

6.3 Future research

Future research should aim to further investigate the degree of agreement between parents and teachers in reporting social competence, particularly when using the same questionnaire. Previous research has suggested that parents' and teachers' ratings are inconsistent with each other. However, the current study's findings support the argument made by Goodman (1997), whereby ratings are more likely to be consistent if the same questionnaire is completed by both informants. Therefore, future research should aim to clarify the reliability of different measures of social competence for use with both parents and teachers.

More investigation into the relationship between structured observation methods and measures of play ability, such as the PIPPS, is required. Previous research utilising structured play observation methods have demonstrated a more significant relationship between play and social competence (Kington et al., 2013; Newton & Jenvey, 2011). In comparison, the current study used a relatively unstructured observation method. Therefore, the use of a more structured observation method, potentially including a predetermined and investigated checklist, may increase the likelihood of significant relationships being found between observational play data and teacher-reported play scores, and social competence.

Future research should further investigate the relationship between the three sources of information for play and social competence. The literature considered in Chapter 2 indicates that a relationship does exist. As mentioned, improvements in to the observational data collection methods may provide stronger evidence. It is also possible that the current study did not have a sample size large enough to detect relationships between some of the variables. Therefore, were methodological issues improved upon, a more significant relationship may be more likely to be found.

Finally, there exists a large body of evidence demonstrating the relationship that exists between future academic and social success, play (Doctoroff et al., 2006; Ollendick et al., 1992), and social competence (Cohen & Mendez, 2009; Mendez & Fogle, 2002). Future research should endeavour to further investigate the long-term benefits of the relationship between play and social competence. The existing literature has not included data obtained from the number of sources that were used in the current study (see Table 1). Therefore, longitudinal evidence is required to

investigate whether the same results demonstrating the relationship between play, social competence and better academic and social skill still stand when reports from observations, parents and teachers are combined.

6.4 Conclusion

In conclusion, it was found that some aspects of observed play were related to teacher-reported play ability. It was also found that parents and teachers did not significantly differ in their reports of social competence. Furthermore, observed play was not found to be a predictor of parent- or teacher-reported social competence. In contrast, teacher-reported play was found to predict social competence. This predictive relationship was found to be strongest for teacher-reported social competence. The results provide some support for the predictive relationship between play and social competence. However, methodological improvements may further develop the results. Finally, the results provide further support for the use of teacher-report methods. The numerous relationships found suggest that teacher reports are the most accurate and reliable method of assessing play ability and social competence in young children.

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