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Peer and group relationships in preschoolers: The role of social and linguistic skills

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Dedication

To all preschool children

And their smiles

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Table of contents

Abstract 1

List of Tables 2

Introduction 3

Chapter 1. A theoretical review on preschool children: From socio-emotional and linguistic competences to peer groups' socialization 6

1.1. Introduction 7

1.2. Preschool socio-emotional competence 8

1.3. Language competence in preschoolers 13

1.4. Preschool peer groups 15

1.4.1. Peer group contexts in preschool 15

1.4.2. Peer group interactions in preschoolers 16

1.4.3. The social interaction complexity 24

1.4.4. Preschool peer group relationships: Social acceptance and friendships 26

Chapter 2. Study 1 - Peer groups in preschool settings: Peer's social experience in child and teacher led contexts 36

2.1. Introduction 37

2.2. Method 49

2.3. Results 51

2.4. Discussion 59

Chapter 3. Study 2 - Peer relationships and affiliation: Socio-emotional competence, linguistic skill and temperamental traits 64

3.1. Introduction 65

3.2. Method 77

3.3. Results 81

3.4. Discussion 91

Conclusions 99

References 104

Abstract

Social experience with peer groups at preschool age is a key factor for children's social development. Interacting positively and building relationships with same-age people – peer socialization – at preschool age is crucial in order to achieve school adjustment and positive academic outcomes. Therefore, socio-emotional competence, linguistic skill and peer group interactions are essential topics to investigate in depth from as soon as early childhood.

An update review on theoretical frameworks and results of research on socio-emotional competence, linguistic skill and peer groups was provided. The main aims of the current dissertation were to investigate social experience in children's peer groups and the links between children's peer relationships, social functioning and linguistic skill. For those reasons, two studies were completed. Study 1 was an observational study which investigated the kind of social experience in groups (*N*= 443) of children (*N* = 120) at preschool age in child led vs. teacher led contexts. The results revealed that in child led contexts children were more likely to be alone, in dyads, and in small peer groups; moreover, the groups were mostly characterized by same-gender playmates who engaged in joint interactions and with few social interactions with teachers. In teacher led contexts, on the other hand, children were more likely to be involved in small, medium and large groups; in addition, the groups were mostly characterized by other-gender playmates who were involved in parallel interactions with teachers playing a more active role. The purpose of Study 2 was to describe the development of socio-emotional competence, temperamental traits and linguistic skill. Moreover, it examines the role of children's reciprocated nominations (=RNs) with peers assessed via sociometric interview, in relation to socio-emotional competence, temperamental traits and linguistic skill. Finally, the similarity-homophily tendency was investigated. Socio-emotional competence and temperamental traits were assessed via teacher ratings, linguistic skill via test administration. Eighty-four preschool children (*M* age = 62.53) were recruited within 4 preschool settings. The results revealed that children were quite representative of preschool population. In addition, children with higher RNs showed higher social competence (tendency), social orientation, positive emotionality, motor activity and linguistic skill. Moreover, they exhibited lower anxiety-withdrawal. With regards to similarity-homophily tendency, the results revealed that children prefer playmates with similar features: social competence, anger-aggression (tendency), social orientation, positive emotionality, inhibition to innovation, attention, motor activity (tendency) and linguistic skill. Those findings provide insights into the associations of peer relationships, affiliation, social functioning and linguistic skill.

Finally, implications for the current investigation were provided.

List of Tables

Chapter 2

Table 1 Child and Teacher Led Contexts: A Comparison of Group Sizes 52

Table 2 Child and Teacher Led Contexts: A Comparison of Sex Affiliation 54

Table 3 Child and Teacher Led Contexts: A Comparison of Parallel and Joint Interactions 56

Table 4 Child and Teacher Led Contexts: A Comparison of the Role of Teachers in Peer Groups 58

Chapter 3

Table 1 Descriptive Analyses 82

Table 2 Descriptive Analyses on Social Competence Evaluation - SCBE-30 (N = 84) 83

Table 3 Descriptive Analyses on Temperamental Questionnaires - QUIT (N = 84) 84

Table 4 Frequencies of children in at-risk and children non-at-risk 86

Table 5 Correlations between children's competences and their RNs (N= 84) 88

Table 6 Spearman's rank-order correlations between individual children's' scores and the corresponding peer cliques scores for study variables (N = 68) 90

Introduction

Social experience with peer groups at preschool age is a key factor for children's social development (Harris, 1995; Hartup, 1996; Rubin, Bukowski & Parker, 1998). Interacting positively and building relationships with same-age people – peer socialization – at preschool age is crucial in order to achieve school adjustment and positive academic outcomes (Ladd, 2005; Bierman, Torres, Domitrovich, Welsh & Gest, 2008; Blandon, Calkins, Grimm, Keane & O'Brien, 2010; Valiente, Lemery-Chalfant & Swanson, 2010). Children's interactions with peer groups can improve several of their social and cognitive skills (Ladd, 2005), or negatively affect their social behavioural outcomes (Hanish, Martin, Fabes, Leonard & Herzog, 2005). Therefore, social, emotional, linguistic competences and peer group interactions are essential topics to investigate in depth from as soon as early childhood.

Research questions for this dissertation

Peer groups in preschool settings: Peer social experience in child and teacher led contexts

In a preschool setting, children are exposed to a wide variety of social experiences, from staying alone to spending time in groups (dyads, small groups, medium groups and large groups). In particular, such groups are embedded within two main frames: child led activities and teacher led activities (Blatchford, 2003; Winsler & Carlton, 2003; Larson, Walker & Pearce, 2005; Kutnick, Genta, Brighi & Sansavini, 2008a). The key factor in differentiating the two frames comes from the person who chooses and leads the action: children versus teacher (Wishard, Shivers, Howes & Ritchie, 2003; Walsh, Sproule, McGuinness, Trew, Rafferty & Sheehy, 2006; Kutnick et al., 2008a). Since peer group social experience within those two contexts occurs daily and it may affect children's social development, it is of crucial importance to understand which the most frequent peer group experiences are, and their features in terms of group size, gender affiliation, interactions and teacher's role.

This leads to the *research question of Study 1* for this dissertation: What is children's social experience of peer groups in child and teacher led contexts?

Peer relationships and affiliation: Socio-emotional competence, temperamental traits, and linguistic skill

The literature on children's social development has emphasized the role of peer acceptance among peers (Ladd, 2005). Some studies examined particular correlates of social acceptance, such as social cognition and emotional understanding (Diesendruck & Ben-Eliyahu, 2006), social orientation (Nelson, Robinson, Hart, Albano & Marshall, 2010) or adaptive behaviors (Ciucci & Tomada, 1999). However, there are relatively few studies which have investigated reciprocal preferences among children. In addition, few studies have actually taken into consideration multiple competences at the same time, such as socio-emotional competence, temperamental traits and linguistic skill in children's reciprocated ties at preschool age. This is true despite the fact that there is evidence of the role of social-emotional competence (Blandon et al., 2010), temperamental traits (Blair, Denham, Kochanoff & Whipple, 2004; Berdan, Keane & Calkins, 2008), and linguistic skill (Carson, Klee, Lee, Williams & Perry, 1998) for children's development of positive interactions with peers.

Finally, the similarity – homophily tendency for social-functioning within children's cliques has received limited attention in research on preschool age (Gleason Gower, Hohmann & Gleason, 2005). Specifically, there are relatively few studies which investigated the similarity-homophily tendency for socio-emotional competence, temperamental traits and linguistic skill.

This leads to the *research questions of Study 2* for this dissertation: How children develop their socio-emotional competence, temperamental traits and linguistic skill at preschool? Which are the relationships between children's reciprocated nominations and socio-emotional competence, temperamental traits and linguistic skill? Finally, is there a similarity – homophily tendency affecting socio-emotional competence, temperamental traits and linguistic skill within preschooler cliques?

Aims of this dissertation

The main aims of this dissertation were to investigate social experience in children's peer groups and the links between children's peer relationships and social functioning andlinguistic skill.

The outline of the dissertation is the following.

Chapter 1 provides an update review of the theoretical frameworks and results on socio-emotional and linguistic competences and peer group socialization at preschool age. Specifically, the results on peer groups are provided in relation to: (a) context; (b) interactions (group

socialization model and complexity levels ofsocial interaction); (c) relationships (social acceptance and friendships). In particular, the review highlights research factors and hypotheses which need to be more investigated.

The aim of chapter 2 (study 1) is to examine the differences of peer group social experiences in child and teacher led contexts. The output for this chapter is the description of different social experiences of peer groups in terms of size, gender affiliation, interactions and the role of teachers.

The aims of chapter 3 (study 2) were to examine (i) how children develop social functioning, linguistic skill and establish their RNs, indicating also the percentage of children at risk; (ii) whether children's social functioning and linguistic skill were related to their RNs; (iii) whether children who reciprocated each other displayed the similarity-homophily tendency for socio-emotional competence, temperamental traits and linguistic skill.

Finally, a conclusion provides a general discussion on findings.

Chapter 1. A theoretical review on preschool children: From socio-emotional and linguistic competences to peer group socialization

Abstract

Interacting positively and building relationships with same-age people – peer socialization – is a key component of early childhood. In particular, the socio-emotional and the linguistic competences appear as key factors in interactions among peers. On top of that, although the peer group issue is considered as critical at older ages, several theories and studies underline that peer group is a core theme since early ages. Because of the increasing number of theoretical frameworks and findings concerning both the children's socio-emotional, linguistic competences and the peer group issue, a review of the state of research seems necessary. In the first section, particular attention is paid to two main developmental topics: socio-emotional and linguistic competences. This section is aimed at providing an update review of the theoretical frameworks and results achieved on those fundamental issues. Indeed, relations among those two competences are reported. In the second section, the theoretical contributions and results on peer groups are provided in relation to: (a) context; (b) interactions (group socialization model and levels of complexity in social interaction); (c) relationships (social acceptance and friendships). In particular, the review highlights the research factors and hypotheses which require further investigation.

1.1. Introduction

Developmental research on preschool age children indicates that social, emotional and linguistic competences are crucial in order to engage in successful peer interactions and to achieve positive academic outcomes (Blandon, Calkins, Grimm, Keane & O'Brien, 2010). Moreover, the literature argues that interacting positively and building relationships with same-age people – peer socialization – is a key component of early childhood (Ladd, 2005). Over the course of the years, researchers have been paying increasing attention to the role of peer groups in the understanding of children's personality and social development. As argued by Harris in hisGroup Socialization Theory (1995), peer groups, rather than family relationships, need to be taken into account in children socialization. According to this perspective, the socialization process also takes place outside home, for example in preschool settings and kindergartens. Moreover, even if peer groups have been mostly studied in adolescence, ethological research has underlined that the peer group is a core theme since early ages (McGrew, 1972; Strayer & Santos, 1996; Barbu, 2003). As a consequence, socialization in peer groups is a crucial process since preschool, between 3 and 6 years of age (Ladd, 2005; Martin, Fabes, Hanish & Hollenstein, 2005; Mazzanti, 2009; Rubin, Bukowski & Laursen, 2009).

Because of the increasing number of theories and findings on children's socio-emotional and linguistic competences and on peer groups, a comprehensive review of the state of research is necessary. In the first section, particular attention is paid to two main developmental topics: socio-emotional and linguistic competences. Several theoretical models highlighted the different roles that socio-emotional and linguistic competences play in relation to children's interaction with others (Dodge, 1986; Halberstadt, Denham & Dunsmore, 2001; Hay, Payne & Chadwick, 2004; Qi, Kaiser & Milan, 2006). Different facets of the social competence construct have been described: cognitive, affective and behavioural (Waters & Sroufe, 1983). Besides, in the literature, multiple constructs of social competence emerge (Rose-Krasnor, 1997; Rubin et al., 2006; Schneider, 2000; Vaughn et al., 2009; Attili, Vermigli & Roazzi, 2010). Special attention has been paid to the LaFreniere and Dumas' (1995) ethological and bio-social model of social competence in preschool children. According to the authors, social competence is a broader construct, which encompasses both prosocial behaviours and emotional abilities, and it is aimed at achieving the children's social adaptation. The correlates of social competence, externalizing and internalizing behaviours, have been considered. In this regard, emotion is also a key dimension of social exchange. Therefore, examine the positive and negative dimensions of emotions have been examined as well (Halberstadt et al., 2001). Linguistic competences are also investigated in relation to children's social

development (McKown, Gumbiner, Russo & Lipton, 2009) and the patterns of interaction among those variables are described (Greenberg, Kusche, Cook & Quamma, 1995; Zhou et al., 2007). In the second section of this review, the results and theoretical contributions on peer groups are provided in relation to: context, interactions and relationships. To illustrate the importance of peer group contexts, the ecological model of Bronfenbrenner (1979) and the eco-behavioural approach (Carta & Greenwood, 1985) are explained. The description of a group socialization model for preschoolers is offered in relation to the peer group interactions. The Levine and Moreland's model (1994) for small groups of adults has been applied to preschoolers, in order to describe studies on inclusion and exclusion. In this model, two bidirectional processes are assumed: the process of a child who tries to enter in a group which is playing together, and the process of inclusion of the newcomer in the peer group.

The different social levels of complexity of interaction are described: parallel versus joint interactions; in addition, a description of social acceptance and friendships is presented in relation to the peer group relationships. The roles of same-sex and cross-sex friendships and the similarity hypothesis are investigated; in particular, this review introduces a discussion of directions for future research.

1.2. Preschool socio-emotional competence

Preschool, between 3 and 6 years of age, represents a key period for the development of socio-emotional competence. As Hay and colleagues (2004) underline, preschool children foster their socio-emotional skills in order to face the increased peer interactions. Similarly, Howes argues (1987) that cooperative play and social exchanges occur more frequently during preschool age, giving children an opportunity to develop abilities as anticipating the actions of others and understanding the thoughts and feelings of others.

The literature emphasizes the relations between social and emotional competences at preschool age (Blandon et al., 2010). Socially competent children interact effectively with others, showing both turn-taking and emotional maturity. For this reason, authors point to the usefulness of an integrated model of socio-emotional competences at early childhood (Eisenberg & Fabes, 1992; LaFreniere & Dumas, 1995, 1996; Halberstadt et al., 2001; Blandon et al., 2010; Rhoades, Warren, Domitrovich & Greenberg, 2010).

Notwithstanding the crucial role of social competence, there is a lack of consensus concerning its definition. The absence of a broad consensus among authors might reflect the multiple dimensions of the construct, as highlighted by the numerous theoretical models (Molinari,

2002). In particular, Waters and Sroufe (1983) posit that social competence consists in the children's ability to integrate cognitive, affective and behavioural skills in order to adapt themselves to social contexts. On the basis of this conceptualization, those three aspects of social competence are taken into account (Bierman & Welsh, 2000).

First, the Social Information Processing Theory represents an important perspective on the cognitive issue. According to this theory, a social behavior reflects the outcome of information processing by an individual. In particular, children change their manners of elaborating information over time: as long as they pay attention to it, they represent and store it as schemas and scripts. In this perspective, great importance is given both to interpersonal cognitions – such as goals, strategies, outcome expectations, peer attributions –, and to children's intrapersonal cognitions, such as self-perception, perceived competence and self-efficacy. Dodge (Dodge, 1986; Crick & Dodge, 1994) developed this theoretical model in order to explain the children's aggressive behaviours. The author provides evidence of interpretation biases in aggressive children, who tend to attribute hostile intentions to their peers, even when the provocative situations are ambiguous. In this view, social competent children process social information in an appropriate manner and choose which behaviours to elicit in order to meet their social goals. According to Howes (1987) and to Water and Sroufe (1983), the choosing and the achieving of social goals represent important facets of social competence. The ability to understand both the internal social needs and the environmental demands is crucial for a successful interaction, in order to balance such internal needs with the needs of others in an adaptive manner (Water & Sroufe, 1983; Rose-Krasnor, 1997).

Second, another dimension related to social competence is the affective one. Halberstadt, Denham and Dunsmore (2001), for instance, designed the Affective Social Competence Model. In this model,an adapted version of Rose-Krasnor's socio-emotional prism model (1997) was integrated, and the role of the affective dimension was taken into consideration (Denham, 2006), including the sending and receiving of emotional messages and the experiencing of emotions. In addition, the authors highlight the importance of other abilities, including the awareness and identification of affect within a complex and changing social environment, and the management and regulation of emotions.

Third, the last facet of social competence refers to social behavior and related social skills. When authors describe socially competent children, they argue about the importance of prosocial behaviours. Howes & Matheson (1992), for instance, portray social competent children as being able to join a peer group's ongoing activity and playing positively with others. On the other hand, when authors refer to the absence of social competence, they take into account maladaptive behaviours: aggression or withdrawal behaviour. Internalizing behaviours include withdrawal,

anxiety, fearfulness, even depression, whereas externalizing behaviours include hyperactivity, aggression, defiance, destructive behavior (Achenbach, 1991; Campbell, 1995).

Although those definitions differ in specific ways, there appears to be a broad consensus regarding the importance of effectiveness in interactions with peers and adults, and of the flexible adaptation of children to their social contexts (Attili, 1990; Rose-Krasnor, 1997; Rubin, et al., 2006; Schneider, 2000; Attili, Vermigli & Roazzi, 2010). In this regard, authors call attention to the role of social contexts for the understanding of children's social competence (Bronfenbrenner,1979; Rubin & Rose-Krasnor, 1992). Recently, a broadly defined social competence construct was applied by Vaughn and colleagues (2009) in a multinational study on preschool children. The authors offer evidence of a multi-dimensional construct of social competence, which taps into a broad range of social dimensions, including social engagement or motivation, peer acceptance and social skills. Consistently, Attili and colleagues (Attili et al., 2010) offer a multi-dimensional construct of social competence in 7-9 year-old children. The authors provide a definition of social competence which takes into account prosocial, aggressive and isolate behaviours, and sociometric status. The study shows how the social abilities of children and the parent-child interactions affect social success at school, measured on the base of sociometric status. It would be very interesting to also test the model at preschool age.

The ethological and bio-social model of social competence for preschool children (LaFreniere & Dumas, 1995) is particularly interesting. The authors define social competence as a multi-dimensional construct, in coherence with the aforementioned models. The construct encompasses both prosocial behaviours and emotional abilities, and it is aimed at achieving the children's social adaptation. The authors highlight the roles of emotion regulation and expression and the difficulties to adjust the model in order to assess social competence at preschool age. In this view, they consider emotion regulation and the expression of emotions as critical dimensions to determine social competences. Moreover, they take into account both behavioural and affective cues in order to describe the phenomenon. In particular, they consider social competence, externalizing and internalizing emotions and behaviours.

Socially competent children are described by the authors as cooperative, helping others, comforting or assisting children in difficulty and managing conflicts positively. The externalizing children with conduct disorders (Quay, 1983; Achenbach, 1991) are evaluated as irritable, angry, aggressive, selfish and with oppositional behaviours. This group of children shows poor frustration tolerance and, when there are difficult social situations, they express their negative emotions in maladaptive ways. Finally, the internalizing children with affective disorders are rated as sad, depressed, worried, anxious, withdrawn and isolated. This group of children shows often onlooking,

unoccupied behaviours and parallel play; they are also characterized by low levels of maturity and autonomy. Those three socio-emotional profiles turn to be a useful broad categorization in order to better understand the social development of children.

The growing body of empirical evidence suggests that social competence has a positive relation with: peer acceptance (Coie & Dodge, 1983; Blandon et al., 2010), interpersonal relationships (Ladd, Kochenderfer & Coleman, 1996), later social adjustment (Najaka, Gottfredson & Wilson, 2001) and school readiness (Ladd, 2005; Denham, 2006; Bulotsky-Shearer, Fantuzzo & McDermott, 2010). Several studies document positive relationships between social competence and the multiple dimensions of emotions: a positive disposition in emotionality (Eisenberg et al., 2005), the emotional knowledge (Trentacosta & Fine, 2010), the experience of positive emotion (Eisenberg et al., 1997), the expression of positive emotion (Keane & Calkins, 2004; Miller, Gouley, Seifer, Dickstein & Shields, 2004) and the regulation of emotion (Fabes et al., 1999; Blair et al., 2004). In recent years, in particular, the interest in dispositional emotionality and in the emotion regulation at early childhood (Rhoades et al., 2010) has increased. The trend of research, focusing on the topic of temperament, reveals a positive association between the disposition in emotionality and social competence (Cumberland-Li, Eisenberg, Champion, Gershoff & Fabes, 2003).

According to Rothbart and Bates (2006), regarding the regulation of emotion and related behaviours, the effortful control plays a critical role in the socio-emotional domain. It inhibits the impulses of dominant behaviour as aggression, at the same time allowing the exhibition of less dominant behavior such as problem-solving. It also allows the shifting away of the attention from negative-emotion-provoking stimuli towards positive emotion-provoking stimuli. Extensive empirical evidence has confirmed a positive relation between social competence and emotion regulation (Arsenio, Cooperman& Lover, 2000; Halberstadt et al., 2001; Miller et al., 2004; Zhou et al., 2007). Besides, findings from longitudinal studies provide evidence of temporal stability of the social competence construct (Broidy et al., 2003; Hebert-Myers, Guttentag, Swank, Smith & Landry, 2006).

Concerning the externalizing behaviours, an accumulating body of empirical evidence links preschoolers' externalizing issues, such as risky behaviours, affiliation with deviant peers (Asendorpf, Denissen & van Aken, 2008; Fanti & Henrich, 2010) and peer rejection (LaFreniere & Sroufe, 1985; Asher & Dodge, 1986; Coie, Dodge & Kupersmidt, 1990; Trentacosta & Shaw, 2009; Fanti et al., 2010)with a bias in the perception of anger (Barth & Bastiani, 1997) and sadness in emotions (Martin, Boekamp, McConville & Wheeler, 2010).

Regarding children with internalizing behaviours, they are at a higher risk for being asocial with peers when they become adolescents (Burt & Rosiman, 2010; Fanti et al., 2010). Several

studies reveal consistently that social competence is negatively associated with externalizing and internalizing issues in children (LaFreniere & Dumas, 1996; Blair et al., 2004; Juliano, Werner & Cassidy, 2006). According to the LaFreniere and Dumas' model (1996), some relations are found between externalizing and internalizing behaviours, negative emotionality and deficits in emotion (Calkins, Gill, Johnson & Smith, 1999; Eisenberg et al., 2001). Rothbart and Bates (2006) refer to the negative emotionality as a combination of inhibitory dimensions, such as sadness and fearfulness, with anger dimensions, such as irritability, frustration and aggression. In particular, research finds anger dimensions of negative emotionality as predictors of the externalizing behaviours, whereas the inhibitory dimensions are found as predictors of the internalizing behaviours (Arsenio et al., 2000; Eisenberg, Fabes, Guthrie & Reiser, 2002; Eisenberg, Sadovsky, Spinrad, Fabes, Losoya, Valiente, et al., 2005; Rothbart & Bates, 2006). According to Seifer (2000), the negative emotionality turns to be a predictor of both the externalizing and the internalizing behaviours. The contribution of low emotion regulation to the development of externalizing and internalizing behaviours has been investigated in the literature (Rydell, Berlin & Bohlin, 2003; Trentacosta et al., 2009). The low regulation of emotion is concurrently and predictively associated with the externalizing (Blair et al., 2004; Eisenberg et al., 2005; Zouh et al., 2007; Trentacosta et al., 2009) and the internalizing behaviours (Rubin, Cheah & Fox, 2001; Rydell et al., 2003).

In relation to the externalizing and the internalizing issues, results indicate that there are sex differences and long-term risks. About sex differences, boys are rated as more externalizing and girls are rated as more internalizing (Bongers, Koot, Van Der Ende & Verhulst, 2003; Blair et al., 2004; Asendorpf et al., 2008; Carter et al., 2009). Furthermore, longitudinal studies point out to a complex pathway of results on the internalizing and the externalizing issues from preschool to later ages (Asendorpf et al., 2008; Blandonet al., 2010; Bornstein et al., 2010; Burt & Roisman, 2010; Fanti et al., 2010). According to the aforementioned studies, such issues are long-lasting and might co-occur.

Because of their key role in children's development and because of their degree of stability across time, socio-emotional competences, as well as externalizing and internalizing behaviours, are critical since preschool age. Hence, the development of social competence, through the implementation of social relational trainings and the consequent prevention of the externalizing and internalizing issues, should be promoted by school policies since early childhood (Denahm & Burton, 2003; Bierman, 2004; Kutnick, Genta, Brighi & Sansavini, 2008a). Furthermore, attention in research should be paid to a deeper understanding of those constructs and their relations.

1.3. Linguistic competence in preschoolers

Research on language encompasses a range of abilities at early childhood, including the acquisition of words, phonological awareness, receptive and expressive strategies of language such as conversation, narrative and pragmatic skills. During preschool years, the growth in linguistic competences promotes social exchanges among peers. Drawing on peer interaction studies, a bidirectional influence of linguistic and socio-emotional competences is observed (Greenberg, Kusche, Cook & Quamma, 1995). Research posits that pragmatic linguistic skills play significant roles in social adjustment (Capps, Kehres & Sigman, 1998; McKnown, 2007). Children improve their socio-emotional competences when they are able to negotiate in conflict situations and label emotions in order to share them with others. At the same time, children socially and emotionally competent have more opportunities for peer interaction and as a consequence, they are facilitated in the development of language (Windsor, 1995; Gallagher, 1999). The acquisition of language competences represents an important aspect of social development: it correlates with and predicts positive peer interactions (Carson, Klee, Lee, Williams & Perry, 1998; Mendez et al., 2002; Mashburn et al., 2008), as well as peer acceptance (Tallandini & Morsan, 2006). Despite the numerous studies that affirm the positive relation between linguistic acquisition and social competences, there is also evidence of the positive relation between linguistic competence and aggressive behaviours (McNeilly-Choqueet al., 1996; Cricket al., 1999; Bonica et al., 2003; Estrem, 2005). Studies suggest that linguistic skills can be used for relational aggression purposes since preschool years. For such reasons, it could be hypothesized that the value of emotionality disposition (positive versus negative) affects the relation between linguistic competence and social behaviour. More research is needed on this topic. Accordingly, as argued by Fujiki and colleagues (Fujiki, Brinton & Clarke, 2002), the relation between linguistic and social competence appears strong, but it is a complex one and not always direct.

Until recently, however, the vast majority of literature reports direct linear effects of linguistic impairment on socialization problems (see Benner, Nelson & Epstein, 2002 for a review). Language could refer to vocabulary, comprehension and expression deficits. Hence, children with specific linguistic impairments might exhibit difficulties at different steps in the interaction with their peers: at understanding social information, at accessing in ongoing activity (Craig & Washington, 1993; Brinton, Fujiki, Spencer & Robinson, 1997; Qi et al., 2006), at maintaining the engagement in interactions (Qi et al., 2006), at negotiating with others (Brinton, Fujiki & McKee, 1998). This group of children might be less proficient at communicating their intentions and feelings, and thus could be misunderstood. In this regard, the majority of studies suggest that linguistic impairment has negative effect on the development of social competence (Fujiki, Brinton,

& Todd, 1996; Mendez et al., 2002). Carson and colleagues (Carson et al., 1998), for instance, provide evidence that both expressive and receptive linguistic delays are predictors of social issues, such as the externalizing and internalizing behaviours. In particular, findings across studies show that children with speech/linguistic delays exhibit higher internalizing behaviours and they are less likely to show pretend play (Irwin, Carter & Briggs-Gowan, 2002; McCabe & Meller, 2004). Further, Qi, Kaiser and Milan (2006), have found that children with low linguistic competence have significantly higher rates of disruptive behaviours.

To sum up, these studies provide support for association between linguistic impairment and difficult social behaviour.

Moreover, the negative impact of linguistic delays on the development of emotional competence is also examined. It is found that children with linguistic impairments have difficulty with social emotional understanding (Spackman, Fujiki & Brinton, 2006). In particular, studies on this category of children have emphasized the critical role of the emotion regulation (Fujiki et al., 2002). Results across studies show a positive relation between linguistic delays and lower emotion regulation (Fujiki et al., 2002). In addition, as observed by Gallagher (1999), there are several studies that document the co-occurrence of linguistic impairments and broadly defined socio-emotional problems. For example, Tervo (2007) finds that children with expressive delays or receptive-expressive delay be connected to socio-emotional problems. In addition, van Daal and colleagues (van Daal, Verhoeven van Balkom, 2007) report differential relations between specific socio-emotional problem behaviors and different types of linguistic impairment (speech, syntax, semantics and phonology) in five-year-old children. Specifically, internalizing behavior problems are associated with semantic and phonological linguistic problems. Externalizing behavior problems are associated with phonological problems.

On the other hand, McKown and colleagues (McKown et al., 2009) describe relations between a high degree of competence in pragmatic language, positive emotion regulation and social competence. Hence, children with linguistic delays are at greater socio-emotional disadvantage when compared to those with fully developed linguistic skills. As a consequence, even if the literature depicts a mixed painting (McCabe et al., 2004), most studies indicate that linguistic impairment in children affects negatively their abilities to establish and maintain positive relationships with their peers. Furthermore, this behavioural pattern may lead to lower levels of peer acceptance and maybe to the experience of exclusion (Gertner, Rice & Hadley, 1994; Fujiki et al., 2002). Given the importance of linguistic competence for preschool socio-emotional competence, further research needs to address how competences interact since early childhood.

1.4. Preschool peer groups

Interacting positively and building relationships with peers seem to be the most important challenges for preschool children. In particular, for Italian pupils, being enrolled in preschool means for some children the first meeting with a peer group. Moreover, going to preschool represents the first occasion in which they have to cope with a such large group of peers, from 20 to 29other children. Since this meeting happen several days and for a long time span (from 8.30 a.m. to 4.30 p.m. on average), socialization in peer groups is a crucial process since early childhood (Rubin et al., 2009).

The contribute of the peer group encompasses a range of developmental dimensions: self (James, 1890), identity (Sullivan, 1953), personality (Harris, 1995), cognition (Piaget, 1932; Vygotsky, 1978; Doise & Mugny, 1984; Kutnick & Kington, 2005), sociality (Rubin et al., 2006), emotion (Denham, Mason, Caverly, Schmidt, Hackney & Caswell, 2001) and language (Garvey, 1984).

Regarding the levels of social complexity, three main levels may be described (Hinde, 1976; Bronfenbrenner, 1979): social context, interaction and relationships. First, the "context layer" is described, and an analysis of the contextual factors which may affect the children's social experience is provided. Second, a review on peer interaction is presented. In particular, we highlight the quality of interactions (parallel versus joint) and the model for group socialization, with interactions aimed at achieving the inclusion of a child in a peer group. Finally, the types of relationships among peers are examined, including social acceptance and friendship. To sum up, thethree levels used as a framework for this section on peer groups are: context, interactions and relationships.

1.4.1. Peer group contexts in preschoolers

Several authors argue for the importance of context in studies of social behaviours (Dixon & Lerner, 1988; Lerner, 1998; Lerner & Simi, 2000; Lochman, 2004). Social behaviours, interactions and relationships can be understood in depth only taking into account the context in which they are embedded. In this sense, Bronfenbrenner (1979) in the Ecological Model, and in the extended version (Bronfenbrenner & Morris, 1998) refers to complex "layers" of environment, each having an effect on children's development. As a consequence, when we look at children's social behaviours, we need to take into consideration the effects of contexts on such behaviours. This ecological perspective provides a useful framework for several studies on children's social development. Drawing from this ecological approach, authors examine how the specific traits of a

classroom context, including class size (Blatchford, Bassett & Brown, 2005) or the behavioural problems (Fantuzzo, Bulotsky, McDermott, Mosca & Lutz, 2003; Fantuzzo, Bulotsky-Shearer, Fusco & McWayne, 2005; Bulotsky-Sheareret et al., 2008) may affect peer-peer interactions, children-teacher interactions (Myers & Pianta, 2008), and children's competences (Bulotsky-Shearer et al., 2010). In addition, researchers explore the contextual factors at a lower level of analysis. For example, Gagnon and colleagues (Gagnon Huelsman, Kidder-Ashley & Ballard, 2009) document an interactive influence of the quality of children-teacher relationships and the children's temperament on the peer play behaviours.

On top of that, recent studies, employing the eco-behavioural analysis, have provided an improved understanding of children's social development. The Eco-Behavioural Approach focuses on the description of the interactions between the contextual traits of the environment and children's behaviour (Carta & Greenwood 1985). This perspective is applied in a research on young children with disabilities (Brown et al., 1999) and also on early childhood settings (Kontos, Burchinal, Howes, Wisseh & Galinsky, 2002; Hojnoski et al., 2008; Powell et al., 2008). In particular, Powell and colleagues (2008) have studied the group configurations and the teacher behaviours that facilitate the children's engagement.

Even if studies indicate that several contextual factors are related to the classroom context, the child-led contexts and teacher-led contexts should be more understood. Those two social contexts refer to different aims: in the case of child-led contexts, children's aims are achieved, as in free play, whereas in the case of teacher-led contexts, the teacher's pedagogical aims are achieved, such as organizing children's learning and play activities. Despite the growing ecological research, the differences in children's social experience within those two contexts is still less known.

1.4.2. Peer group interactions in preschoolers

Hinde (1976) argues that an interaction is a sequence of behaviours between people. Several levels of the interaction can be examined: from "micro-" observations (e.g. smile) to "macro-" observations (e.g. the complexity of the interaction). In particular, we take into consideration two facets of the "macro-interaction": group socialization, with reference to inclusion and exclusion dynamics, and social complexity of interaction (parallel versus joint).

1.4.2.1. Group socialization

The socialization process is related to the attempt to join a group by a preschool child (host) and, on the other hand, to the attempt to recruit or exclude a newcomer child. The interactions within peer groups arein fact important components in children's development. As a consequence,

if the newcomer repeatedly experiences exclusion, this might negatively affect several developmental areas (Corsano, 1999; Bierman, 2004; Rubin, Coplan, Chen, Buskirk & Wojslawowicz, 2005; Corsano, Majorano & Champretavy, 2006). Conversely, when the newcomer repeatedly experiences inclusion, this might positively affect several areas, such as the cognitive one (Doise et al., 1984), the emotional one (Denham et al., 2001), the linguistic one (Garvey, 1984), the moral one, (Damon, 1977), the social one (Rubin et al., 2006), as well as the areas concerning identity (Sullivan, 1953) and personality development (Harris, 1995). Joining a group and interacting positively with other peers is essential for preschoolers. Recently, the Levine and Moreland's model (1994) for socialization in small groups is employed in order to explain the socialization process at preschool age (Mazzanti, 2009). Even if the Levine and Moreland's model (1994) concerns long-term interactions, it can represent a useful framework for short-term interactions. The model works on two main perspectives. First, socialization is regarded as a temporal process, not just as a snapshot. Second, both groups and newcomers are considered active social agents. According to the Levine and Moreland's model (1994), socialization is the result of two processes. The first one is accommodation, which refers to the acceptance of group norms by a person. The second one is assimilation, which refers to a new member being chosen by the group because he/she is normative. A person is "normative" if he/she follows the rules of the group; on the contrary a person is "deviant" if he/she does not follow them.

Although Levine and Moreland's model (1994) belongs to the social psychology area, some of the socialization processes for adult age which they depicted can also be applied to early childhood studies, concerning for instance admittance strategy (Putallaz & Gottman, 1981; Corsaro, 1997). Moreover, the view of assimilation as a bidirectional process is highlighted in developmental psychology (Petty, 1994; Bierman, 2004). In the early childhood area, research on assimilation by a peer group was mostly conducted in a play/game setting (Ramsey & Lasquade, 1996; Wilson, 2006). During a play session, when a child tries to join a group, if he/she does not follow the game framework or theme, he/she is not allowed to enter the game (Phillips, Shenker & Revitz, 1951; Putallaz et al., 1981; Abrams, Rutland & Cameron, 2003; Nesdale & Brown, 2004).

In Levine and Moreland's model (1994) the relationship between a child and the group is dynamic and changes over time. In particular, Levine and Moreland showed a sequence of main phases which involve both the child and the group. When we take into account a child entering a group for the first time, he/she goes through four transition roles: entry, acceptance, divergence and exit. During the first phase, a group looks for a child to be engaged in a game (*recruitment*); at the same time, the child performing entry strategies is looking for a group to join (*investigation and reconnaissance*). At the second phase, the group shows the newcomer which rules and behaviours

must be followed in order to gain access to the game (*socialization*). During this second phase the membership of a new child to the group – or his/her exclusion from the group– is declared. Subsequently, during the third phase the group tries to force the newcomer to follow the norms shared by the group itself; at the same time, the child tries to preserve his/her status as a new member (*maintenance*). If the newcomer does not follow the group norms, the group tries to help him/her to understand them (*resocialization*). If the child does not succeed in this accommodation process, he/she is excluded by the group (*exit*), but keeps a memory of group experience. Similarly, the group keeps a memory of the child's experience with the group itself (*remembrance*). Unfortunately, as far as early childhood is concerned, only some phases were studied in depth: the child's investigation, the child's entry strategies and the socialization phase. Recruitment, maintenance, resocialization, exit and memory of the group demand further consideration in future research.

1.4.2.2. The investigation and reconnaissance phases: entry strategies

According to research findings, children spend most of their time on looking activities, i.e. observing their friends playing (McGrew, 1972; Rubin et al., 2006). Corsaro (1997) labels this behaviour as «wait and see approach», which also occurs when a child enters a new class (Feldbaum, Christenson & O'Neal, 1980). As Brown (1988) showed, before joining a group there is an «evaluation period» during which children try to discover the play rules (Garvey, 1977). Similarly, Phillips, Shenker and Revitz (1951) introduce the concept of play framework. During this period of time, the child chooses which group is more attractive and which is the group's play theme (Phillips et al., 1951; Putallaz et al., 1981).

Research shows that spending time close to a group, paying attention to play development and making statements about that play, turns into successful entry strategies (Merei, 1994; Ramsey et al., 1996; Wilburn, 1998; Green & Cillessen, 2008). Moreland and Levine label this kind of approach an efficient reconnaissance process (1989). Moreover, Moreland and Levine (1989) also describe this as a success strategy: playing the newcomer role, looking for trustworthy playmates, and cooperating with other newcomers (Speltini & Palmonari, 1998). In preschool age children, attention is paid to the first two strategies, whereas less attention is paid to the last one. As highlighted by research, if a child approaches a group following the play rules and without giving advice on the game or trying to lead the game, access to it might be conquered (*play the newcomer role*) (Garvey, 1984). Another successful entry strategy is calling for friendship bonds inside the group (looking for trustworthy playmates) (Corsaro, 1985; Ramsey et al., 1996).

Studies demonstrate the complexity of the entry strategies employed by children, in particular when they integrate nonverbal communication, as well as approach strategies including verbal communication as «Are we friends, isn't it?» (Corsaro, 1997; 2003). In particular, language is a crucial tool to provide for inclusion (Garvey, 1984; Bergen, 1987). As pointed out by Katriel (1987), and also by Kyratzis and colleagues (Kyratzis, 2004; Kyratzis, Tang & Koymen, 2009), language plays a key role in causing exclusion, for example in the case of negative linguistic tactics: rumours, bossy or wicked countenance. Finally, language can be seen also as a tool to protest against exclusion, as shown by SunWolf and Leets (2003). Although the developmental psychology literature on the entry strategies performed by a newcomer is extensive, relatively little attention has been devoted to the strategies employed by a group to recruit a newcomer.

1.4.2.3. The socialization phase

Thanks to Phillips and colleagues (1951) and to Ramsey and Lasquade (1996), it has been pointed out that children already feel a deep sense of belonging to their group in preschool age. Even if a child comes physically closer to the group, this does not mean that he/she is considered a group member. Sometimes children greet friendly, but then they go on playing without including the newcomer. It is necessary that the group makes this "recruitment" explicit, in order to gain a total belonging role. As described by Corsaro (1997), a baby girl named Debbie wants to play with two playmates. The two playmates are playing at being a family. Debbie employs a verbal entry strategy saying «I am making coffee». Betty, one of the playmates, asserts that she is making cupcakes and ends up saying that now all the three girls are mums. This last statement by Betty confirms that Debbie has also become a full group member. After being admitted to the group, the language restates the power of alliances among children (*maintenance phase*). For instance, children, in order to reinforce their coalitions, when inviting playmates at home, try to support these alliances in the attempts to plan games together.

During the socialization phase, children explain the rules shared by the group to a newcomer. Kyratzis (2004) points out that through conversation children develop games and codes which allow group entry. On top of that, through the game children can evaluate the behaviour of newcomers. For example, Hughes (1993) and Goodwin (1995) report that during play girls sometimes sanction group members when they do not follow play rules. Hanish and colleagues use the term «peer contagion» to describe how a preschool group teaches new behaviours to the newcomer, through reinforcement or disapproval mechanisms (Hanish, Martin, Fabes, Leonard & Herzog, 2005). If a newcomer tries to change some play rules, a *resocialization phase* occurs. During this phase, members of the group still attempt to point out the rules to the newcomer. If the

newcomer does not take this opportunity, the *exit phase* from the group is inevitable (Schachter, 1951; Kyratzis, 2004). In spite of the extensive literature on the newcomer's entry phase , there is still little understanding, to date, of how the newcomer leaves the group and, specifically, about the remembrance phase, in particular at a preschool age.

However, exit and remembrance are crucial steps for children development. For instance, the exit phase is related to the child's ability in engaging and interacting with peers, therefore such exit phase turns out to be significant for children with low social competence in keeping up interaction (Guralnick, 1993; Rubin et al., 2006).

Similarly, the remembrance phase can contribute to make children return to the group. As mentioned above, Levine and Moreland (1994) consider the multiple phases of the socialization process, and they examine the temporal feature in more detail. Even if there is extensive literature on small groups, there are still large gaps in the research focusing on the temporal perspective. As far as preschool age children are concerned, research on developmental system theories provided, during the last decades, a deeper understanding of peer interaction (Steenbeek & van Geert, 2005; 2007; 2008).

1.4.2.4. Individual factors

Every time children move in a social context, such as a class or a group of playmates, they display individual characteristics that affect the outcomes of interaction as well as the assimilation to a group (Levine & Moreland, 1994). There are individual factors like gender, leadership, social status, temperament and social competence which can impact the socialization processes. A long line of developmental research documents gender differences in the socialization processes, which is consistent with several authors (Martin, Ruble & Szkrybalo, 2002; 2004; Bandura & Bussey, 2004). Although gender is not related with the choice of entry strategy (Ramsey et al., 1996), several studies have yielded consistent results about the relation between gender and interaction processes (Leaper, 1994; 2000; Campbell, Shirley & Candy, 2004; for a review Rose & Rudolph, 2006). Indeed, gender affects children's interactional style (Ramsey et al., 1996; Fabes, Martin & Hanish, 2003). In particular, females show more prosocial and cooperative behavioural patterns than their male counterparts (Maccoby, 1990; Crick, Casas & Mosher, 1997; Sebanc, 2003; Card, Stucky, Sawalani & Little, 2008; Miner & Clarke-Stewart, 2008). To sum up, it seems that some interactive skills are more developed in females than in males.

In contrast with the absence of empirical evidence supporting a relationship between gender and the choice of entry strategy, there is an extensive literature supporting the existence of a relationship between disability and choice of entry strategy. In a study by Guralnick and colleagues

(Guralnick, Gottman & Hammond, 1996), children's type of disability affects his/her entry strategy. The authors found that the observation of action in his/her temporal deployment and the shape of strategy are significant factors in this process (Guralnick et al., 1996). Furthermore, Brown (1988) identified three core themes regarding the group issue: role, status and leadership. Parten (1933) observed two styles of leadership: «bully» and «diplomat». The bully is able to control the group through his/her aggressive behaviour, whereas the diplomat uses indirect suggestions: thus the diplomat is usually more accepted by the group. Consistent with this finding, in an experimental study Merei (1994) showed that children-leaders applying a more cautious approach are more accepted by the group. Children actually achieve positive feedbacks when they adjust their play to the group's play, and only after a period of time they suggest an innovation in play.

Social status is another factor related to children joining a group (Bradley, 2001). Popular children apply more efficient strategies. They do not interrupt the playing action, they either speak only about themselves or about their wishes (Dodge, Schlundt, Schocken & Delugach, 1983; Putallaz, 1983). For example, Garvey (1984) argues that a fruitful strategy is speaking about conversation topics which are interesting for group members. This finding is consistent with Ramsey and Lasquade's study (1996). Unpopular children, on the other hand, use much more intrusive strategies. On top of that, they are less responsive to peers (Hazen & Black, 1989; Black & Hazen, 1990). Several studies (Rubin et al., 2005; Hoglund, Lalonde & Leadbeater, 2008) reveal a positive correlation between social competence and social status, even though until recently there was little investigation on the hypotheses that children with high social competence are more likely to assimilate newcomers than children with low social competence.

Regarding peer social interactions, and in particular which entry strategy is applied, the temperament is another important factor since early age (Coplan, Prakash, O'Neil & Armer, 2004). Temperament refers to patterns of behaviour, assuming a transactional perspective. It is affected by genetic, ecology and development (Rothbart, Ahadi & Hershey, 1994; Cicchetti & Cohen, 1995). Rubin and colleagues (2005) suggested that there are three facets of temperament in relation to social behaviour: the negative reactivity, the resistance to control and the inhibition. According to the authors, inhibition causes a decrease of chances to interact with others. Thus, unpopular children have less opportunities to improve their social skills and, as a consequence, there is an increase in their exclusion by peer groups (Dodge et al., 1983; Skarpness & Carson, 1986; Rubin et al., 2006). In literature, a positive correlation was found between the impulsive temperament and low social status. Children with impulsive temperament and unpopular status use unsuccessful strategies: they hustle playmates, try to aggressively take toys from other children or try to change and/or control the play (Wilson, 1999; 2006).

To sum up, the literature about individual factors influencing the acceptance of a newcomer is extended. Some factors, such as sociometric status and temperament, are analyzed in depth, while other factors and their relations should be taken into consideration as directions for future research. In addition, at present little is known about individual factors regarding group members who let the assimilation process take place.

1.4.2.5. Group factors

Rubin and colleagues (2005) argue that children are tied together by common interests, values and rules (Brown, 1988; Pirro, 2003). The group plays a key role in providing inclusion, because it manages to keep children together and at the same time it contributes to provide exclusion (Bierman, 2004). Each group exhibits unique characteristics: gender, number of members, type of activity and teacher's relational competence.

The gender is an important factor that is related to children inclusion. For example, the preference for same-sex children influences the group in making inclusion decisions, as well as the group behaviour towards newcomers. Children attracted by same-sex groups manage to be accepted easier than in other-sex groups (Ramsey et al., 1996). Also, research showed that female groups generally include most other-sex playmates, in comparison to male groups (Zarbatany, Van-Brunschot, Meadows & Pepper, 1996).

Group size is strictly connected to gender. Several studies have consistently reported that males prefer playing in broader groups, both at early months and at preschool age (Ruble, Martin & Berenbaum, 2006; Benenson, Markovits, Muller, Challen & Carder, 2007).

Benenson and colleagues provided significant findings on the relation between group size and their type of interaction (Benenson, Nicholson, Waite, Roy & Simpson, 2001; Benenson, Antonellis, Cotton, Noddin & Campbell, 2008).

Children with low social competence profit by large groups, because they get an increased number of playmates to interact with them (Lewis, Feiring & Kotsonis, 1984; Benenson et al., 2001). In larger groups, responsibility is diluted, so that group members feel less pressure to accept and include newcomers. As a consequence, group members are more likely to expel newcomers (Corsaro, 1997). Consistent with this result, dyads offer higher responsibility towards newcomers, and positive interactions when compared to other group configurations (Benenson et al., 2001). Accordingly, Benenson and colleagues (2001) found that triads seem to elicit more competition and a negative interpersonal atmosphere, in comparison to dyads.

In addition, there is evidence of a relation between group size and type of social activity. Social activity actually represents a contextual factor in predicting group assimilation. According to

Sheldon's studies (1992; 1996), the pretend play is strictly related to exclusion. During the pretend play, children experience a reduction of feelings of shame.

In an ecological perspective, the teachers' relational style also plays a key role – for example, when peer groups are located within a broader context such as the classroom (Bussey, Goldman & Skinner, 2003; Harrist & Bradley, 2003; Genta et al., 2008; Kutnick, Ota & Berdondini, 2008b). In particular, a teacher's relational style affects children play rules on peer inclusion or exclusion and, as a consequence, teachers may influence the decisions of the peer group about inclusion or exclusion (Paley, 1984; 1993; Kutnick et al., 2007). Teachers adopt several strategies in order to establish and maintain friendships within a class. In particular, there is empirical evidence of teachers' tendency to support dyad activity, especially if there is a child with difficulties in class. On the contrary, most teachers do not encourage children to play together outside class. On the other hand, they do not allow exclusion of one playmate, when it takes place in a dyad (Buysse, Goldman & Skinner, 2003).

To sum up, concerning group factors in socialization processes, special attention is paid in research to gender factors. However, other research topics related to group socialization have been neglected: for instance, social competence of group members, social status and type of group activity. Research in developmental psychology investigated the newcomer's entry strategies in depth. However, until now only a handful of investigations is available about the assimilation of group members. Similarly, the role of teacher approach concerning peer inclusion and exclusion should be taken into consideration.

Several studies analyze the individual characteristics of the newcomers, whereas the characteristics of the group members who allow assimilation are still a neglected topic. Hence, a bidirectional approach, with both qualitative and quantitative methodologies, might allow such a neglected topic to be studied, providing a comprehensive and ecological understanding of children relationships.

In addition, little is known about the socialization process, there are phases that are unexplored at preschool age: recruitment by group, exit, and the remembrance phase. As a consequence, in future studies a temporal approach should be taken.

There are still several gaps in the literature. Socialization takes place not only at school but also outside, so probably children excluded at school could find positive group assimilation outside school. Play is the setting for most studies, even if children at preschool spend more than half of their day in structured activities led by the teachers. So, it would be really interesting to study which types of activities affect assimilation in a group.

1.4.3. The social interaction complexity

Hinde (1976) argued that the content and the quality of interaction should be taken into consideration in order to portray such interaction. The two main contents of interaction for preschoolers consist in playing and learning activities. In addition, the quality of interaction refers to the description of how young children manage such interactions. In the case of preschoolers, the quality of interaction may refer to the levels of social complexity: parallel versus joint interactions.

With regard to the quality of such interactions, different aspects of parallel versus joint interactions are examined: definitions, findings regarding playing and learning activities, developmental trends, individual factors and contextual factors.

Observational research showed that children exhibit various forms of social interaction, with different levels of social engagement (Parten, 1932). Although there are multiple varieties of social interaction among peers, two main categories are portrayed: the parallel interactions and the joint interactions. Authors describe an interaction as parallel when there is physical proximity and an engagement on similar or same activity (Howes & Matheson, 1992; Rubin, 2001; Rubin et al., 2006; Kutnick et al., 2008a). Joint interactions additionally require the sharing of a common goal or purpose, in comparison with the parallel interactions. As a consequence, joint interactions are frequently considered as a more complex level of interactions (Howes et al., 1992; Rubin, 2001).

Concerning the play, the parallel type of interactions allows children to get more opportunities to enter a peer group's play (Dodge et al., 1983; Putallaz, 1983; Putallaz & Wasserman, 1989; Timler, Olswang & Coggins, 2005). Indeed, existing research shows that parallel play represents a special bridge into other social play states, as for example cooperative play (Bakeman & Brownlee, 1980; Robinson, Anderson, Porter, Hart & Wouden-Miller, 2003).

About joint play interactions, several authors offer evidence of how such joint interactions might positively affect children's social, cognitive and linguistic competences (Howes, 1987; Girolametto & Weitzman, 2002; Baker-Sennett, Matusov & Rogoff, 2008; Mashburn et al., 2009).

With regard to learning activities, authors suggest that more attention should be paid to children's interactions in workgroups (Cohen, 1994). In particular, joint interactions in work groups play a crucial role in children's socio-cognitive development, when compared to parallel interactions. Despite accumulating evidence that joint interactions in work groups play a significant role in achieving positive socio-cognitive outcomes, few studies actually investigate such types of interactions at preschool age (Blatchford & Kutnick, 2003).

Furthermore, studies reveal developmental trajectories of parallel and joint interactions. Several studies report that the unoccupied and the parallel play decline over time (Bakeman &

Brownlee, 1980; Harper & Huie, 1985; Ashley & Tomasello, 1998). Conversely, joint interactions increase over development, in concert with social, cognitive and linguistic competences. Although, Farranand Son-Yarbrough (2001) report contrasting findings.

In addition, several streams of research highlight numerous individual factors, which have an important impact on the quality of the interactions: gender, developmental disorders, social, emotional and linguistic competences and sociometric status.

Findings showed that there are gender effects on the quality of interactions (van der Aalsvoort & van der Leeden, 2010). In particular, preschool girls more frequently exhibit joint interactions, whereas boys more frequently exhibit parallel interactions (van der Aalsvoort & van der Leeden, 2010).

Regarding developmental disorders, Howes and Willoughby (2005) provide evidence that children with autism spectrum disorders mostly engage in parallel play interactions, suggesting that in order to perform joint interactions social, emotional and cognitive competences are essential. During joint play, actually, as for instance in sociodramatic play, children display complex social abilities, including the sharing of symbolic meanings, the coordinating and planning of their actions together. Several studies showed how joint interactions are concurrently and predictively associated with social competence (Howes et al., 1992; Rubin, Chen, McDougall, Bowker & McKinnon, 1995; Ladd & Profilet, 1996; Kontos & Wilcox-Herzog, 1997; Howes & Phillipsen, 1998; Howes, 2000). Recent results from van der Aalsvoort and van der Leeden's study (2010) suggest that children who are agreeable and emotionally stable are engaged in cooperation for longer times and with a deeper level of cooperation. The emotional dimension is a crucial factor to jointly interact with others (Denahm, 2006).

The relationship between linguistic competence and social pretend play is also investigated in the literature. Children use different communicative strategies in the course of years, in order to set the social pretend play with playmates (Farver, 1992).

Besides, developmental research on children's social status demonstrates how popular children more frequently show joint play and less frequently parallel play in comparison to rejected children (Ladd et al., 1996; Walker, 2009).

In a broader perspective, contextual factors should also be taken into account. Different contextual factors might facilitate or delay the occurrence of joint interactions among peers: from national policies and grants of school institutions, to the teacher's pedagogical beliefs and purposes regarding children's play and learning activities, to the environmental inputs as the materials, toys and classroom's spatial setting, to the social emotional and cognitive competences of other peers.

Although the aforementioned studies contributed greatly to the understanding of a wide range of issues related to children's complexity of interaction, more research remains to be done. There are relatively few studies investigating the contextual factors shaping children's interactions. In particular, more attention should be paid to comparing free play to learning activities (child versus teacher led contexts), in determining parallel versus joint interactions. On top of that, interactions among individual factors deserve further attention in future investigations. Finally, wide research, taking into consideration both contextual and individual factors, should also be conducted.

1.4.4. Preschool peer group relationships: Social acceptance and friendships

According to Hinde's definition (1976), relationships refer to the results of a series of interactions. During school year, children spend their time with peers and establish patterns of relationships.

1.4.4.1. Preschool peer group relationships: Social acceptance

To successfully examine children's relationships, sociometric assessment is applied extensively (Gifford-Smith & Brownell, 2003). The sociometric assessment is also useful when applied to peer relationships research at preschool age. Several studies suggest that the sociometric assessment is a valid, reliable method in preschool children (Olson & Lifgern, 1988; Riley,1995; Wu et al., 2001; Maassenn et al, 2004; Poteat, Ironsmith & Bullock, 1986). The base for this method is in children's peer nominations. Drawing on the nominations, researchers can identify children's social status, friendship ties, and children's social networks such as cliques (Gifford-Smith et al., 2003). Furthermore, even though a variety of sociometric methods does exist (Cillessen, 2009), results consistently show that sociometric status is concurrently and predictively related to children's social emotional and linguistic development (Diesendruck& Ben-Eliyahu, 2006; Tallandini et al., 2006).Generally speaking, a number of developmental trends emerged. Children rated as the most preferred by their peers are the highest in social cognition, emotional understanding (Diesendruck et al., 2006), positive emotion expression (Walker et al., 2009), sociability (Nelson et al., 2010) adaptive behaviours (Ciucci & Tomada, 1999) and positive peer interaction (Ironsmith & Poteat, 1990), such as cooperative play (Walker, 2009).

Most studies reveal that socio-emotional competence and peer acceptance are positively associated (Newcomb, Bukowski & Pattee, 1993; Walter & LaFreniere, 2000). Conversely, children

who are rated as the least preferred by their peers are higher in both aggressive and withdrawal behaviours (Rubin & Clark, 1983; Newcomb et al., 1993). Those two facets of social rejection seem to identify two different children's groups: the externalizing and the internalizing one. This first group of children shows a significant positive relation with non-cooperative, impulsive (Gomes & Livesey, 2008), hyperactive (Rydell et al., 2009), disruptive and aggressive behaviours (Rubin et al., 1983; Cillessen, 1992; Carpenter & Nangle, 2006; Estell 2007), both physical and relational (Nelson et al., 2009). The second group of children, characterized by internalizing problems, shows a behavioural inhibition. They are described as shy, reticent and withdrawn. Several studies document an association between withdrawal disposition and rejection by peers since preschool age (Coplan et al., 2004; Prakash & Coplan, 2007; Rubin, Coplan & Bower, 2009). Moreover, according to Ladd (2006) and Rydell and colleagues (2009), the withdrawal-rejected children are likely to exhibit high and increased levels of the internalizing issues at a later age. Furthermore, studies provide evidence that peers' rejection is a predictor of depressive behaviours in adolescence (Qualter et al., 2010). Thus, those findings emphasize the critical role that social relationships play at avoiding maladaptive child's development.

In addition, there is also a trend of research that addresses the role of social acceptance and rejection in relation to linguistic development at preschool age. Findings reveal a positive and strong relation between a high number of nominations and linguistic competence (Tallandini et al., 2006). For example, children's positive status is linked to high ability in conversation (Walker et al., 2009). Conversely, the line of research on children with linguistic impairments has established that they are at greater risk for rejection (Jerome, Fujiki, Brinton & James, 2002) (see also the linguistic competence section).

Such findings, when considered in a broader perspective, yield a comprehensive portrait of relations among sociometric status, social, emotional and linguistic competences.

1.4.4.2. Preschool peer group relationships: Friendships

A sociometric evaluation is also applied to study children's friendships. Among various models of friendship, a few common traits defining friendship dimensions at early childhood emerge, including voluntary and reciprocal liking, frequent proximity, offering of objects (Fujisawa, Kutsukake & Hasegawa, 2008). In addition, authors define friendships in reference to children's engagement in shared, distinctive, complex and coordinated play, especially pretend play, and when there is evidence of enjoyment and positive affect and trust (Howes, 1996; Buysse, Goldman, West & Hollingsworth, 2008; Santos, Vaughn & Bost, 2008).This kind of relationship

occurs since early childhood (Howes, 1996; Schneider, 2000) and young children seem able to identify this kind of relationship (Newcomb & Bagwell, 1995; Bombi, Di Norcia & Gangemi, 2008). The assessment of friendship bonds is often achieved using sociometric reciprocated nominations (Vaughn, Colvin, Azria, Caya & Krzysik, 2001). Social acceptance and friendship issues are conceptually distinct constructs (Bukowski & Hoza, 1989; Asher, Parkerand & Walker, 1996; Gifford-Smith et al., 2003). Whereas the first one refers to the degree in which children are liked or disliked by their peers, the second concerns a mutual choice between two children. According to that, it could be possible for popular children not to establish reciprocated friendly ties, whereas rejected children could establish reciprocated friendly ties, as observed in preschool and at later ages (Parker & Asher, 1993; Vandell & Hembree, 1994; Ladd et al., 1997; Gest et al., 2001; Asher & Paquette, 2003). Notwithstanding the conceptual differences between social acceptance and friendship, Sebanc and colleagues (Sebanc, Kearns, Hernandez & Galvin, 2007) found that peer acceptance, together with age and gender variables, predict friendship bonds.

Research on the relationship between social acceptance and friendship depicts a mixed picture. There are studies which provide empirical evidence of their interrelations, and there are other studies which show that they are unrelated (Mendelson, Aboud & Lanthier, 1994; Hoza, Molina, Bukowski & Sippola, 1995; Asher, Parker& Walker, 1996; Bigelow, Tesson & Lewko, 1996; Ladd, Kochenderfer & Coleman, 1997; Parker, Saxon, Asher& Kovacs, 1999; Brendgen, Little & Krappmann, 2000; Qualter & Munn, 2010). To address such discrepancies, more complex relations among variables should be taken into consideration. For example, Pedersen and colleagues (2007) suggest a sequential mediation model in which early behaviour problems are linked to middle-childhood peer rejection, which subsequently leads to a lower number of friends and lastly to internalizing issues at adolescence. In this view, the early behaviour problems lead to peer rejection, which constrains children's opportunities to establish friendships, with negative outcomes at later ages. This model is also consistent with Hay and colleagues' developmental model (2004) and with the most recent Calkins and Keane's model on the origins of antisocial behaviours (2009). Pedersen and colleagues' work (2007) also highlights the importance of studying both social acceptance and friendship in a developmental perspective. As described by Gifford-Smith and Brownell (2003), such constructs may play significantly different roles along the years. Children spend more time with their peers and their preferences for peers become more stable with age (Schneider, 2000; Tomada, 2000). Moreover, older children tend to give more importance to peer relationships (Berndt, 1981; Pitcher & Schultz, 1983; Berndt & Hoyle, 1985; Buhrmester & Furman, 1987). Their conception of friendship becomes more focused on internal characteristics over the years (Furman & Bierman, 1983). Similarly, the functions of friendship change with

development (Parker & Gottman, 1989; Gifford-Smith et al., 2003), even if it is well-established that friendship plays a critical role for children since preschool age. The functions of friendship encompass various aspects of children's life, first of all it is a significant factor in allowing children to achieve well-being (Baumgartner, 2008). According to Sullivan's theory (1953), friendship promotes the development of social skills, such as sensitivity to others, the developing of a child's self-concept and self-esteem, and it is also a predictive factor for later successful relationships with others. Moreover, friends provide emotional security (Furman & Burhmester, 1985; Berndt, 1989), to better cope with novelty, as for example a transition into a new school (Ladd & Kochenderfer, 1996; Berndt, Hawkins & Jiao, 1999), or to better cope with threats, i.e. being victims of bullying at school (Hodges, Boivin, Vitaro & Bukowski, 1999; Pellegrini, Bartini & Brooks, 1999; Schwartz, Dodge, Pettit & Bates, 2000). In particular, an increasing number of studies offers evidence of the protective factor of friendships against peer victimization. Preschool children able to establish friendship ties are less at risk for concurrent and later peer victimization (Lamarche, Brendgen, Boivin, Vitaro, Pérusse & Dionne, 2006; Perren & Alsaker, 2009; Reavis, Keane & Calkins, 2010). More recently, Bukowski (2001) proposed that friendship may also have two other functions: developing learning skills (Kutnick et al., 2005) and, consistent with Corsaro's works (Corsaro, 2003; Corsaro & Rizzo, 2008), shaping peer groups' behaviours, establishing a normative culture.

In relation with these findings, there is a general agreement among authors concerning the relationship between friendship and social competence. Bornstein, Hahn and Haynes (2010) linked the ability to retain close friendships with social acceptance, to create an index of social competence in early childhood. There is evidence that differences in friendship throughout early childhood predict later social competence. In particular, children who experience isolation across the years are more likely to exhibit high rates of externalizing behaviours (Witvliet, van Lier, Cuijpers & Koot, 2010).

Another line of research investigated the concurrent and predictive role of social competence on making and keeping friendships. As Rubin and colleagues argue (Rubin et al., 2006), a broad spectrum of interpersonal skills is requested, including social, emotional and social-cognitive competences, in order to establish and maintaining friends. To make friends, children need to exhibit self-regulation, perspective-taking, the ability to understand the intentions and emotions of others, to initiate interaction (Gresham, 1986; Vaughn, Colvin, Azria, Caya & Krzysik, 2001), communicative skills and problem-solving abilities (Cassiba, Balenzano & Elia, 2008). Drawing upon this framework, for example, Mendelson and colleagues (1994) found that a high level of social competence predicts a high level of same-sex friendships. Lindey (2002) provides evidence that children with at least one reciprocal friend are rated by teachers as being more competent. Also,

Vaughn and colleagues (Vaughn et al., 2000; Vaughn, Colvin, Azria, Caya & Krzysik, 2001) demonstrated that children with a higher number of reciprocal friends exhibit higher levels of social competence. On the other hand, such findings, concerning the relationship between low social competence – i.e. disruptive behaviours or relational aggression – and low rates of friendship, are not always consistent (Burr, Ostrov, Jansen, Cullerton & Crick, 2005; Johnson & Foster, 2005).

The relationship between friendship and emotional competence, and the relationship between friendship and linguistic skills are less frequently studied in the literature. Even though the affective dimension of friendship relationships is acknowledged, less attention is paid in that direction. An important contribution to address this issue came from Denahm's works (2006; 2007). According to the author's model, the emotional expression of positive affect plays a significant role in initiating and supporting the interactions, which, in turn, lead to a higher amount of friends (Denham, McKinley, Couchoud & Holt, 1990). Those findings are consistent the Dunsmore and colleagues' study (Dunsmore, Noguchi, Graner, Casey & Bhullar, 2008). Those researchers found that preschool girls with high ability at sending emotional communication have more reciprocated friends. By contrast, children with high emotional expression of negative affect, as anger, may be rejected by peers and remain without friends (Denham et al., 1990).

Moreover, the relationship between friendship and linguistic skills has also been investigated (Buysse et al., 2002). In particular, this relationship was studied mostly in children with linguistic impairments. Most studies found that children with linguistic impairments are likely to establish fewer friendships than their typically-developing peers (Guralnick, Connor, Hammond, Gottman & Kinnish, 1996; Guralnick et al., 1998; Buysse et al., 2002; Hall & Strickett, 2002).

Therefore, friendship seems to play a crucial role in children's socio-emotional development and the relationship between those variables appears to be important to achieve a successful school adjustment (Ladd, Kochenderfer & Coleman, 1996). Finally, it should be noted that, although social acceptance, friendship and social and emotional competences are viewed as stable across time, teachers can play a significant role in changing children's preferences, supporting friendships, and promoting social and emotional skills among peers (Bierman et al., 2008; Izard et al., 2008; Hollingsworth & Buysse, 2009; Solish et al, 2010).

Although social, emotional and linguistic competences represent main topics in the studying of friendship, an additional issue of particular interest is similarity. The "Similarity or homophily theory" refers to the cross-cultural principle that "likes attract" (Suitor & Keeton, 1997). "Similarity or homophily theory" describes the tendency of people with similar traits to interact and affiliate with each other. Results reveal that this phenomenon has various forms and it is found consistently in childhood and adolescence subjects (Kandel, 1978; Fisher & Bauman, 1988; Hamm, 2000).

In addition, similarity can refer to a broad spectrum of domains, including demographic variables, such as gender, ethnicity and religion (Kandel, 1978; Tuma & Hallinan, 1979; Hamm, 2000); it can also refer to beliefs, or "value homophily", when people feel supported in their opinions, when they are surrounded by others who share the same beliefs (Lazarsfeld & Merton, 1954). Moreover, it can also refer to cultural backgrounds, or "status homophily", when people feel comfortable in interacting with others who share a cultural background (Lazarsfeld et al., 1954). Furthermore, it can refer to self-regulating learning (Jones, Alexander & Estell, 2010), academic motivation and performance (Kindermann, 1993; Ryan, 2001; Altermatt & Pomerantz, 2003, 2005; Kindermann, 2007), and to a variety of social development aspects.

In particular, this psychological tendency has been studied in relation to friendship. McPherson and colleagues (McPherson, Smith-Lovin & Cook, 2001) describe the friendship homophily phenomenon as the principle that contact between similar people occurs at a higher rate than among dissimilar people. For example, Rubin, Coplan and Bower (2009) include homophily friendship in their social withdrawal transactional model.

Several authors provided the theoretical framework for similarity- homophily tendency. For example, Byrne (Byrne, 1971; Byrne, Gouaux & Griffitt, 1971; Byrne, 1997) designed the Interpersonal Attraction Model for Friendship, in which he argued that the trigger of attraction is the similarity among people (Newcomb, 1961). More recently, the Social Cognitive Theory called attention on the homophily tendency. This was suggested in order to explain why people perceived others as similar to them, and they are also more likely to pay attention and be influenced by them (Bandura & Walters, 1963). In this view, the conceptual principle is that children learn about their social worlds and how to behave within contexts through the direct and indirect observation of people's actions, in particular when the others are their peers (Bandura & Walters, 1963). This socialization process among peers can lead both to positive and negative developmental trends. In particular, a growing amount of research is conducted on antisocial trends in adolescents, also labelled as "peer contagion" (Dishion & Dodge, 2005). Similarly, Kandel (1978) in his study on friendships refers to the homophily as including two processes: socialization and selection. The first one happens when the members of a peer group learn, share and model their behaviours from each other. The second occurs when individuals seek out people similar to them, and peer groups seek out individuals with similar attributes. The authors describe such processes as interdependent, it seems that both contribute to the homophily. Initially, children select individuals who tend to be similar on key traits or behaviours, and they socialize, so there is an increasing degree of similarity (Kerr, Stattin & Burk, 2008). Poulin and Boivin (2000) confirmed this interdependent model only partially, their results on the proactive aggression at later ages support only the selection process but

not the socialization. According to the selection principle, the origin of friendship is similarity. On the other side, the lack of similarity, the "dissimilarity" seems to be the antecedent of enmity and dislikes. In this view, results reveal that dissimilarity for social status and behaviours are significantly associated with antipathies and dislikes across studies, even with gender differences (Nangle, Erdley & Gold, 1996; Nangle, Erdley, Zeff, Stanchfield & Gold, 2004; Laursen, Bukowski, Nurmi, Marion, Salmela-Aro & Kiuru, 2010). In particular, the authors underline that the homophily can be objective or subjective. Findings show that the perceived similarity, rather than the objective similarity, is predictive of interpersonal attraction (Montoya, Horton & Kirchner 2008). Finally, although research on the similarity - homophily theory indicates that this tendency changes over time, it is unclear whether it increases or decreases (Montoya et al., 2008).For example, Newcomb and colleagues (1999) report that the homophily friendship increases over the years. On the other hand, according to the "contact hypothesis", an increase in opportunities to meet others might enhance the degree of acceptance and the relative decrease of similarity (Allport, 1954; Sippola, Bukowski & Noll, 1987).

Research investigated the homophily friendship in relation to both demographic variables, such as gender and social status, and behavioural features. In particular, concerning the gender issue, children's preference in playing with same-sex playmates can be explained by the similarity – homophily hypothesis. Actually, the sex segregation tendency is well-documented since the first ethological studies (LaFreniere, Strayer & Gauthier, 1984), even though research provides evidence that girls and boys have a different experience of friendships. Specially, concerning gender differences, one study reports that girls have more friendships at later ages (Berndt & Hoyle, 1985), in particular if they are emotional competent (Dunsmore, Noguchi, Graner, Casey & Bhullar, 2008). Moreover, those friendship ties seem to be more intimate than boys' friendships at later ages (Furman & Buhrmester, 1985). Despite such differences, sex-segregation characterizes the social development of both girls and boys (Hoffman & Powlishta, 2001; Fabes et al., 2003; Fabes, Martin & Hanish, 2004; Martin et al., 2005; Munroe & Romney, 2006; see for a review Mehta & Strough, 2009). Sex-segregation occurs more frequently with boys rather than girls (LaFreniere et al., 1984; Barbu, 2003). On the other hand, sex-segregation decreases when there is an unbalanced distribution in the number of female and male pupils (Maccoby & Jacklin, 1987; Leaper, 1994; 2000). Research also documents a decrease when children get older (De Guzman, Carlo, Ontai, Koller & Knight, 2004). Children attracted by same-sex groups manage to be accepted easier in same-sex groups than in other-sex groups (Ramsey et al., 1996). Although same-sex friendships occur more frequently, also mixed-sex friendships can be observed since preschool years (Howes, 1988).

The authors who compared those two kinds of friendship, the same-sex versus the mixed-sex one, found different results in relation to children's age. Research on school-age children offers evidence that mixed-sex friendships of children predict antisocial behaviours, while same-sex friendships predict higher social acceptance (Ladd, 1983). Results revealed that children with ahigher amount of mixed-sex friends are rated as less socially competent and less preferred by peers (Ladd, 1983; Sroufe, Bennett, Englund, Urban & Shulman, 1993). Those patterns of results are consistent with the findings of Kovacs (Kovacs, Parker & Hoffman, 1996) and colleagues for children with primarily mixed-sex friends at elementary school. According to Kovacs and colleagues, although children with a higher number of mixed-sex friends are less stereotyped about sex roles, they exhibit lower social competence in comparison to children with a lower number of mixed-sex friends. They are rated as better adjusted than children with no friends. Finally, children with primarily same-sex and secondarily mixed-sex friends exhibit a similar degree of social adjustment in comparison to children with only same-sex friends. Recently, Frazier and colleagues (Frazier, Atkins, Olson & Lyon, 2008) described a mixed picture of results at later ages. Children with mixed-sex friends are classified with antisocial behaviours, even if unexpectedly both same-sex and mixed-sex friendships predict social competence. Considerably less is known about behavioural, affective and linguistic competences of children with higher mixed-sex friends, in comparison to the great extent of research on the broad issues of friendship and social competence, especially in relation to preschool age.

Regarding preschool age, Howes (1988) finds that mixed-sex friends engage in more cooperative play and are more socially skilled than others. Vaughn and colleagues (2001), documents a different pattern of findings in comparison to Howes' findings (1988). They report that mixed-sex dyads exhibit a significantly lower positive initiating of interaction across ages. Martin and colleagues (2005) indicate that same-sex interactions provide both the neutral and the positive affective states, whereas the mixed-sex interactions are characterized by a range of multiple affective states, from positive to negative. In particular, for girls the mixed-sex interactions seem to be portrayed as more negative. Those recent studies notwithstanding, presently little is known about mixed-sex friends at preschool, and also about the features of children who establish such kinds of ties. In particular, in the literature it is not clear whether children with a high number of mixed-sex friends are more likely to be rated as socially competent. Especially at preschool age, when the sex-segregation is well-documented, children who do not follow this tendency should be more studied.

Regarding the behavioural features of the friendship homophily at later ages, research focuses on: withdrawal behaviors, peer victimizations, aggressive and prosocial behaviors and social competence (Kurdek & Krile, 1982; Kupersmidt, DeRosier & Patterson, 1995; Haselager,

Hartup, van Lieshout & Riksen-Walraven, 1998; Werner & Crick, 2004; Rubin, Wojslawowicz, Rose-Krasnor, Booth-LaForce & Burgess, 2006; Romero & Epkins, 2008). Moreover, as aforementioned, the friendship similarity hypothesis concerns also the tendency for children to like and be friend of others who are similar to themselves in terms of behaviours. Such tendency can lead both to children's positive adjustment and to children's maladjustment. A line of research reports that friends are similar for sensibility, sociability, prosocial tendency, group acceptance, play style and play complexity at later ages (Poulin et al., 1997; Haselager et al., 1998; Rubin et al., 2006; Newcomb et al., 1999; Gest et al., 2001; Gifford-Smith et al., 2003).

In addition, although the friendship is typically connected with positive peer relationships, authors indicate that children with externalizing or internalizing problems are more likely to become friends of children with similar problems (Kupersmidt et al., 1995). Some authors describe this tendency for withdrawal, shy, depressive and victimized children at school age (Poulin et al., 1997; Haselager et al., 1998; Newcomb et al., 1999). Other authors also observe this tendency for antisocial behaviour, such as aggression, since preschool age (Farver, 1996; Snyder, Horsch & Childs, 1997; Linsey, 2002; Estell, 2007). In a consistent way, research also provides evidence for the antisocial trajectories. Children without interpersonal skills tend to be rejected by social competent peers; as a consequence, they establish relationships with other deviant peers, and this is also referred as the default selection theory (Van den Oord, Rispens, Goudena & Vermande, 2000; Sijtsema, Lindenberg & Veenstra, 2010). Moreover, this situation can lead to the lack of opportunity to develop their social skills at later ages (Gagnon & Nagle, 2004), and concurrently it might conduct to an increase of the antisocial tendency (Dishion, Andrews & Crosby, 1995). In this way, it is likely that children engage in bullying at the end of this negative developmental trajectory (Boulton & Smith, 1994; Bukowski & Sippola, 2001). This model is also partially confirmed for preschool age. Children who are rejected by peers are likely to also be aggressive (Wood, Cowan & Baker, 2002; Keane & Calkins, 2004; Nelson, Robinson & Hart, 2005), even if this result is not always consistent in the literature (Phillipsen, Bridges, McLemore & Saponaro, 1999). Moreover, children who exhibit aggressive behaviors tend to affiliate with each other (Farver, 1996; Snyder, West, Stockemer, Gibbons & Almquist-Parks, 1996; Snyder et al., 1997; Hanish & colleagues; 2005), with bullying consequences (Tapper & Boulton,2005).

In addition to the externalizing problems, behavioral traits studied at preschool age included: social competence, temperamental aspects such as the soothability and the impulsivity (Gleason & colleagues, 2005).

Despite evidence of a similarity tendency at a later age, Vaughn and colleagues (2001) fail to find the similarity tendency for social competence in preschool friend dyads, which is probably

due to the method used in order to operationalize the social competence construct. On the other hand, Gleason and colleagues' (2005) findings are consistent with the similarity-homophily tendency. In particular, they investigated the choices of friends on the base of similarities for gender and some temperamental aspects. According to Gleason and colleagues (2005), children who are friends show similar gender, soothability, impulsivity, and they also found a relation between gender and level of activity. Girls choose friends with low activity level, whereas boys choose friends with high activity level. Although the temperamental dimensions, such as impulsivity and soothability are important for children's personality, a broader study which takes into consideration those dimensions together with social, emotional and linguistic competences should be conducted, especially as far as preschool age is concerned.

Chapter 2. Study 1 - Peer groups in preschool settings: Peer's social experience in child and teacher led contexts[1]

Abstract

Group experiences with peers and with teacher have been considered crucial since early childhood. This study investigated the kind of social experience in groups of children (N = 120, 61 males and 59 females) at preschool age (M age = 52.19) in 5 Italian schools. Through the use of mapping methodology (45 mappings child led and 45 mappings teacher led), 443 groups were observed in the two contexts. Results revealed that the two contexts were differentially associated with the sizes of groups, the gender affiliation, and the interaction and the role of teachers. In child led contexts children were more likely to be alone, in dyads, and in small peer groups; moreover, the groups were characterized by same-sex playmates engaged in joint interactions and with few social interactions with teachers. In teacher led contexts, children were more likely to be involved in small, medium groups and in large groups; in addition, the groups were characterized by other-sex playmates and involved parallel interactions with teachers playing a more active role. Implications for policy and research were discussed.

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2.1. Introduction

Social experience with peer groups at preschool is a key factor in children's social development (Harris, 1995; Hartup, 1996; Rubin, Bukowski & Parker, 2006). Children's activities with peer groups can improve several of their social and cognitive skills (Ladd, 2005) or negatively affect their social behavioural outcomes (Hanish, Martin, Fabes, Leonard & Herzog, 2005). In the preschool setting, children are exposed to a wide variety of social experiences, from staying alone to spending time in groups (dyads, small groups, medium groups and large groups). In particular, such groups are embedded within two main frames: child led activities and teacher led activities (Blatchford, 2003; Winsler & Carlton, 2003; Larson, Walker & Pearce, 2005; Kutnick, Genta, Brighi & Sansavini, 2008a). The key factor differentiating the two frames consists in the person who chooses and leads the action: children versus teachers (Wishard, Shivers, Howes & Ritchie, 2003; Walsh, Sproule, McGuinness, Trew, Rafferty & Sheehy, 2006; Kutnick et al., 2008a). In agreement with much of the literature, child led activities correspond to free play and peer play, which are not directly organised by teachers as a learning aid. In those contexts children freely choose what to do and with which peers they want to spend their time. Conversely, teacher led activities concern the teacher's pedagogical efforts to organise the pupils' learning activities and play (Layzer, Goodson & Moss, 1993; Wiltz & Klein, 2001; Early, Iruka, Ritchie, Barbarin, Winn & Crawford, et al., 2010). In teacher led contexts, children can be engaged with the entire class in activities chosen by their teacher, or they can participate in small groups, working with peers, or working individually. This difference depicts two different social contexts: child led and teacher led contexts. As noted by Bronfenbrenner in the *Ecology of Human Development Theory* (1979), the social context plays a key role in influencing children's behaviour. Mainly, the author defines those social frames as complex "layers" of environment, each having an effect on children's development. In line with the bioecological Bronfenbrenner's model, school represents a "microsystem", which is the closest layer to children, containing structures with whom the child has a direct contact (Bronfenbrenner & Morris, 1998; Blatchford, Bassett & Brown, 2005). At the microsystem level, in comparison to other levels, the influences on children are the strongest and have the greatest impact on a child.

In particular, those two contexts exert a very relevant influence on children's social behaviour. Regarding to child led social contexts, Hanish and colleagues (Hanish et al., 2005) have found externalizing peer exposure effects due to a "peer contagion" process. About teacher led contexts, Pianta and colleagues have showed how teacher-child interactions and relations affect

children social skills (Pianta, 1999; Burchinal et al., 2008; Griggs, Gagnon, Huelsman, Kidder-Ashley & Ballard, 2009).

We can expect that the two contexts involve different daily interactional dynamics in peer groups and are fostering different developmental experiences for preschoolers. Despite growing results indicating the importance of child and teacher led contexts, there are few investigations that compare the two contexts and their effects on children's life in a group (Powell, Burchinal, File, & Kontos, 2008). In this view, the aim of this study was to investigate how the social experience of children is affected by the two contexts. Presently, little is known about the effects of child led versus teacher led contexts on children group behaviour, in terms of group size, affiliation according to gender, interactions and teacher's role. Particularly, this study examined how the two social contexts, child and teacher led, affect children social behaviour, while keeping into account the number of participants per group, the size of the group (dyad, small group: 3-5 children, medium group: 6-10 children, large group: 11-26 children), the affiliation in the group according to gender (same-sex vs. mixed), the kind of interactions (parallel vs. joint) and the role of teachers in peer groups (not presenting, observing, introducing, directing, acting, responding to children). In order to better understand the relation among those variables, at first we provide a review of the literature concerning the importance of peer groups and a description of their life in the two contexts with respect to: size of the group, gender group composition, interactions and role of the teachers.

2.1.1. The importance of peer groups in child and teacher led contexts

The crucial role of peers in child development has been underlined both in child and in teacher led contexts. Peer groups have been mostly studied in adolescence, although several authors have underlined that the group is a core theme since early ages (Rubin, Bukowski & Laursen, 2009). With regard to child led contexts, peer groups in early childhood have been mostly investigated by observational studies during free play in naturalistic settings, i.e. the ethological studies (Blurton-Jones, 1972; McGrew, 1972; Strayer & Strayer, 1976; Strayer & Santos, 1996; Barbu, 2003). Thanks to the ethological and evolutionary approaches, social behaviours of peers in early childhood have been well documented: play, social dominance, aggression and altruistic behaviour (Hartup, 1983; Hawley & Little, 1999; Pellegrini & Bartini, 2001; Hawley, 2003; Pellegrini, Long, Roseth, Bohn & Van Ryzin, 2007; Roseth, Pellegrini, Bohn, Van Ryzin & Vance, 2007; Genta & Mazzanti, 2009).

Moreover, it has been observed that social behaviours can be learned by other peers through a process of "peer contagion" (Dishion, McCord & Poulin, 1999; Hanish et al., 2005; Steenbeek & van Geert, 2007; Snyder et al., 2008; Morrissey, 2010). Evidence of this process is provided by the theory of social learning (Bandura, 1973) and more recently by Steenbeek and van Geert's (2007) dynamic systems models of children interaction.

Several authors have found peer contagion for aggression and externalizing behaviours (Goldstein, Arnold, Rosenberg, Stowe & Ortiz, 2001). Strictly linked to peer contagion, researchers found another process that can increase the risk for deviant behaviour: coercive interaction. In this process, children were engaged in high rates of aggressive behaviour, subsequently evoking counter-coercive behaviour by peers (Coie, 1990). This can lead preschool children into a negative spiral of rejection and aggression, and finally to develop antisocial behaviour, overt and covert conduct problems at a later age (Coie & Miller-Johnson, 2000; Hanish et al., 2005; Snyder, Schrepferman, Oeser, Patterson, Stoolmiller, Johnson et al., 2005).

On the other hand, peers can be a powerful resource for children's positive development (Steenbeek & van Geert, 2008; Downer, Booren, Lima, Luckner & Pianta, 2010). As highlighted by Harris (1999) and Lewis (2005), peers can play the role of attachment figure when parents are missing, and they can help tackling the issue of parents' separation. In addition, research offers evidence that children with friends are more altruistic (McGuire & Weisx, 1982), emotionally supportive (Hughes & Dunn, 1998) and socially skilled (Vaughn et al., 2000). Ladd (1990) has found that having friends has a positive and supportive function, and it is a predictor for children early academic adjustment. Likewise, being socially competent and having positive interactions are predictors of school success (Ladd et al., 2006). Also about children's linguistic development, there is a growing acknowledgement of the importance of peers (Mashburn, Justice, Downer & Pianta, 2009). Lastly, the crucial role of peers for children development has been well documented by literature reviews on this topic (Ladd, 1999; 2005; Gifford-Smith & Brownell, 2003; Hay, 2004; Kupersmidt & Dodge, 2004).

With regard to teacher led contexts, the role of peers and their interactions are increasingly emphasized as key factors for kindergarteners' learning. Child-child relationships are essential for a child's positive cognitive growth during learning activities (Light & Littleton, 1994; Salonen, Vauras & Efklides, 2005). As highlighted by a long line of international research on the assessment of quality in child care centers, the quality of children's interactions with peers has been taken into consideration (Burchinal et al., 2000; Peisner-Feinberg et al., 2001; Burchinal, Peisner-Feinberg, Pianta & Howes, 2002; Sylva et al., 2006; LoCasale-Crounch et al., 2007; Howes et al., 2008; Raver et al., 2008).

Children's interactions have been evaluated by several measurements as important process variables in center quality assessment. Center quality has been evaluated with the Revised Edition of Early Childhood Environment Rating Scale (ECERS-R) (Harms, Clifford & Cryer, 1998), and also through the Classroom Assessment Scoring System (CLASS) (La Paro, Pianta & Stuhlman, 2004). For instance, in the ECERS-R the teacher's ability in encouraging children to communicate, and in using language to develop reasoning skills are evaluated, as well as the presence of dramatic play, which is an important index of positive peer interaction. Likewise, the CLASS measure evaluates the teachers' strategies to develop children's thinking skills, problem-solving and integration, as well as the teachers' use of groups. Furthermore, the CLASS evaluation assesses the emotional climate of the classroom, showed during interactions among children and also between teacher and children.

In particular, regarding the teacher-child relationship, there are consistent results across such studies which indicate that the quality of teacher-child relationships at kindergarten is predictive of children's social and academic outcomes at later ages (Lamb, 1998; Howes et al., 2000; Peisner-Feinberg et al., 2001; Burchinal et al., 2008; Lisonbee et al., 2008; Howes et al., 2008; Rudasill & Rimm-Kaufman, 2009). Those results are confirmed also when controlling for teacher-child ratio, teacher qualification and teacher learning programs (Early et al., 2006).

Moreover, even if teacher-child relationships have a well acknowledged role, there is a series of studies indicating that in presence of teachers children's interactions with peers are less frequent (Kontos & Keyes, 1999) as well as interactions with peers and objects (Kontos & Wilcox-Herzog, 1997; Kontos, Burchinal, Howes, Wisseh & Galinsky, 2002). Kontos and colleagues found that the complexity of children's interactions with peers and objects is higher when the teacher is absent, for all the activities (Kontos et al., 2002; Kontos & Keyes, 1999). Also McWilliam and colleagues (McWilliams, Scarborough & Kim, 2003) have found contrasting results about the effect of teacher's presence during children's activity, and it is not clear whether it has influence on children's level of engagement. Innocenti and colleagues (1986) have found that the interaction of a child with his/her teacher delayed peer interaction by that child in any activity context. As confirmed by Harper and McCluskey (2003), the more time children spent with teachers, the less they spent with peers in free play. Coplan and Prakash (2003) also found that children who spent less time with teachers were more sociable and had fewer behaviour problems and less solitary play. Conversely, children who spent more time with their teachers were more aggressive, shy and anxious. For example, concerning the development of planning skills and coordinating plans with others, a study has shown that child rather than teacher led contexts are more likely to elicit planning themes and details in playing, thus achieving a higher cognitive performance (Baker-

Sennett, Matusov & Rogoff, 2008). Since teachers were trained to promote thinking and planning among peers, in a different way from parents or grandparents, it would be advisable that this last finding was confirmed in a preschool setting.

To sum up, more in-depth research is necessary because of the complexity of the relations among teacher's presence, teacher's characteristics, size of children's group, children characteristics, level of interactions (Powell et al., 2008). Notwithstanding the previous results, to date research is mainly addressed to teacher-children relationships, while little attention has been directed to child-child relationships and interactions, to pupil groups and their effects on children's development and learning (Kutnick, Ota & Berdondini, 2008b; Kutnick & Berdondini, 2009).

The studies on peers' roles in learning have been mostly focused on later ages rather than on preschool age (Larson, Walker & Pearce 2005; Baines, Blatchford, Kutnick, Chowne, Ota & Berdondini, 2008), even if a curriculum which provides to children the opportunity to work together cooperatively is recommended since early childhood (Johnson & Johnson, 2003; Littleton, Miell & Faulkner, 2004; Kutnick et al., 2008b; Kutnick & Berdondini, 2009). Indeed, studies focused on a cooperative pedagogical approach have offered evidence of a promotion of cognitive development, of an increased motivation to work with others, and of better preschool academic skills (Aronson & Patnoe, 1997; Cohen, 1994; Gillies & Ashman, 2003). Children who work together collaboratively in groups show a higher skill in perspective-taking, communicative interactions, and problem-solving reasoning (Perret-Clermont, 1980; Doise & Mugny, 1984; Light & Littleton, 1994; Howe & Tolmie, 2003; Kutnick et al., 2008b; Kutnick & Berdondini, 2009).

The above findings are consistent with theories in developmental and educational psychology, such as the Vygotskian theory, which acknowledges the key role of peers for social and cognitive children's development (Vygotsky, 1978; Azmitia, 1988). In this view, learning is seen as a social and joint construction of knowledge, like a result of the active participation and engagement of the individual in interactions. This process occurs when children are involved in activities guided by the teacher or by more competent peers (Rogoff, 1990).

Thanks to the Neo-Piagetians studies on mutual peer interaction during problem-solving tasks, the concept of socio-cognitive conflict has been highlighted. Those authors have shown how the socio-cognitive conflict can advance children cognitive development (Perret-Clermont, 1980; Doise & Mugny, 1984; Damon & Phelps, 1989). Peer conflicts involve social and cognitive components, which encourage children to develop perspective-taking skills, social reasoning, and more generally to promote their social competence.

A recent theoretical approach who connects the Neo-Piagetian and Neo-Vigostkian theories with the modern psychology theories as social learning theories, is the Social Relational Theory

developed by Peter Kutnick (Kutnick & Manson, 1998). In this perspective, social relationships among children are essential, since they provide a social pedagogical context of trust, mutual support and communication. This socio-relational context projects positive effects on children's socio-cognitive capacities (Kutnick & Mason, 1998; Kutnick et al., 2008a; 2008b; Kutnick & Berdondini, 2009). As argued by Bruner (1985), a more competent peer can be a scaffolding supporter for a child's learning.

2.1.2. Peer groups in child and teacher led contexts

Given the growing body of research indicating that preschool settings have been a powerful mean to increase school readiness in children, it becomes essential to study children's social experience at preschool (Barnett, Hustedt, Robin & Schulman, 2004; Howes et al., 2008). Since research has highlighted the importance of assuming a contextual perspective in the studying of early childhood settings (Wishard, Shivers & Howes, 2003; Howes et al., 2008; Powell et al., 2008), it is necessary to investigate it within the two contexts in which it is embedded, in order to deeply understand children's social experience.

Relatively limited research exists on the extent to which contextual influences (children versus teacher led contexts) shape the size of the group, as well as the affiliation according to gender, the kind of interactions and the role of teachers (Kontos & Keyes, 1999; Wiltz & Klein, 2001; Kontos et al., 2002; Kutnick et al., 2008a; Mazzanti, Guarini, Sansavini, Brighi & Genta, 2008; Powell et al., 2008).

2.1.2.1. Size of groups

Even if children spend most of their preschool time within different group configurations, there are few investigations on the size of groups in general and on the differences between teacher and children contexts (Kutnick et al., 2008b; Powell et al., 2008). As noticed by Powell and colleagues (Powell et al., 2008), research on groups at early childhood tend to divide children's group into two main categories: small groups (for example dyadic) and large groups (whole class groups) (Kontos & Keyes, 1999). However, recent research has observed that the size of children's groups can vary from child alone, to dyads, to small groups (4-6 children), to large groups (10-15 children) and to the whole class (Kutnick et al., 2002; 2008a). Recently, Powell and colleagues (2008), using another group categorization, have found that children in child led contexts spend most of their free play in groups of peers (59%), rather than in groups with teachers (26%) or alone (6%). On the other hand, in teacher led contexts they spend most of their time in whole groups

(53%), rather than in small groups of peers only (25%) or large groups with teachers (14%). In child led contexts, children choose to stay with peers, while in teacher led contexts children are more engaged in large or whole class configurations.

Until now, in the educational literature, during academic activities small groups have been preferred in comparison to large configurations, because they allow teachers to pay attention in a more individualized way and thus to better promote children's social and cognitive development (Harms, Clifford & Cryer, 1998). Slavin (1995) has suggested also that small groups allow children to better share their ideas and strategies to solve learning problems. For example, a longitudinal study on preschoolers has shown that the whole groups in teacher led contexts are predictive of lower linguistic and cognitive performances at age 7 (Monties, Claxton & Lockhart, 2007). This finding is supported also by Powell and colleagues (2008) with regard to teacher led contexts, in a study which showed that in whole group configurations children are less actively engaged (talking or acting). Interestingly, in that study there is no relation between teacher's behaviours and children's group size. Indeed, teachers tend not to ask questions or promoting conversation with and among peers.

Such findings are also confirmed by other studies which documented that small groups, typical of home-base care for infants and toddlers, are more developmentally appropriate than large groups, which are characteristics of care centers for preschool-age children (Loeb et al., 2004; 2007; Dowsett et al., 2008). A small group is seen as a context with low level of social stimulation and thus it is more appropriate for young children (Watamura, Donzella, Alwin & Gunnar, 2003). For example, a study of children's interpersonal atmosphere has highlighted that the lower the number of group members (as in dyads), the lower is the occurrence of negative interpersonal relationships, as for example competitive behaviours (Benenson, Nicholson, Waite, Roy & Simpson, 2001).

Despite those findings, some research has stressed that large peer groups are more appropriate for preschool-age groups (Langlois & Liben, 2003) because they help children develop skills that are necessary in kindergartens. Recently, Morrissey (2010) has found that toddlers can improve their cognitive gain attending home-based care, where peer groups are smaller, while preschoolers develop their abilities in center-based care, with larger peer groups. Considering all those studies, a relation between the size of groups and the interactions seemed to emerge and such a relation is still relatively under-explored.

2.1.2.2. Group composition according to children's gender

Research indicated that there is a relation between the size of groups and the gender of group members. According to several studies, since infancy to early childhood females tend to choose groups with a lower number of members, compared to males (Benenson, 1993; Ruble & Martin & Berenbaum, 2006; Benenson, Markovits, Muller, Challen & Carder, 2007). Most of the studies on the gender of children's group members have been run during free play. Indeed, a long line of research documented, since preschool age, the presence of same-sex groups in child led contexts (Blurton-Jones, 1972; McGrew, 1972; Strayer & Santos, 1996; Maccoby, 1998; Martin & Fabes, 2001; Barbu, 2003; Martin, Fabes, Hanish & Holleinstein, 2005; Mazzanti et al., 2008). For example, Martin and Fabes (2001) noted that children spend over half of their interactions with same-sex peers. This gender bias is a cross-cultural trend (Munroe & Romney, 2006), and is stronger in boys than in girls (Barbu, 2003; Pellegrini, Long, Roseth, Bohn & Van Ryzin, 2007). However, in some studies gender-segregation appears earlier in females than in males (LaFreniere, Strayer & Gauthier, 1984; Barbu, Le Maner-Idrissi & Jouanjean, 2000). Some studies have also posited that gender-segregation is more frequent in homogeneous age groups than in mixed-age groups (Roopnarine et al., 1992; Winsler, Caverly, Willson-Quayle, Carlton, Howell & Long, 2002). On top of that, other studies have reported that this tendency increased along time, as at the end of the school year (Barbu, 2003; Winsler et al., 2002).

Research in teacher led contexts has found that there is a lower degree of gender-segregation than in child led contexts (Ellis, Rogoff & Cromer, 1981; Winsler et al., 2002; Carpenter, Huston, & Holt, 1986; Maccoby & Jacklin, 1987; Kutnick et al., 2008a; Mazzanti et al., 2008). Indeed, when children interact spontaneously with their peers, as in free play, they choose to interact with same-sex peers (Early et al., 2010; Thorne, 2001).

It is particularly interesting to see how the gender composition of peer groups affects the interactional and behavioural style. The literature has reported that same-sex groups of girls engage in more intimate social interactions, in turn-taking, exchanging more information and cooperative interactions. On the other hand, groups of boys appear more aggressive and competitive than girls (Eagly, 1987; Leaper, 1994; Lansford & Parker, 1999; Green & Rechis, 2006). Consistently with those findings, differences were also found in an experimental study on children's behaviour in low resource settings (Charlesworth & Dzur, 1987); the authors have reported that girls use more verbal strategies and boys more physical strategies to gain access to resources. On the contrary, some studies have not found significant differences concerning the gender of the group members. Green and colleagues (Green & Rechis, 2006) suggested that this can be explained by taking into

consideration children's degree of familiarity: in fact, when children were familiar those differences occurred more often.

Considering all the previous studies, gender appears as a crucial factor in shaping the social ecology of children (Fabes, Hanish & Martin 2007). The social experience to which children are exposed at preschool is strictly linked to children's group composition, and also to the gender composition of the classroom (Moller, Forbes-Jones, Hightower & Friedman, 2008). As a consequence, a more careful examination of the role of gender composition in children's groups within both contexts (child versus teacher led context) is necessary.

2.1.2.3. Interactions among peers

In preschool settings, children's group interactions can unfold in different ways (Howes & Matheson, 1992; Howes 2000). As Howes' studies have suggested (2000), classrooms provide for different levels of peer interaction complexity. There are classrooms in which children spend most of their time in complex and sustained social pretend play games, while in others they are more engaged in parallel activities with materials (Howes & Matheson, 1992).

Researchers have highlighted different conceptual components of peer social interaction, such as engagement (Steenbeek & Van Geert, 2008) or communication (Fogel & Branco, 1997; Mercer, 2000; Branco & Valsiner, 2004; Stanton-Chapman, Kaiser & Wolery, 2006). The authors have also employed several measures to assess peer interaction in free play, with different categorizations of peer social interactions: Revised Peer Play Scale (Howes & Matheson, 1992), PIPPS-T (Fantuzzo & Hampton, 2000), POS (Rubin, 2001), inCLASS (Downer et al., 2010)

Despite the differences, two main categories of social interactions among peers were noticed: parallel and joint interactions (Parten, 1932; Howes & Matheson, 1992; Rubin, 2001; Rubin et al., 2006; Kutnick et al., 2008a). A parallel interaction is when the child was in the proximity of another child and engaged in a similar or the same activity, even though the two children were not sharing a common goal. A joint interaction occurs when the child collaborates with another and there is a common goal or purpose in their play or learning activity. As a consequence, joint interactions were considered as the most complex level of interaction (Howes & Matheson, 1992; Rubin, 2001).

However, researchers have pointed out recently that parallel interactions have a particular role in child led contexts. Displaying parallel play is important in order to have more possibilities to join a peer's play (Dodge, Schlundt, Schocken & Delugach, 1983; Putallaz, 1983; Putallaz & Wasserman, 1989; Timler, Olswang & Coggins, 2005). Moreover, Robinson and colleagues

(Robinson, Anderson, Porter, Hart & Wouden-Miller, 2003) observed that the role of parallel play can be a dynamic bidirectional crossroad for other social play states, in addition to being a special bridge into cooperative play (Bakeman & Brownlee, 1980). This positive view of parallel interaction is shared also by teachers (Rubin et al., 2006; Coplan & Prakash, 2003). Despite this evidence, children characterized by repeatedly parallel play tend to be considered with low social acceptance by peers (Ladd, 1983).

On the other hand, children who engaged in cooperative play are popular among peers and viewed as social competent (Ladd & Profilet, 1996). During joint play, for example in socio-dramatic play, children exhibit complex social abilities as sharing symbolic meanings, coordinating and planning their actions together. This ability to cooperate with others is viewed as a variable marker for social competence (Eisenberg & Mussen, 1989; LaFreniere, 1996; Coplan & Rubin, 1998). Authors have shown that engaging in complex play with peers is associated with the presence of social competence and it is also a predictor of social competence (Howes & Matheson, 1992; Rubin, Chen, McDougall, Bowker & McKinnon, 1995; Kontos & Wilcox-Herzog, 1997; Howes & Phillipsen, 1998; Howes, 2000). It has been well established that children who are competent players are also socio-emotional skilled (Hatch, 1987; Hazen & Black, 1989; Kemple, 1991; Fantuzzo et al., 1998; Fantuzzo, Sekino & Cohen, 2004; Coplan & Prakash, 2003). As Fantuzzo and colleagues (2004) have demonstrated, at the beginning of the school year the positive engagement in play is a predictor of lower levels of aggressiveness, shyness, withdrawal and conduct problems at the end of the year. On the contrary, negative engagement in play, such as disruptive and disconnected peer play, is associated with negative emotional and behavioural results (Coie & Kupersmidt, 1983; Dodge, 1983; Hatch, 1987). Play, in particular dramatic play, is also able to trigger the linguistic development (Girolametto & Weitzman, 2002). There is a growing awareness that social pretend play plays a substantial role in developing children's linguistic skills (Mashburn et al., 2009). Moreover, Howes (1987), for instance, argued that preschool-age children improved their cognitive and metacognitive skills of anticipating their peer's actions, thoughts and feelings through cooperative play and social exchanges. Recently, Baker-Sennett and colleagues (Baker-Sennett, Matusov & Rogoff, 2008) found that peer play provides children with the opportunity of participating more into thematic planning and coordinating perspectives than teacher, and therefore it contributes to a reciprocal cognitive development.

Play is a powerful setting for children's interactions, able to develop linguistic skills, problem-solving ability, perspective-taking, turn-taking, sharing, theory of mind and learning skills (Bailey, 2002; Goncu, Patt & Kouba, 2002; Fantuzzo et al., 2004; Ashiabi, 2007; Mashburn et al., 2009). Even if play and learning activities have been studied as two distinct areas of research,

correlations were found between play and learning skills (Coolahan, Fantuzzo, Mendez & McDermott, 2000). Children who are able to positively interact with others during play also show task persistence, motivation, and initiative when they are working with peers in teacher led contexts (McDermott, 1984; Reynolds, 1991). Being social skilled with positive quality in peers' interactions is related to positive attitudes toward learning (Topping & Ehly, 1998; Fantuzzo, Bulotsky-Shearer, Fusco & McWayne, 2005). Early behaviour problems affect negatively children's social and academic outcomes at later ages (Olson & Hoza, 1993; Harden et al., 2000; Qi & Kaiser, 2003; Fantuzzo et al., 2005).

Regarding children's interactions in teacher led contexts, the prominence of joint-cooperative learning activities versus parallel learning activities has been reaffirmed (Blatchford & Kutnick, 2003). A joint interaction occurs when children are co-learners in a working group. Children who engage in a joint activity work together as a team. As mentioned previously, most research on cooperative interactions in learning activities has been focused on primary school, there have been few investigations on joint activities in preschool. Cohen (1994) has revealed that little attention is paid to students' interactions within learning groups.

Importantly, authors have suggested the use of peer groups in teacher led contexts, in order to observe a more positive engagement in children (Powell et al., 2008). Powell and colleagues (Powell et al., 2008) have noticed that when children find themselves in a peer group, instead of in a whole class group, they are more engaged in academic activity. Chiefly, authors have indicated that in order to manage effectively a cooperative interaction, children need to develop the necessary skills (Kutnick et al., 2008b; Kutnick & Berdondini, 2009; Gillies & Boyle, 2010). In particular, the social and emotional skills are essential in order to trust and respect others. The communicative skills are important in order to listen to and share others' ideas. As highlighted by Suki and colleagues (2006), it is important to train children for speech and linguistic abilities, in order to improve children's interaction skills since preschool age.

To sum up, further research needs to be directed to the identification of social configurations of peer groups, which are related to the complex level of interactions in child led as in teacher led contexts.

2.1.2.4. The role of teachers in peer groups

Because children's social experience is shaped by teacher-child interactions (Molinari, 2010), an important step in examining the differences between child and teacher led contexts is the identification of the teacher's role in peer groups. During free play, teachers spend most of their

time in the role of "play enhancer" and "stage manager". In particular, teachers' talk focuses mostly on statements and questions supporting children's play with objects, and giving their personal assistance (Kontos, 1999). For this reason, different types of teacher's talk are parallel to children's activities. For example, a complex teacher behaviour is more likely to occur when a teacher is alone with a child and in pretend play (Kontos & Keyes, 1999).

Indeed, Powell and colleagues (Powell et al., 2008) have found a positive relation among the teacher's talk, such as directives, questions, affirmations, and children's engagement. In teacher led contexts, children are more engaged when teachers provide affirmations and monitoring. Conversely, they are less engaged when teachers offer directions. In particular, teachers spend most of their time in providing directions to children, whereas they rarely asked questions. As observed by Jones and Reynolds (1992), the teacher's style in interacting with some children is also related with the teacher's pedagogical goals, such as maintaining the order versus promoting problem-solving.

Thus, there is a need for more studies highlighting the role of teachers in peer groups and in child and teacher led contexts.

2.1.3. Aims

The general aim of this study was to describe the characteristics of groups in Italian preschool children in a classroom setting. In particular, this study aimed at understanding whether the type of contexts (child vs. teacher led) is related to the following variables: the number of participants per group, the size of groups (solitary, dyad, small group: 3-5 children, medium group: 6-10, large group: 11-26), group affiliation according to gender (same-sex vs. mixed), the kinds of interactions (parallel, joint), and the role of teachers in peer groups (not presenting, observing, introducing, directing, acting, responding to children).

We presumed that in child led contexts there would be smaller groups and more same-sex affiliation, in comparison to teacher led contexts. Concerning interactions, in child led contexts we expected more frequent joint interactions rather than in teacher led contexts. Finally, we expected that teachers would play a similar role in both contexts.

2.2. Method

2.2.1. Participants

Data were collected in 5 Italian preschool settings, which were selected among 5 Italian different schools, located in the metropolitan area of Bologna, 4 municipal schools and a private one. Written parental consent was requested for all participating children. An overall consent rate was obtained. Participants were 120 children (61 males and 59 females). The mean number of pupils per class present during data collection was 19, with a range of 9-25 pupils in each class (*SD* = 3.58). Participants within four preschool settings were enrolled during their second year of Italian preschool. In the last setting, participants were enrolled during their third year of Italian preschool. The age of children ranged from 43 to 66 months (mean age = 52 months, *SD* = 6). The majority of participants were Italian (86.7%). The others were Asiatic (3.3%), South-American (1.7%) and East-European (8.3%) children.

2.2.2. Instruments

The mapping methodology, developed by Peter Kutnick and colleagues (Kutnick, Blatchford & Baines, 2002), was used to obtain a snapshot map of the groups present in the class.

We defined the type of context (child versus teacher led): (1) 'child led' context was coded when children could choose freely their activities and with whom they would spend their free play; (2) 'teacher led' was coded when teachers chose children's activities (parallel activities, i.e. each child draws himself or joint activities, i.e. circle time). Furthermore, in order to understand children's social experience, we also measured the number of participants in each group, the size of the group (solitary, dyad, small group: 3-5 children, medium group: 6-10, large group: 11-26), the affiliation in the group according to gender (same-sex vs. mixed), the type of interactions (parallel vs. joint). Moreover, the role of teachers (not presenting, observing, introducing, directing, acting, responding to children) in peer groups was coded. Lastly, children's initials were also noted on the map.

This technique was chosen in order to obtain a high number of observations on peer group behaviours both in a structured and in spontaneous contexts. This approach also makes it possible to take into consideration at the same time both peer group and individual child behaviour, avoiding time consuming techniques which are typical of other observation methods.

2.2.3. Procedure

To obtain the data presented here 3 research assistants and 2 graduate students were engaged in data collection. The students were at the last year of their degree as teacher in preschool settings. Before starting data collection, the research assistants and the graduate students were trained in mapping completion watching videos of preschool children's activities and playing sessions. In the week prior to the beginning of the study, teachers introduced them to children and the research team spent time in the classrooms meeting children. After such period, at a given time during the school day, when pupils were working or playing, the researchers filled mappings, trying to keep a detached role during the observations. Doubts and questions about filling mappings were addressed through discussions.

2.2.4. Data collection

In each preschool setting, 8 to 10 mappings were filled for each context. A total of 90 mappings were collected, 45 child and 45 teacher led, with 443 groups: 330 child led and 113 teacher led. Part of this data collection concerning three preschool settings drew on the European Socrates Project (Kutnick et al., 2008a). Data were gathered in the fall semester of preschool. For analysis of gender only 337 groups were taken into account (159 of same sex and 178 of mixed sex) (330 child and 113 teacher led). The 106 solitary groups (child alone) were not considered for analysis on gender affiliation in groups and on interactions.

2.2.5. Statistical Analyses

In order to assess whether the type of context (child vs. teacher led) affects the number of participants per group an Independent T-test was performed.

Since there were cases with low-cell frequency, Fisher's exact tests were used, in order to evaluate whether the type of context (child vs. teacher led) influences the size of the group (solitary, dyad, small group: 3-5 children, medium group: 6-10, large group: 11-26), and the role of teachers in peer groups (not presenting, observing, introducing, directing, acting, responding to children). A series of Chi square analyses was run to assess whether the type of context (child vs. teacher led) influences group affiliation according to gender (same-sex vs. mixed) and the type of interaction (parallel, joint).

All the analyses were fitted using the SPSS version 15 software package.

2.3. Results

2.3.1. Child versus teacher led contexts: Number of participants and size of groups

To assess whether the type of context (child vs. teacher led) was related to the *number of participants* in the groups an Independent T-test was run. The results showed that groups were smaller in the child led (M = 2.57, SD = 1.63, range 1-9) contexts rather than in the teacher led contexts (M = 7.63, SD = 5.76, range 1-24) [$t(441)=9.22$, $p<.001$].

To compare the percentage of subjects to the size of groups (solitary, dyad, small group 3-5 children, medium group 6-10, large group 11-26) in child versus teacher led contexts, table of frequencies with relative percentages, expected count and Fisher's exact test were computed (see Table 1). Consistent with the previous T-test, a significant difference was found in the Fisher's exact test (Fisher's exact test = 149.82, p <.001). Frequencies and the relative percentages showed that in child led contexts small groups (3-5 children), solitary and dyads were more frequent than other social configurations. In teacher led contexts, small (3-5 children), medium (6-10 children) and large groups (11-26 children) were more frequent than other social configurations. Moreover, groups both in teacher and child led contexts presented similar percentages as far as small groups are concerned. The analyses revealed that child and teacher led contexts provide a different social experience, in groups of different size, much smaller in child led contexts than in teacher led contexts.

Table 1

Child and Teacher Led Contexts: A Comparison of Group Sizes

	Group Sizes					
Social Context	Solitary 1child	Dyad 2 children	Small Group 3-5 children	Medium Group 6-10 children	Large Group 11-26 children	Total
Child Led Contexts						
Count	101	97	113	19	0	330
Expected Count	79.0	77.5	117.7	38.0	17.9	330
Percentage	30.6	29.4	34.2	5.8	0	100
Teacher Led Contexts						
Count	5	7	45	32	24	113
Expected Count	27.0	26.5	40.3	13.0	6.1	113
Percentage	4.4	6.2	39.8	28.3	21.2	100

2.3.2. Child versus teacher led contexts: Affiliation according to gender

To investigate whether the type of context (child vs. teacher led) was related to the *affiliation according to gender* (same-sex, mixed), a table of frequencies with the relative percentages, expected count and Chi-square analysis was provided (see Table 2). The Chi square analysis was run with continuity correction for 2x2 table, and it revealed a significant difference [$\chi^2(1, N = 337) = 47.44, p<.001$]. Frequencies and the relative percentages showed that in child led context same-sex was more frequent than mixed-sex affiliation. In teacher led contexts mixed-sex was more frequent than same-sex affiliation. Therefore, the type of context (child vs. teacher led) should be taken into account in order to fully understand children's social experience with members of the other gender in school groups.

Table 2

Child and Teacher Led Contexts: A Comparison of Gender Affiliation

	Gender Affiliation		
Social Context	Same-Sex Affiliation	Mixed-Sex Affiliation	Total
Child Led Contexts			
Count	138	91	229
Expected Count	108	121	229
Percentage	60.3	39.7	100
Teacher Led Contexts			
Count	21	87	108
Expected Count	51	57	108
Percentage	19.4	80.6	100

2.3.3. Child versus teacher led contexts: Interactions

The *interactions* (parallel and joint) within the two types of context (child vs. teacher led) also were investigated. A table of frequencies with the relative percentages, expected count and Chi-square analysis was provided (see Table 3). The Chi square analysis with continuity correction for 2x2 table revealed a significant difference [$\chi^2(1, N = 337) = 18.19, p<.001$] between the two contexts.

Frequencies and the relative percentages showed that in child led contexts joint interactions were more frequent than parallel interactions. In teacher led contexts parallel interactions were more frequent than joint interactions. Therefore, the contexts (child vs. teacher led) should be taken into account in order to fully understand the characteristics of children's interactions.

Table 3

Child and Teacher Led Contexts: A Comparison of Parallel and Joint Interactions

	Interactions		
Social Context	Parallel	Joint	Total
Child Led Contexts			
Count	92	137	229
Expected Count	110.8	118.2	229
Percentage	40.2	59.8	100
Teacher Led Contexts			
Count	71	37	108
Expected Count	52.2	55.8	108
Percentage	65.7	34.3	100

2.3.4. Child versus teacher led contexts: The role of teachers in peer groups

To examine the *role of teachers* in peer groups (not presenting, observing, introducing, directing, acting, responding to children) within the two contexts (child vs. teacher led), a table of frequencies with the relative percentages, expected count and a Fisher's exact test was provided. Fisher's exact test revealed a significant difference between the two contexts (Fisher's exact test = 198.31, $p<.001$).

As reported in Table 4, frequencies and the relative percentages showed that in child led contexts teachers were more frequently not presenting and observing, in comparison with other categories. In teacher led contexts, teachers were more frequently introducing, not presenting and observing in comparison with the other categories.

To sum up, teachers had a less active role in child than in teacher led contexts.

Table 4

Child and Teacher Led Contexts: A Comparison of the Role of Teachers in Peer Groups

	The Role of Teachers in Peer Groups						
Social Context	Not presenting	Observing	Introducing	Directing	Acting	Responding to children initiations	Total
Child Led Contexts							
Count	289	22	4	6	4	5	330
Expected Count	231.7	32.0	10.7	4.6	3.3	4.1	330
Percentage	87.6	6.7	1.2	1.8	1.2	1.5	100
Teacher Led Contexts							
Count	22	21	38	12	9	11	113
Expected Count	79.3	11.0	10.7	4.6	3.3	4.1	113
Percentage	19.5	18.6	33.6	10.6	8.0	9.7	100

2.4. Discussion

The current study is one of the first to examine patterns of social interactions in child and teacher led contexts among preschoolers, taking into account group size, gender affiliation, interactions and the role of teachers in peer groups. From data on the comparison of the two social contexts, two clear patterns of children's social experience emerged. In child led contexts, children were more likely to be involved in solitary, dyads and small peer groups as well as in same-sex groups, engaging in joint interactions. In contrast, in teacher led contexts, children were more likely to be involved in small, medium and whole class groups as well as in mixed-sex groups, engaging in parallel interactions.

When children freely chose what to do and whether spend their time playing with peers, they obviously stayed alone much longer than in teacher led contexts. There has been an international debate about the different correlates, predictors, and meanings of children's playing alone (Coplan, Gavinski-Molina, Lagace-Seguin & Wichmann, 2001). In particular, the associations between playing alone and internalizing problems have been mixed (Spinard et al., 2004). Indeed, some authors have suggested a positive meaning of young children's play alone (Corsano & Cigala, 2004).

Children's preference for peer groups of small size was reported by some authors (Corsaro, 1997). For example, Corsaro (1997) has pinpointed in his ethnographic work that children need a private space to develop interaction during free play. This tendency highlights children's need for close interactions, with a positive interpersonal atmosphere, where they may feel as the main actors of their interaction. According to Powell's study (Powell et al., 2008), during play activities, children were in fact more likely to be actively engaged when they were alone or in small peer groups than in larger groups.

Concerning the type of children interaction, it turned out to be mostly joint. Also Goncu and Weber (2000) have documented the presence of collaborative interaction only in peer play activities. It has been acknowledged that playing is a peculiar setting for triggering complex interactions, even if the association between the presence of cooperative interaction and the absence of teacher brings the teacher's role into question. In addition, several studies have reported that the teacher's presence delays the emerging of peer interactions (Innocenti et al., 1986; Hauser-Cram, Bronson & Upshur, 1993; Kontos & Keyes, 1999; Kontos et al., 2002; Harper & McCluskey, 2003; McWilliam et al., 2003). It seems that the presence of teachers available for interaction with children is associated with reduced opportunities of playing with peers. Those data are also consistent with the teacher's choice of non-intervention during free play, which is aimed at

developing autonomy in children's development (Lindqvist, 2001; Korat, Bahar & Snapir, 2003). As identified by Kagan (1990), one of the obstacles to the teacher's participation in children's play is the "attitudinal barrier" – referring to the value that teachers give to play. If teachers do not consider play as a crucial activity to promote social and cognitive competences, they are likely to choose not to participate in children's play.

This study also found that the teacher's role in peer groups was quite different in the two contexts. In child led contexts, teachers were rarely engaged in children's activities, whereas in teacher led contexts, the frequency of their involvement was higher. In teacher led contexts, teachers had more frequently an active role in most categories: introducing, observing, directing, responding to children's initiatives, and acting. The interpretation of these results may be found in the teacher's pedagogical aim at promoting children's autonomy. The educational goal, aiming at children's autonomy, should be connected with the teacher's practice of prompting peer play interactions. For example, in the English curriculum for preschool, it is argued that the precursors to academic skills should be encouraged through play-based teacher led activities (Whitehurst & Lonigan, 1998; Sylva et al., 2006). It could be important to reflect on the role of the teacher during children's interaction in play in order to understand how a teacher could make playing a developmental and learning experience, and an incentive for children's joint extended and complex play sessions (Ashiabi, 2007).

Between the two contexts, common and different results as far as group size is concerned emerged. Findings revealed that small groups occurred with the same frequency both in teacher and child led contexts. These results underlined the fact that small groups are a frequent configuration at this age, as it has been already highlighted in ethological literature (Barbu, 2003). Small groups offer each child more opportunities to participate in conversation; for example, shy or socially-reticent children get more chances of being involved in groupwork organised by teachers. However, larger configurations, such as the medium group and the large group, were typical of teacher led contexts.

This study clearly highlights the teacher's practice of organising small, medium, and whole class groups for learning activities. This pedagogical practice is consistent with the literature (Powell et al., 2008) and, as suggested by Kutnick and colleagues (Kutnick et al., 2002), it may reflect the teacher's concern with control and management of the class behaviour and attention. Moreover, this tendency may be related with the pedagogical goal of teaching children social and cognitive skills in group interaction. As argued by Langlois and Liben, (2003) and also by Morrissey (2010), in preschool large groups can help children develop cognitive and social skills

which are necessary at kindergarten. Namely, large group contexts improve several children's abilities, such as paying attention to others, listening, turn-taking and sharing of meanings.

Despite those findings, many authors have suggested the practice of organising smaller groups in order to better promote linguistic, socio-emotional skills and effective learning (Monties, Claxton & Lockhart, 2007; Loeb et al., 2004; 2007; Dowsett et al., 2008). Small groups should be used when children are capable to be active participants in groupwork. Whereas with larger groups, surveillance and management of activities may be easier for the teacher, the use of smaller groups working in parallel should be restricted to situations in which children are socially skilled, without conduct problems and able to work autonomously on the activities. Children with attention problems might find it difficult to work in smaller groups.

Thus, a balanced use of large and small groups should be implemented in teacher led contexts, in order to meet both the initial children's needs and teachers' pedagogical aims: children high engagement in the case of small groups and teacher opportunity to well manage groups in the case of large groups.

Regarding interactions in teacher led contexts, a higher frequency of parallel interactions compared with joint interactions was observed. Broadly speaking, in teacher led contexts, children were less engaged in interactions with peers than in child led contexts, confirming the results of other studies (Goncu & Weber, 2000). It is not unusual that teachers may not be aware of this situation: sometimes there is a discrepancy between their idea of teaching and the real act of teaching in class. This high occurrence of parallel activities may also reflect the difficulties for teachers in implementing group work, where cooperative interaction could take place. As highlighted by several authors (Gillies & Boyle, 2010; Blatchford, Kutnick, Baines & Galton, 2003), children need to be trained in order to work together effectively. Group work skills as trust, respect, communication and problem-solving should be developed (Galton, 1990; Kutnick et al., 2008a; Kutnick & Berdondini, 2009).

2.4.1. Limitations

This study suffers from some limitations. The number of school settings in the data collection is relatively low; further studies are therefore needed to test whether the results can be generalised. An additional limitation concerns the temporal factor. The use of the mapping measurement was employed with the aim of collecting occurrences of social configurations, instead of capturing the development of interactions across time. As a consequence, there is loss of

information about the interactions: the methodology used, capturing "snapshots", leaves no room to make hypotheses on the possible evolution of group activities in time.

2.4.2. Policy implications and research recommendations

For future research purposes, several teachers could introduce a mapping measurement in early childhood settings, in order to investigate the social experiences of children. Despite some limitations, it is an observational measure of groups that is not time-consuming. Also, it could be easily employed by trained teachers in order to assess social interactions in class. As a consequence, teachers could change their pedagogical practices and improve peer interactions. Moreover, it could be really interesting to use this measure in order to observe social affiliations among peers, including friendship, social status, linguistic and socio-emotional skills.

Some policy implications emerged about the role of teachers in organizing the patterns of children's social experience. Teachers should plan the activities with the aim of prompting complex interactions among children. Indeed, they could shape children's social experience in order to improve children's skills for play and learning activities. Thus, it would be important to reflect on teachers' pedagogical practices when building and managing group work, in terms of group size and gender composition of groups.

With regard to children's interactions in child and teacher led contexts, teachers should play important roles such as: facilitator, mediator, co-player (Dau, 1999; Reynolds, 1992). They could act as mediators and facilitators to sustain children's play. They could also act as mediators, for example supporting children's interactions with materials, comments on ongoing play and activity, while engaging other children (Van Hoorn, Nourot, Scales & Alward, 2003). It could be important to think of concrete strategies and best practices in order for teachers to achieve the role of in organising children's joint extended and complex play sessions.

To change the teachers' practices, a more in-depth comprehension of the teachers' perspectives and beliefs on children's interactions need to be gained. More studies are needed on the teachers' different theoretical views on children's cognitive and social development, and on the role of the teacher in advancing towards such development (Daniels & Shumow, 2003). In particular, Nespor (1987) has highlighted two common dimensions of teachers' beliefs about children which need to be examined: first, beliefs in children's desire to learn and second in how children learn, for example , the belief in a pupil's need for active involvement. Additional studies should also be conducted to understand the peer groups' dynamics in children and teacher led contexts.

Thanks to the present study, it was possible to ascertain some differences between the two social contexts. On the basis of these findings, future research in preschool settings should take into consideration both social contexts in order to fully capture the ecology of the social environment in which children's socialization takes place.

Consistent with other authors (Goncu & Weber, 2000; Walsh, 2006; Siraj-Blatchford & Sylva, 2004), we can conclude that child and teacher led contexts offer to children different social experiences in terms of group composition and interactions. Even if teachers could improve the organization of those two contexts, it is important to point out that each context plays a substantial role in providing children with different developmental experiences. Each context offers different benefits to children in terms of social and learning skills. In children led context, peers could choose to stay alone, or to play with same-gender peers in dyads or in small groups; interacting jointly, in this scenario children improved their autonomy and cooperative skills. In teacher led context, peers were engaged in larger groups, which demand higher attention; they were also involved in mixed-sex interactions, which allowed them to interact with different playmates.

Additional research, better examining the characteristics of those two contexts, should be conducted.

Chapter 3. Study 2 - Peer relationships and affiliation: Socio-emotional competence, temperamental traits and linguistic skill

'Similarity begets friendship'

Plato

'Birds of a feather flock together'

Proverb

Abstract

This study describes the development of socio-emotional competence, temperamental traits and linguistic skill. Moreover, it examines the role of children's reciprocated nominations (=RNs) with peers assessed via sociometric interview, in relation to socio-emotional competence, temperamental traits and linguistic skill. Finally, the similarity-homophily tendency was investigated. Socio-emotional competence and temperamental traits were assessed via teacher ratings, linguistic skill via test administration. Eighty-four preschool children (*M* age = 62.53) were recruited within 4 preschool settings. The results revealed that children were quite representative of preschool population. In addition, children with higher RNs showed higher social competence (tendency), social orientation, positive emotionality, motor activity and linguistic skill. Moreover, they exhibited lower anxiety-withdrawal. With regards to similarity-homophily tendency, the results revealed that children prefer playmates with similar features: social competence, anger-aggression (tendency), social orientation, positive emotionality, inhibition to innovation, attention, motor activity (tendency) and linguistic skill. These findings provide insights into the associations of peer relationships, affiliation, social functioning and linguistic skill.

3.1. Introduction

Children probably join a large group of playmates for the first time when they enter a preschool setting. Since they spend a lot of time together during the day, peers are able to establish and maintain multiple ties within the class: from peer likability to exclusive friendship ties. A lot of research has been paying attention to links between children's peer acceptance, which refers to the degree of likability within the peer group, and social functioning (Blandon, Calkins, Grimm, Keane & O'Brien, 2010; Nelson, Robinson, Hart, Albano & Marshall, 2010). In addition, some studies investigated the relationships between children's competence and friendship at preschool age (Ladd, Kochenderfer & Coleman, 1996; Lindsey, 2002; Sebanc, 2003; Engle, McElwain & Lasky, 2010).

However, relatively less attention has been paid to reciprocated ties among peers, and to the relations between this type of peer relationship and children's competences. This type of social relationship refers to children who mutually like to play with each other, which can be thought as an intermediate stage between peer acceptance and friendship. Presumably, children with more positive temperamental dispositions, such as social orientation and positive emotionality, were more prone to successfully engage in a greater number of reciprocated ties with peers. In addition, more social and linguistically competent children have probably a greater ability to establish several reciprocated ties with peers. Relatively few studies have actually taken into consideration this hypothesis, to the author's knowledge. This is true despite the fact that there is evidence of the role played by social and emotional competence (Blandon, Calkins, Grimm, Keane & O'Brien, 2010), temperamental traits (Blair, Denham, Kochanoff & Whipple, 2004; Berdan, Keane & Calkins, 2008), and linguistic skill (Carson, Klee, Lee, Williams & Perry, 1998) in the development of children's positive interactions with peers.

Another relatively unexplored line of research is the similarity – homophily tendency among preschool children. Several studies have provided empirical evidence of peer similarity in school-age and adolescent friends (Cairns, Cairns, Neckerman, Gest, & Gariepy, 1988; Kindermann, 1993; Salmivalli, Huttunen & Lagerspetz, 1997; Xie, Cairns & Cairns, 1999; Sage & Kindermann, 1999; Gest, Graham-Bermann & Hartup, 2001; Gest, Farmer, Cairns & Xie, 2003; Gest, 2006; Sijtsema, Ojanen, Veenstra, Lindenberg, Hawley & Little, 2010; Witvliet, van Lier, Cuijpers & Koot, 2010), whereas few studies have addressed this topic at preschool-age, while taking into consideration at the same time the reciprocated ties (Farver, 1996; van den Oord, Rispens, Goudena & Vermande, 2000; Vaughn, Colvin, Azria, Caya, & Krzysik, 2001; Gleason, Gower, Hohmann, & Gleason, 2005; Hanish, Martin, Fabes, Leonard & Herzog, 2005; Martin, Fabes, Hanish, & Holleinstein,

2005). Moreover, similarity in social-functioning and linguistic skill has received limited attention in research on preschool age children (Gleason et al., 2005).

The main purposes of this study were to examine: (i) The development of children's social functioning and linguistic skill; (ii) The relationship among the number of reciprocated nominations (=RNs), social functioning and linguistic skill; (iii) The similarity – homophily tendency regarding social functioning and linguistic skill in children's cliques.

3.1.1. Children's peer relationship assessed via sociometric interview: From social acceptance to friendship

A growing number of studies have begun to examine peer relationships with sociometric methodology as well as with observational methodology (Poteat, Ironsmith & Bullock, 1986; Olson & Lifgern, 1988; Riley, 1995; Wu, Hart, Draper & Olsen, 2001; Nelson, Rubin & Fox, 2005). To date, several sociometric measures, such as peer ratings (Asher, Singleton, Tinsley & Hymel, 1979), positive and negative nominations (McCandless & Marshall, 1957) have been employed for preschool children (Cillessen, 2009). Despite the differences in sociometric measures, it turns out to be a valid procedure to explore peer relationships among preschoolers, in order to understand children's clique or peer group affiliation (Van den Oord et al., 2000). It has been used to identify rejected children which are at risk of developing poor relationships, as well as to assess the effects of socio-relational training in class (Kutnick, Genta, Brighi & Sansavini, 2008). According to Wu and colleagues (Wu et al., 2001), the sociometric procedure showed also high reliability within a preschool sample.

On the basis of such different methodologies, researchers are able to observe children's various social dimensions, such as social acceptance versus social rejection, social impact, social preference, social status, reciprocated choices, friendship ties, cliques and social networks (Gifford-Smith & Brownell, 2003; Jiang & Cillessen, 2005).

In particular, social acceptance refers to the child's degree of being liked by the peer group, while social rejection refers to the child's degree of being disliked by the peer group. Social acceptance has been defined on the basis of the number of "most liked" nominations received by a child, while social rejection has been defined on the basis of the number of "least liked" nominations.

Those two sociometric constructs were combined to derive social preference and social impact indexes. Basically, social preference corresponds to the difference between the number of most liked and least liked nominations, while social impact corresponds to their sum. Based on Coie and Dodge's (1983) formula, which uses social preference and social impact scores, a child was

assigned a social status (popular, average, neglected, rejected and controversial). Moreover, some authors have also employed a social rejection index, which is the opposite of social preference. Social rejection refers to the difference between the number of least liked and most liked nominations.

Across sociometric studies on preschool children, those indexes have been computed following different approaches, or combining different procedures i.e. nominations and ratings procedures (Ladd, 2006). Importantly, several correlates of those indexes, such as social functioning and linguistic skill, have been investigated in the literature.

3.1.2. Peer relationships, social functioning and linguistic skill

Although much of this work was focused on elementary-school-age children, there is a body of relevant research that examines early peer relations (social acceptance, social status, friendships, social networks) and their relationships with social functioning and linguistic skill. Research has used the indexes of peer relations in preschool samples with different extent.

Prior research was focused mostly on the behavioral correlates of peer acceptance, instead of friendships. Considerable research has in fact shown that early peer acceptance is a protective factor for the development of children's social functioning, such as social competence (Vaughn et al., 2009); on the contrary, peer rejection is a risk factor for concurrent and later serious problems in children's social functioning, such as conduct problems and difficulties at school (Wood, Cowan & Baker, 2002; Ladd, 2006). For example, Ladd, Price, and Hart (1988) assessed preschool children's peer acceptance and peer behavior three times during a school year. The results from the playground observational data revealed that children with higher levels of cooperative play were more accepted by peers at the end of the school year. Conversely, children with lower levels of cooperative play were more rejected by peers both in the middle and at the end of the school year. Denham and Holt (1993) have also found positive correlations between preschool children likability and their peer behavior, children more cooperative and less aggressive were more well-liked. Later likability, measured after 10 months, was predicted by earlier likability, whereas prosocial behavior was found not to be predicted by earlier likability. Such observational findings are consistent with those from studies in which children's peer behavior was assessed indirectly via questionnaires administrated by teachers or parents, suggesting that they are quite reliable informants. It should be noted that children were also used sometimes as informants about their own or other children's behaviors (Perren, von Wyl, Stadelmann, Bürgin & Klitzing, 2006). Similarly to studies on playground, Carpenter and Nangle (2006) have found that peer ratings acceptance was positively

related to their social skills assessed with the "Social Skills Rating System for Teachers" in a sample of 3-5 aged children (Gresham & Elliott, 1990). Moreover, in a subsequent study, Carpenter and colleagues (Carpenter, Shepherd & Nangle, 2008), using the same questionnaire on a similar age group, have found that peer acceptance rating was negatively related to externalizing behaviors. Furthermore, ratings of peer acceptance were positively associated with the teachers' assessment of social behaviors, positive self-perception competence and negatively associated with reticence and solitary-passive withdrawn behavior at preschool age (Nelson et al., 2005; Nelson et al., 2009).

With regard to Italian children, Ciucci and Tomada (1999) have found in mixed-age groups and in 5-years same-age groups of preschool children a positive association between peer acceptance and adaptive behaviors.

Peer acceptance linkages with emotions has also been explored in literature (Denham, McKinley, Couchoud & Holt, 1990). For example, Denham and colleagues (1990) reported that preschoolers' peer likability has been predicted by emotion knowledge and prosocial behavior. Additionally, children who express more positive emotionality, instead the emotion of anger, were more likely to be rated higher in peer acceptance (Arsenio, Cooperman & Lover, 2000).

Moreover, ratings of peer acceptance have also been found positively associated with school adjustment assessed by teacher's ratings (Betts & Rotenberg, 2007). School adjustment refers to the degree in which children are engaged and successful at school (Ladd, 1996). As highlighted by Johnson and colleagues' review (Johnson, Ironsmith, Snow & Poteat, 2000), children with high degree of likability in preschool exhibit lower aggressive behavior and higher positive social behaviors. Also, this group of children tends to achieve a better adjustment at school, e.g. being highly engaged in classroom activities.

On the contrary, in the study of Perren and colleagues (Perren, von Wyl, Stadelmann, Bürgin & Klitzing, 2006) on five-year-old children, conduct problems and emotional problems were both predictors of peer rejection. With regard to the concurrent associations between negative nominations and children's behavior, Olson and Lifgren (1988) have found negative relationships between negative nominations and teacher's rating of peer interaction, while a positive relationship was found between negative nominations and impulsivity in a sample of 4-5 year-old children. In particular, Coplan and colleagues' (Coplan, Closson & Arbeau, 2007) study has found that peer exclusion was positively associated with children's loneliness and social dissatisfaction about their relationships at kindergarten age. In addition, peer exclusion was positively associated with children's behavior problems such as anxiety, reticent behavior, and aggression. Recent research has also shown links between low social preference, hyperactivity and shyness in 5-6 aged children (Rydell, Diamantopoulou, Thorell & Bohlin, 2009).

For example, Carpenter, Shepherd and Nangle (2008) as well as Berdan, Keane and Calkins (2008) have found a negative association between externalizing behavior and peer acceptance. Similarly, Ladd (2006) proposed an interesting model of predictive relations among peer rejections, children's aggressive or withdrawn behaviors and psychological maladjustment in 5-12 aged children. The author assessed children's peer rejection using both peers and teachers as informants. In particular, peer reports of children's rejection were measured by 3-point sociometric ratings with the question: "How much do you like to play with this person in school?" and by negative nominating up to three peers (Kids you don't like to play with at school). Ladd has found evidence for the predictive contribution of peer rejection to children's maladjustment, which refers to externalizing problems or internalizing problems. In particular, the author has evaluated additive path models for peer rejection and aggressive behavior and for peer rejection and withdrawn behavior, proposing that the experience of peer rejection could increase or decrease the probability of maladjustment, partially independently from the contribution of children's behavior. The results revealed that peer rejection as well as children's aggressive behavior were stronger predictors of externalizing problems, in particular in early childhood rather than in later childhood. Also, the results revealed that peer rejection as well as children's withdrawn behavior were stronger predictors of internalizing problems in early childhood and their importance increased in later childhood. Those findings on longitudinal data are important because they suggest that peer rejection in the period from 5 to 9 years of age is crucial for children. The experience of peer rejection in this period of time, rather than at later ages, has important consequences for children's maladjustment in early childhood. Ladd's (2006) study provided evidence for the critical role of peer acceptance in preschool in contributing to concurrent and long-term children's social functioning. As also suggested in the literature, a striking role for peer acceptance in this specific period of development is recognized (Sullivan, 1953; Buhrmester & Furman, 1987; Bierman, 2004; Mazzanti, 2009). Children need to feel accepted by their peers during their early social experiences in order to develop positive social behaviors and school adjustment.

It should also be noted that although the literature has emphasized the positive relationship between aggression behavior and peer acceptance, research on preschool social dominance reported a different finding. Specifically, aggressive children were sometimes described as leaders within peer groups, and for this reason they were found to be more attractive by their peers, Hawley's works described this group of children as 'bistrategic' (Hawley, 2002; 2003; 2007).

Another child characteristic associated with peer acceptance was temperament and its dimensions. Theoretically, temperament refers to the core personality traits that influence the quality and frequency of social exchanges and interpersonal relations (DeFries, Plomin & Fulker,

1994). In this view, temperament has been studied in relation with social competence (Blair, Denham, Kochanoff & Whipple, 2004; for a review see Sanson, Hemphill, & Smart, 2004) as well as in relation with peer acceptance. Since temperament dimensions were evaluated as relatively stable during development (Rothbart & Bates, 2006), it is essential to understand its linkages with peer acceptance.

With regard to positive emotionality, Schultz and colleagues' experimental study (Schultz, Ambike, Buckingham-Howes & Cheah, 2008) showed that preschool children who smiled frequently received more nominations by unfamiliar peers. Conversely, the ratings of peer acceptance have been found negatively related to temperamental lack of regulatory control during peer provocations (Eisenberg, Fabes, Bernzweig, Karbon, Poulin & Hanish, 1993). More recently, Szewczyk-Sokolowski, Bost and Wainwright (2005) have reported that peer acceptance was negatively associated with "temperamentally difficult" children, who exhibit difficult behavior or negative emotionality. In particular, the "difficult temperament" was found to be an important predictor of children's peer rejection. For example, Gunnar and colleagues' (Gunnar, Sebanc, Tout, Donzella & van Dulmen, 2003) results of path analysis suggested that high surgency in conjunction with poor effortful control in preschoolers predicted classroom aggression, which in turn predicted peer rejection at later ages. Such results were consistent with Fabes and colleagues' (Fabes, Hanish, Martin & Eisenberg, 2002) observations of children's interactions in the playground. According to their study, preschool children with higher dispositional negative emotionality displayed an increasing in solitary play after 3-months. In accordance, Dougherty's meta-analytic review (2006) confirmed the relationship between negative emotionality and low degree of peer likability.

Another core theme of temperament dimension is attention, which encompasses different aspects, control attention, focusing, or effortful control (Rothbart & Bates, 2006), which consists of the ability to inhibit impulses and to plan subdominant responses. Recently Schultz and colleagues (Schultz, Izard, Stapleton, Buckingham-Howes & Bear, 2009) provided evidence of the relationship between attention, emotionality and peer acceptance. Fabes and colleagues' (Fabes, Martin, Hanish, Anders & Madden-Derdich, 2003) study documented the moderator role of effortful control in the relation between preschool children's same-sex peer interactions and their early school competence, with gender-related differences. Specifically, there was a positive link between same-sex peer interactions and school competence, when boys exhibited high degree of effortful control and girls exhibited low degree of effortful control.

Recently, authors found an empirical evidence model of a mediating role for social behavior in the association between dimensions of temperament (general activity, flexibility-rigidity, and attentional focus) and peer acceptance at later ages (Sterry, Reiter-Purtill, Gartstein, Gerhardt,

Vannatta & Noll, 2010). More studies at preschool age should explore the complex pathways of relationships between temperament traits, social behavior and peer acceptance at preschool age.

In addition, there is also a trend of research that addresses the role of social acceptance in relation to language development at preschool age. Findings have revealed a positive concurrent and longitudinal relationship between a high number of nominations and linguistic skill in 4-5 year-old children (Olson et al., 1988). This is consistent with findings on Italian preschool children. According with Tallandini and Morsan (2006) there is a positive relationship between peer acceptance and language skills. In this kind of study, authors have often used a language vocabulary index (labeled as receptive vocabulary, or verbal ability/intelligence), assessed by PPVT-R (Peabody Picture Vocabulary Test-Revised, Dunn & Dunn, 1981) in relation to peer acceptance (Olson et al., 1988; Gertner, Rice & Hadley, 1994; Tallandini et al., 2006; Braza, Azurmendi, Muñoz, Carreras, Braza, Garcia et al., 2009; Menting, van Lier & Koot, 2011).

Conversely, the line of research on children with language impairments or poorer receptive language skills established that such children are at greater risk of peer rejection (Fujiki, Brinton, Hart & Fitzgerald, 1999; Menting et al., 2011). Those findings are consistent with the results of research on peer interactions as well as with the literature on social inclusion (Garvey, 1984; Bergen, 1987). For example, Hazen and Black (1989) reported that in triad interactions of preschool children, children rated as "less responsive to peers" and "less likely to respond contingently to their peers" exhibited also a higher peer rejection.

To date, peer acceptance was used in several studies among preschool children, whereas fewer studies used social preference or social status indexes. For example, Keane and Calkins (2004) reported that low social preference at 4-6 years of age was predicted by aggressive behavior and low socio-emotional skills at 2 years of age. Similarly, van Lier and Koot (2010), basing their study on social preference score, explored the relations among preschoolers' peer rejection, internalizing and externalizing problems. The results revealed that children's rejection is linked with victimization and externalizing problems and is predictive of externalizing problems at fourth grade.

Although much of this research was focused on peer acceptance, some studies have also examined preschoolers' social status (see for a review Newcomb, Bukowski & Pattee, 1993). Popular children tend to be more competent in social cognition, they are able to understand others' behavioral motives (Disendruck & Ben-Eliyahu, 2006) and exhibit higher scores in theory of mind tasks, in comparison to rejected children (Slaughter, Dennis & Pritchard, 2002).

In contrast, rejected and neglected preschoolers were rated as more withdrawn (Harrist, Zaia, Bates, Dodge & Pettit, 1997). Specifically, rejected children were rated as more aggressive

across studies (Walker, 2004; Estell, 2007; Nelson et al., 2010). Recent research on an Italian sample has shown that rejected children were assessed as lower socially competent and higher victimized and aggressive children (Nelson, Robinson, Hart, Albano & Marshall, 2010). This pattern of findings is consistent with Italian school-aged studies (Attili, Vermigli & Schneider, 1997; Tomada & Schneider, 1997). According to Attili and colleagues (Attili, Vermigli & Roazzi, 2009; 2010), Italian school-aged rejected children were evaluated as more aggressive and withdrawn and less prosocial, in comparison to other social statuses. According to Tomanda and Schneider (1997), aggressive children were also rated with a controversial social status. Even though the positive relationship between rejection and aggression was not always consistent across the studies (Hawely, 2002; 2003).

In addition, few studies have investigated children's social status in relation to temperament dimensions. Specifically, popular children were more skilled at coping with anger, the ability to regulate this emotion led to better conflict resolution with peers, according to Fabes and Eisenberg (1992). Moreover, popular children exhibited less emotional intensity, in particular for boys, less negative emotion and more attentional control (Eisenberg, Fabes, Bernzweig, Karbon & Hanish, 1993). Walker (2004) documented that popular preschoolers displayed more positive emotionality than rejected ones.

Little is also known about linkages between children's social status and linguistic skill. For example, Gertner, Rice and Hadley (1994) reported that receptive vocabulary was a relevant predictor for popular social status at preschool age. More recently, Walker (2009) found that sociometric popular children exhibited high verbal communicative competence, such as the ability of engaging successfully in an ongoing conversation and they were more prone to use directives in their conversational initiations, as previously suggested by Attili (1990).

The study of the nominations received by children allowed researchers to examine both the unilateral ones and the reciprocated ones among children. Answering sociometric interviews, a child could nominate a peer as a friend (unilateral nomination); on the other hand, a child could also be nominated by the friend (reciprocated nominations). This line of research has provided new insights on the types of peer relationships, especially regarding friendships since preschool age (Vaughn et al., 2001; Bombi, Di Norcia & Gangemi, 2008). In particular, friendship refers to the reciprocated choice between two peers.

Friendship and social acceptance are strictly linked (Ladd, Birch & Bush, 1999). For example, correlates of friendship are likely to overlap with those of social acceptance, even if friendship and social acceptance constructs are theoretically different (Gresham, 1986; Bagwell, Newcomb & Bukowski, 1998; Gest et al., 2001; de Guzman, Carlo, Ontai, Koller & Knight, 2004;

Sebanc, Kearns, Hernandez & Galvin, 2007). Children may be less popular in their peer group, but they could have a few dyadic friendships. Social acceptance seems to be a predictive factor in establishing friendships, even if it is not the only one.

The importance of the role of friendships for children's development has been highlighted by several authors (Hartup, 1996; Baumgartner, 2008; Hollingsworth & Buysse, 2009). Historically, more research has been conducted on friendships at school age than at preschool age, even though the issue is crucial and complex since preschool age.

There is converging evidence that children with mutual friends have a distinctive social experience among peers, in terms of reciprocity of objects offering (Fujisawa, Kutsukake & Hasegawa, 2008) and prosocial behaviors (Sebanc, 2003). Moreover, friends manage school transition more easily (Ladd, 1990). In particular, growing research on school-aged children indicates that friendships play a significant role in children's general adjustment and well-being (Newcomb & Bagwell, 1995; Betts et al., 2007). In fact, school-aged children with friends showed better adjustment and more social competence than children without friends. The relationship between friendship and social competence at preschool age was examined by relatively few authors (Vaughn, Azria, Krzysik, Caya, Bost, Newell & Kazura, 2000; Lindsey, 2002; Cassibba, Balenzano & Elia, 2008; Engle et al., 2010; Van Lier et al., 2010). The researchers found that preschool children with friends were rated as more socially competent than children without friends (Dunn, Cutting & Fisher, 2002). In particular, according to Dunn and colleagues (Dunn et al., 2002), children's social understanding, prosocial behaviors and linguistic skills at 4 years of age were predictors of friendships at 5 years of age.

Having no friends at kindergarten is a risk factor for maladjustment. As highlighted by Ladd and Troop-Gordon (2003), children's friendlessness at kindergarten was predictive of internalizing behaviors at fourth-grade. Burr and colleagues (Burr, Ostrov, Jansen, Cullerton-Sen & Crick, 2005) found that fewer friendship ties were related to externalizing behaviours.

On the other hand, Sebanc (2003) failed to find differences between preschoolers with-friends and without-friends as far as relational and overt aggression were concerned, even though the author reported a positive association between children's relational aggression and exclusivity in friendships. More recently, Engle and colleagues (2010) investigated longitudinally the role of friendship (no friends, low-, average- and high-quality) in children from kindergarten to third-grade. The study documented a positive relationship between high-quality friendships and social skills, and between low-quality friendships and externalizing behaviors. Interestingly, children without friends at kindergarten exhibited greater internalizing and externalizing behaviors at later ages.

Additionally, Van Lier and Koot (2010) failed to find a relationship between having few friends and externalizing or internalizing behaviors in kindergarten to fourth-grade children.

Friends also seemed to exhibit different emotional competence in comparison with children without friends (Denham, 2007). Being friends consists of affection, helping, caring and resolving conflict between the two friends; as a consequence, friends experience frequently emotional understanding and emotional expression. In particular, girls with greater skill at sending emotional communication and managing emotions were more likely to have a reciprocated friendship (Dunsmore, Noguchi, Garner, Casey & Bhullar, 2008). The research on preschool friendships has also investigated a few temperamental traits: soothability, impulsivity and activity level (Gleason et al., 2005). In particular, findings revealed that girls choose low motor level friends and boys choose high motor level friends (Gleason et al., 2005).

Another area that has rarely been studied and may constitute an important focus for future research is the role of linguistic competence in children's friendships. Most research has been focusing on children with developmental delays (Fujiki et al., 1999), whereas little attention was paid to the studying of typically developing children. For example, it may be possible for children with higher linguistic skills to exhibit more social competence in interactions with peers, and to establish more friendships than children with lower linguistic skills. In particular, the ability to correctly understand people's messages (receptive language) represents the first step toward establishing children's positive interactions. Taken together, such findings suggest that the relationships among friendships and the various aspects of social functioning, such as social-emotional competence, temperamental traits and linguistic skill, have been rarely studied and need to be investigated more in depth.

3.1.3. Children's cliques, similarity hypothesis and social functioning

Children are able to express their preferences for particular playmates since young ages. In fact, children establish and maintain reciprocated friendships, organizing cliques and larger social networks with their peers (Snyder, West, Stockemer, Gibbons & Almquist-Parks, 1996; Strayer & Santos, 1996). Even though a clique is considered as a social configuration typical of late childhood and adolescence (Gifford-Smith et al., 2003), studies identified patterns of children's affiliation, such as social clique memberships within the peer group since early childhood (Farver, 1996; Barbu, 2003; Corsaro, 2003). This social structure moves beyond the characteristics of dyadic friendships, and, similarly to a social network, it presents specific structural characteristics, such as size (Gifford-Smith et al., 2003; Santos, Vaughn & Bost, 2008). The study of peer affiliations has

relied on children's sociometric nominations, self-reports or observational data. Based on peer self-reports, the Social-Cognitive Map (SCM) (Cairns et al., 1988) procedure was extensively applied on school-aged children. On the contrary, measures typically used at preschool age were sociometric nominations and observational data. Despite the acknowledged role of preschool peer groups, more research concerning the social networks has been conducted on older children and adolescents (Cairns et al., 1988; Kindermann, 1993; Salmivalli et al., 1997; Xie et al., 1999; Sage et al., 1999; Gest et al., 2001; Gest et al., 2003; Gest, 2006; Sijtsema et al., 2010; Witvliet et al., 2010) than on preschoolers (Farver, 1996; van den Oord et al., 2000; Vaughn et al., 2001; Gleason et al., 2005; Hanish et al., 2005; Martin et al., 2005). Some characteristics of preschool social affiliations have been reported in terms of size, stability and children's features. The size of social affiliations seems to be associated with gender. Specifically, male social networks tend to be larger in size (Benenson, Apostoleris & Parnass, 1997). The stability of preschool social networks has been examined by Barbu (2003). The author recorded preschoolers' social exchanges over an academic year. The results revealed that children's stability of connections was low, but it increased over time.

Children are selective in their peer affiliations, and one of the chief factors, which is the basis for children's social clustering, is similarity. According to the similarity – homophily hypothesis, children choose playmates who resemble them in features and attitudes (Byrne, 1971; Hallinan, 1980). This interpretation represents the similarity-selection process. On the other hand, similarity can also be due to the socialization process: once the group is formed, members could influence each other's behaviors, as suggested by the literature on contagion processes for externalizing behavior (Dishion & Dodge, 2005).

This tendency has been studied in relation to a broad spectrum of domains at later ages, including demographic variables, such as gender and ethnicity (Kandel, 1978a; Hamm, 2000).

The Literature concerning preschool children provided evidence that children are attracted to each other on the basis of gender (van den Oord et al., 2000). For this reason, same-gender affiliations have been observed across studies (LaFreniere, Strayer & Gauthier, 1984; Hoffman & Powlishta, 2001; Barbu, 2003; Fabes, Martin & Hanish, 2003; Fabes, Martin & Hanish, 2004; Martin et al., 2005; Munroe & Romney, 2006; see for a review Mehta et al., 2009). The similarity – homophily tendency regarding behavioral features has been examined, especially between friends at later ages (Espelage, Holt & Henkel, 2003; Laursen, Bukowski, Nurmi, Marion, Salmela-Aro & Kiuru, 2009; Jones, Alexander & Estell, 2010; Bowker, Fredstrom, Rubin, Rose-Krasnor, Booth-LaForce & Laursen, 2010).

Concerning similarity among preschool friends, the results revealed a mixed set of findings regarding different children's features. As far as social competence is concerned, Vaughn and

colleagues (2001) did not find a similarity tendency among preschool friends. With regards to soothability, impulsivity and level of activity among preschool friends, Gleason and colleagues' (2005) findings provided evidence of the similarity tendency.

Moreover, in the literature the similarity-homophily tendency was examined between pairs of friends, but more insight could be gained through the study of social affiliations. In particular, some studies have tested the similarity – homophily hypothesis within preschool social networks and social cliques (Farver, 1996; van den Oord et al., 2000; Hanish et al., 2005; Martin et al., 2005). Interestingly, the results from Farver's study (1996) documented that members of children's same social cliques exhibited the same frequency of aggressive behaviors. Similarly, Hanish and colleagues (Hanish et al., 2005) found results supporting the similarity-homophily hypothesis among preschool girls with externalizing behaviors. Those findings are consistent with studies at later ages (Cairns et al., 1988; Espelage et al., 2003).

Martin and colleagues' observational study (Martin et al., 2005) highlighted how important gender and behavioral homophily are for children's social clustering at preschool age. Children were more frequently engaged in same-gender interactions than in mixed-gender ones. In addition, the authors analyzed the similarity-homophily hypothesis for social competence, externalizing behaviors and internalizing behaviors. Differences between genders emerged, since socially competent boys tended to interact with both (socially competent) genders. By contrast, socially competent girls tended to interact more frequently only with socially competent girls. Moreover, socially competent boys interacted with both socially competent boys and externalizing boys. As far as children with internalizing behaviors were concerned, they interacted with both genders less than children with externalizing behaviors. Furthermore, van den Oord and colleagues (2000) investigated similarity for gender, age, physical attractiveness, appearance, popularity, rejection, prosocial and aggressive behaviors. The results on positive and negative nominations indicated that children who were similar were more likely to be friends, whereas children who were dissimilar more frequently expressed negative choices with each other. Age, appearance and attractiveness were not important determinants of children's choices, even if those variables turned out to be relevant at older ages. Also, prosocial behavior and popularity did not play a significant role.

Taken together such findings suggest that the similarity-homophily tendency within social affiliations is crucial since preschool age. As highlighted by Kindermann (1993), this social configuration has important implications for individual development that should be taken into consideration. Moreover, because the similarity-homophily tendency can encompass several aspects, such as socio-emotional competences, temperamental traits and language performances, such aspects should be taken into account in further research.

3.1.4. Aims

The first aim was to describe how children develop social functioning, linguistic skill and establish their RNs, also indicating the percentage of children at risk.

A second aim was to examine whether children's social functioning and linguistic skill were related to their RNs. We chose to employ the RN variable, rather than the received nominations or the friend nominations because the RN provided an index of mutual likability and larger relationships among peers.

A third aim was to investigate whether children who reciprocated each other displayed the similarity-homophily tendency as far as socio-emotional competence, temperamental traits and linguistic skill were concerned.

With regards to the hypotheses: First, we expected children to exhibit typically developed social functioning, linguistic skill and a normal level of RNs.

Second, we expected that children with higher levels of RNs would exhibit higher scores at social competence, and in temperamental traits such as social orientation, positive emotionality, attention, motor activity and linguistic skill. Conversely, we expected to find that children with higher levels of RNs would exhibit lower scores for anger-aggression, anxiety-withdrawal and inhibition to innovations.

Third, we expected children to prefer playmates with similar levels of socio-emotional competence, temperamental traits, and linguistic skill.

3.2. Method

3.2.1. Participants

The data were collected in 4 Italian preschool settings homogeneous per age, which were selected among different municipal schools, located in the metropolitan area of Bologna. Eighty-eight out of 95 eligible children received parental permission to participate in this study.

One child out of those 88 was not included in the study, since he was atypically developing. Three children were repeatedly absent, as a consequence it was not possible to collect all measures necessary for the study, therefore they were not included in the final sample.

The final sample used for the statistical analyses was thus composed of 84 children (41 males and 43 females) and their 4 teachers. The mean number of pupils per class was 21.5, with a range of 19-25 pupils for each class (*SD* = 2.64). The participants in two preschool settings were enrolled during their second year of Italian preschool. The participants in the other two preschool

settings were enrolled during their third year of Italian preschool. The mean age of the final sample of children was 62.53 (*SD* = 5.90) months, with a range of 51-74 months. An Independent T-test showed that children enrolled at the second year and children enrolled at the third year of Italian preschool differed significantly for age [$t(84)=-13.18$, $p < .000$]. The children were mostly Italian (91%), with a few being Eastern-European (5%), Asiatic (3%), and South-American (1%).

3.2.2. Data collection and procedure

Before starting the data collection, the teachers introduced the examiner to children, and they spent time in the classroom getting acquainted. After a period of time for adjustment, children were considered to be familiar with the examiner, who then started to administer the sociometric interview and the Peabody Picture Vocabulary Test - Revised to each child (Dunn & Dunn, 1981; Stella, Pizzoli & Tressoldi, 2000).

In order to allow time for classmates to become familiar with each other, the sociometric interviews were conducted during the second part of the school year. During the same period, teachers filled the Social Competence and Behaviour Evaluation Short Form questionnaire (SCBE-30; La Freniere & Dumas, 1996; D'Odorico & Cassibba, 2001) and the Italian Questionnaires of Temperament (QUIT; Axia, 2002). Teachers were not informed about the study hypotheses.

3.2.3. Measures

3.2.3.1. The Sociometric Interview

The Sociometric Interview was administered individually by the examiner to each child: "Who do you like to play with?". This is a modified version of Coie, Dodge, and Coppotelli's (1982) sociometric interview, in which the examiner asks each child to name children he/she likes the most or the least ("like most" and "like least" nominations). Children were asked to provide unlimited nominations of peers they "like to play with". This procedure was successfully used in a previous study on preschool children (Kutnick, Genta, Brighi & Sansavini, 2008).

The unlimited nominations procedure was used because of its high reliability in comparison to limited nominations (Terry, 2000). According to Terry (2000), unlimited nominations provided sociometric scores with more optimal psychometric distribution, such as a less skewed or a wider range set of scores in comparison to limited nominations procedure.

Also, to increase the stability of measurement, same-gender and cross-gender nominations were permitted (Terry & Coie, 1991).

Moreover, even if the negative nominations procedure is widely used, we preferred to avoid eliciting children's negative nominations, in order not to reinforce peer exclusion dynamics (Maassen & Verschueren, 2005). Because of the participants' age, pictures were used as support during the interview to aid in gathering reliable peer report data (McCandless et al., 1957; Asher et al., 1979; Keane et al., 2004). Also, before the administration of the sociometric questionnaire, a visual recognition task was conducted: care was taken to make sure that the child knew the names of each classmate in the pictures (Asher et al., 1979). Each participant was shown the photographs of their peers and he/she was asked to nominate all the classmates he/she liked to play with. The received nominations for each child, and the number of RNs for each child were calculated.

In order to test the similarity-homophily tendency, children's social affiliations were investigated. According to the procedure used by Salmivalli and colleagues (Salmivalli et al., 1997), on the basis of children's RN a social clique for each target child was created. A total of 68 social cliques were obtained. With regard to each social clique, a composite score was computed for all the variables of the study. This composite score was the mean for a particular competence, calculated among the social clique members' raw scores, excluding the target child. This procedure allowed us to compare for instance the social competence of the target child with the social competence composite score of its social clique. This procedure was carried on for all the study variables in order to obtain the different composite scores.

3.2.3.2. The Social Competence and Behaviour Evaluation – SCBE-30

The Social Competence and Behaviour Evaluation Short Form questionnaire with 30 items (SCBE-30; La Freniere et al., 1996; Italian version D'Odorico et al., 2001) was filled in by teachers. The teacher rated each child using a scale from 1 to 6 for each item. The SCBE-30 is a measure of 3-6 year-old children's social competence, affective expression, and adjustment success in the classroom. It is a well-validated measure, which is used in most studies on preschool's social competence (Denham, Mason, Caverly, Schmidt, Hackney, Caswell & DeMulder, 2001; Smith-Donald, Raver, Hayes & Richardson, 2007; Corapci, 2008). Items include positive and negative statements about a child's behavior and emotionality in relation to both peers and adults.

The 6-point scale includes 3 subscales: social competence (e.g., he/she cooperates with others), anxiety-withdrawal (e.g., he/she avoids new situations, he/she spends his/her time isolated from a peer group) and anger-aggression (e.g., disobedient when reprimanded).

3.2.3.3. The Italian Questionnaires of Temperament - QUIT

The Italian Questionnaires of Temperament ("Questionari Italiani del Temperamento – QUIT"; Axia, 2002) 6-point scales were filled by teachers. Currently, this is the only standardized measure of temperament for Italian children. This questionnaire was designed to measure children's temperament from 1 month to 11 years. The theoretical model of QUIT (Axia, 2002) includes 6 traits: three of them relate to specific adaptation to the social world (social orientation, positive, and negative emotionality), the other three relate to adaptation in general (motor activity, attention, and inhibition to innovations). Those 6 traits were measured with 6 subscales: social orientation (e.g. when he/she plays he calls his/her friends), positive emotionality (e.g. when he/she starts to talk he/she smiles) and negative emotionality (e.g. he/she becomes angry when criticized by friends), inhibition to innovations (e.g. the first reaction in front of a new task is refusal), attention (e.g. he/she is able to focus on a new task for a long time) and motor activity (e.g. when he/she plays he/she runs for a long time). For each subscale 10 items were proposed. Teachers were asked to indicate the frequency of a specific child's behavior in the last week. The scale items were rated on a 7-point Likert-type scale (almost never, rarely, it depends - usually no, it depends - usually yes, often, and almost always).

3.2.3.4. The Linguistic Skill – PPVT-R

The Peabody Picture Vocabulary Test - Revised (PPVT-R; Dunn et al., 1981) in the standardized Italian version (Stella et al., 2000) was administered to each child by the examiner. The PPVT-R test measures receptive vocabulary. Moreover, scores from the PPVT-R have demonstrated high internal consistency, and the test has good test–retest reliability (Williams & Wang, 1997). This test assesses 3.9-11.6 aged children's receptive linguistic skill by asking the child to identify words pronounced by the examiner, choosing for each word among four black and white drawings. Based on the correct answer, a raw score was performed, which later could be converted into a standard equivalent score.

3.2.4. Statistical Analyses

Descriptive analyses of the study variables were provided. Because several variables were not normally distributed (the values of kurtosis, skewness and Kolmogorov-Smirnov test), non-parametric analyses were computed.

To explore how RNs were related to different children's competences, Spearman's rank-order correlations were performed. According to Cohen (1988), the r value described the effect size, which is the strength of the relation (r = .1 small; .3 = medium; .5 = strong) (Kraemer, Morgan, Leech, Gliner, Vaske & Harmon, 2003).

To investigate whether children who reciprocated each other displayed the similarity-homophily tendency as far as socio-emotional competence, temperamental traits and linguistic skill were concerned, Spearman's rank-order correlations were performed.

All the analyses were run using the SPSS version 15 software package.

3.3. Results

3.3.1. Descriptive analyses

Descriptive analyses with mean and standard deviations of the study variables were provided in Tables 1-3.

Concerning the received nominations, the range was quite large (1-22) (see Table 1). This finding can be related to the usage of an unlimited nomination procedure. All children received at least one nomination by peers. With regard to RNs, children established two reciprocated ties on average. There were children with a higher number of reciprocated ties, up to eight. Most children (N = 68; 81%) showed at least one reciprocated tie, even if there were also children without RNs (N = 16; 19%).

With regards to the social competence subscale of the SCBE-30 (La Freniere et al., 1996), the mean of the 4-year-old boys were descriptively lower than the U.S. normative sample. Specifically, the teachers' ratings in the anxiety-withdrawal subscale were lower than the scores of the U.S. normative sample (La Freniere et al., 1996): teacher's ratings indicated that children were less anxious and withdrawn than the U.S. normative sample (see Table 2).

Furthermore, concerning the QUIT the mean scores of children in this study were quite similar to the mean scores of the normative sample from 4 to 6 years of age, even if the teachers' ratings for negative emotionality and inhibition to innovations were descriptively lower than the Italian normative sample (Axia, 2002) (see Table 3). With regard to linguistic skill, the mean of the raw scores was 71.00 (SD = 26.50), ranging from 9 to 120 (M = 71.00, SD = 26.50), which corresponded to an 83.10 mean of standard scores (SD = 30.98). Children scoring one standard deviation or below the mean were considered as typically developed for linguistic skill. The mean

Table 1

Descriptive Analyses (N = 84)

Measure	*Subscale*	*Mean*	*S.D.*	*Range*
SOCIOMETRIC INTERVIEW	Received Nominations	6.17	3.37	1-22
	Reciprocated Nominations (RN)	2.57	2.11	0-8

Table 2

Descriptive Analyses on Social Competence Evaluation - SCBE-30 (N = 84)

					Study Sample			Normative Sample	
					Mean	*S.D.*	*Range*	*Mean*	*S.D.*
Measure	*Subscale*	*Gender*	*Age*	*N*					
SCBE-30	Social competence	Boys	4 year olds	16	29.63	5.34	20-41	40.68	9.10
			5 year olds	24	40.92	8.23	25-54	38.57	9.23
			6 year olds	1	32.00	_	_	40.68	9.10
		Girls	4 year olds	10	35.00	8.01	20-45	39.35	8.95
			5 year olds	30	40.30	7.81	24-58	41.11	9.07
			6 year olds	3	46.00	6.56	39-52	43.65	6.66
	Anger-aggression	Boys	4 year olds	16	16.63	8.17	10-40	22.52	7.50
			5 year olds	24	20.42	9.54	10-46	19.40	8.77
			6 year olds	1	37.00	_	_	18.30	8.76
		Girls	4 year olds	10	20.30	10.54	13-46	19.99	9.45
			5 year olds	30	18.33	7.70	10-40	16.79	7.62
			6 year olds	3	22.67	7.09	15-29	15.49	6.23
	Anxiety-withdrawal	Boys	4 year olds	16	17.81	7.01	10-33	22.53	10.07
			5 year olds	24	14.96	4.27	10-28	21.59	8.10
			6 year olds	1	14.00	_	_	20.48	7.67
		Girls	4 year olds	10	16.10	4.28	10-25	22.89	7.86
			5 year olds	30	15.73	6.64	10-34	20.95	7.44
			6 year olds	3	13.67	4.73	10-19	20.06	7.07

Table 3

Descriptive Analyses on Temperamental Questionnaires - QUIT (N = 84)

				Study Sample			Normative Sample	
				Mean	*S.D.*	*Range*	*Mean*	*S.D.*
Measure	*Subscale*	*Age*	*N*					
QUIT	Social orientation	4 year olds	26	4.08	.88	1.80-6.00	3.98	.37
		5 year olds	54	4.84	.74	3.10-5.90	4.20	.45
		6 year olds	4	4.97	.33	4.60-5.40	4.04	.49
	Positive emotionality	4 year olds	26	3.66	.89	1.57-5.77	4.02	.56
		5 year olds	54	4.80	.87	2.11-6.62	4.13	.51
		6 year olds	4	5.14	.34	4.67-5.44	4.30	.51
	Negative emotionality	4 year olds	26	3.18	.79	1.00-4.37	3.45	.59
		5 year olds	54	2.84	.93	1.12-6.00	3.40	.55
		6 year olds	4	2.93	.76	2.00-3.87	3.48	.58
	Inhibition to innovations	4 year olds	26	2.95	.76	1.20-3.83	3.32	.63
		5 year olds	54	2.51	.84	1.08-4.08	3.38	.46
		6 year olds	4	1.93	.31	1.58-2.22	3.41	.47
	Attention	4 year olds	26	3.86	.45	3.33-5.55	3.83	.65
		5 year olds	54	4.26	.72	2.55-5.62	3.84	.63
		6 year olds	4	4.52	.57	3.87-5.11	4.06	.57
	Motor activity	4 year olds	26	3.40	.86	1.75-6.00	3.69	.42
		5 year olds	54	3.14	.85	1.27-4.83	3.74	.42
		6 year olds	4	3.79	1.48	1.75-5.17	3.68	.51

of standard scores 83.10 was slightly lower than 85, which was equal to one standard deviation for the normal population, with a mean of 100.

In addition, to assess whether children were at risk for social competence, social orientation, positive emotionality and attention, children scoring one and a half standard deviation or less below the mean of the normative sample were selected as at risk (see Table 4). To assess whether children were at risk for anger-aggression, anxiety-withdrawal, negative emotionality, inhibition to innovation and motor activity, children scoring one and a half standard deviation or more above the mean of the normative sample were selected as at risk. On the basis of the one and a half standard deviation cut-off, several children were at risk for social competence (N = 5; Male = 3, Female = 2) and anger-aggression (N = 8; Male = 4, Female = 4), while just one child was at risk for anxiety-withdrawal (see Table 1).

With regard to the QUIT subscale, on the basis of the one and a half standard deviation cut-off, several children were at risk for social orientation (N = 8; Male = 6, Female = 2), positive emotionality (N = 7; Male = 5, Female = 2) negative emotionality (N = 5; Male = 2, Female = 3), motor activity (N = 9; Male = 8, Female = 1), one child was at risk for inhibition to innovations, and two children were at risk for attention. Furthermore, to assess whether being at risk for linguistic skill affected RNs, children scoring one and a half standard deviation or less below the mean of the normative sample were selected. On the basis of the one and a half standard deviation cut-off, at-risk children for linguistic skill (N = 24; Male = 10, Female = 14) could be identified.

Table 4

Frequencies of at-risk children and non-at-risk children

		Non-at-risk children			At-risk children		
Measure	*Subscale*	*4 year olds*	*5 year olds*	*6 year olds*	*4 year olds*	*5 year olds*	*6 year olds*
SCBE-30	Social competence	22(26%)	53(63%)	4(5%)	4(5%)	1(1%)	0(0%)
	Anger-aggression	24(29%)	50(60%)	2(2%)	2(2%)	4(5%)	2(2%)
	Anxiety-withdrawal	26(31%)	53(63%)	4(5%)	0(0%)	1(1%)	0(0%)
QUIT	Social orientation	21(25%)	51(61%)	4(5%)	5(6%)	3(4%)	0(0%)
	Positive emotionality	22(26%)	51(61%)	4(5%)	4(5%)	3(4%)	0(0%)
	Negative emotionality	25(30%)	50(60%)	4(5%)	1(1%)	4(5%)	0(0%)
	Inhibition to innovations	26(31%)	53(63%)	4(5%)	0(0%)	1(1%)	0(0%)
	Attention	26(31%)	52(62%)	4(5%)	0(0%)	2(2%)	0(0%)
	Motor activity	24(29%)	49(58%)	2(2%)	2(2%)	5(6%)	2(2%)
PPVT-R	Linguistic skill	17(20%)	40(48%)	3(4%)	9(11%)	14(16%)	1(1%)

Note. Percentages are in parenthesis

3.3.2. Correlations between children's competences and their RNs

The first aim of this study was to examine the relationships among the numbers of RNs and socio-emotional competence, temperamental traits and linguistic skill (see Table 5). To achieve this aim, Spearman rank order correlations were performed. Positive correlations were found among the RNs and social orientation, positive emotionality, motor activity and linguistic skill. A tendency of positive relationship was found between the RNs and social competence. A negative correlation was found between the RNs and anxiety-withdrawal. No relationships were found for anger-aggression, negative emotionality, inhibition to innovation and attention.

The inspection of effect size revealed small effects for positive emotionality and motor activity whereas medium effect size was reported for social orientation, anxiety-withdrawal and linguistic skill.

Table 5

Correlations between children's competences and their RNs (N= 84)

		Reciprocated Nominations (=RNs)		
		Spearman rank-order r_s	*p*	*Effect Size*
Measure	*Subscale*			
SCBE-30	Social competence	.21	.052	Ns
	Anger-aggression	.09	.43	Ns
	Anxiety-withdrawal	-.39	.000	Medium
QUIT	Social orientation	.30	.006	Medium
	Positive emotionality	.22	.043	Small
	Negative emotionality	-.01	.96	Ns
	Inhibition to innovation	-.03	.80	Ns
	Attention	-.01	.95	Ns
	Motor activity	.27	.012	Small
PPVT-R	Linguistic skill	.33	.002	Medium

3.3.3. Children's social cliques similarities

To assess whether children prefer playmates similar to them as far as social emotional competences, temperamental traits and linguistic skill are concerned, according to the similarity – homophily tendency, a series of Spearman correlations were performed (see Table 6). The results revealed that the target child's competence scores were significantly and positively related to the social competence of the members of the clique, as well as to social orientation, positive emotionality, inhibition to innovations, attention and linguistic skill. Positive correlation tendencies were found for anger-aggression and motor activity. No other significant relationships were found.

Concerning the correlations, r values indicated small effect size for inhibition to innovations, medium effects size for social orientation, positive emotionality, attention and linguistic skill, and strong effect size for social competence.

Table 6

Spearman's rank-order correlations between individual children's scores and corresponding peer cliques scores for study variables (N = 68)

Measure	*Subscale*	*Spearman's rank-order r* r_s	*p*	*Effect Size*
SCBE-30	Social competence	.54	.000	Strong
	Anger-aggression	.22	.068	Ns
	Anxiety-withdrawal	-.02	.87	Ns
QUIT	Social orientation	.37	.002	Medium
	Positive emotionality	.30	.013	Medium
	Negative emotionality	.15	.22	Ns
	Inhibition to innovation	.28	.022	Small
	Attention	.30	.012	Medium
	Motor activity	.21	.090	Ns
PPVT-R	Linguistic skill	.30	.012	Medium

3.4. Discussion

Overall, the results of the current study provide several important contributions to the literature on the associations among peer relationships, social functioning and linguistic skill.

The first aim of this study concerned how children develop their relationships, social functioning and linguistic skill. The descriptive analyses on children's received nominations and RNs provided an interesting insight on children's reciprocated ties with peers. Regarding social acceptance, a positive result emerged, since all children received at least one nomination. This indicated that all children were taken into consideration by peers within the class group, and this suggested that there was a positive level of social inclusion within the classes. However, it is necessary to highlight that the sociometric question used in this study "Who do like to play with?" is an "unrestricted" procedure, contrary to the restricted friendship nomination "Who are your three best friends?" (Gleason et al., 2005) or "Who are your best friends?" (de Guzman, Carlo, Ontai, Koller & Knight, 2004). Moreover, it should also be noted that those nominations sometimes were unilateral as indicated by the presence of children without reciprocated ties.

With regard to reciprocated ties, descriptive analyses showed that most children had an average of two or three reciprocated ties. Importantly, RNs ranged from zero to eight peers: this result highlighted the importance of subgroups or cliques of different size since preschool age, such as small and medium groups. This is consistent with evidence reported by observational studies, which employed direct measure and where small and medium groups were frequently reported (Strayer et al., 1996; Barbu, 2003; Corsaro, 2003). Although all children received at least one nomination by peers, there was a low percentage of children without RNs, who were not able to establish a mutual relationship with peers. Thanks to the sociometric procedure used in this study, a broader picture of children's reciprocated relationships was also taken: having no RNs, having few RNs, having many RNs.

The descriptive analyses revealed that this sample was quite representative of the Italian population, and it was also confirmed by the low percentage of at-risk children in both genders, as far as social competence, anger-aggression, social orientation, positive emotionality and motor ability were concerned. The presence of at-risk children could be related to the inter-individual variability in children. Concerning the linguistic skill of the receptive vocabulary, the large range of PPVT-R scores and the low mean of the current sample were perhaps due to the presence of children whose mother tongue was not Italian, even if they spoke Italian as a second language. Also, the PPVT-R test (Stella, Pizzoli & Tressoldi, 2000) can be administered to children from 3.9 months of age to 11.6: since most of the sample used of this study included four to five year-old children, it could be that the PPVT-R test was less sensitive in comparison with older children.

The second aim of the present study was to examine the relationships among the number of RNs, the social functioning and linguistic skill. This hypothesis that relationships among the number of RNs and children's social functioning and linguistic skill exist was confirmed. The evidence indicated that children's social functioning and linguistic skill were linked to the number of reciprocal choices established by children. Specifically, the results from correlational analyses indicated that children with higher RNs showed higher social competence (tendency), social orientation, positive emotionality, motor activity and linguistic skill.

Theoretically, those relationships may be hypothesized as bidirectional. Children's competences, such as social competence, may contribute to establish several RNs. On the other hand, several reciprocated ties may promote children's competences. For such reason, the two hypotheses were taken into account when interpreting the correlations for social competence, anxiety-withdrawal and linguistic skill. Concerning the correlations between RNs and temperamental traits, which were more related to children's biological dispositions, the unilateral hypothesis was considered.

One comment should be made on the tendency trend for social competence. Even if it was just a tendency, the relationship between social competence and RNs suggested that children who were more cooperative and helping with others, who were more skilled at resolving conflict with peers were also able to built more reciprocated relationships. Indeed, social competence was consistently connected to peer acceptance and popular social status (Ciucci & Tomada, 1999; Diesendruck et al., 2006; Carpenter & Nangle, 2006; Walker, 2004; Nelson et al., 2005; Nelson et al., 2009; Blandon et al., 2010). Consistent with some studies on preschoolers, children with friendships were rated as more social competent than children without friends (Vaughn et al., 2000; Linsey, 2002; Cassibba et al., 2008; Engle et al., 2010). This study provided empirical evidence that this result was present also in reciprocated ties. Alternatively, another potential explanation for those findings could be that children with more RNs may experience more opportunities to foster their social skills. Perhaps children who were included in a peer group with a lot of mutual relationships, were more likely to be engaged in frequent social interactions with close peers, to exchange emotional contents and to preserve the interaction along time. For example, Olson and Lifgren (1988) found that positive peer nominations were longitudinally predictive of positive peer interactions. Also, having friends may be a facilitator of social competence. As indicated by Vaughn and colleagues (2000), preschool girls who had more friends exhibited longitudinally greater social competence. On the other hand, Engle and colleagues (2010) reported that preschool males with high-quality friendship in kindergarten exhibited significantly higher social skills in first and third grade.

The current findings on the positive association between reciprocated relationships and temperamental social orientation were consistent with the hypothesis that children who paid attention to the social world and its stimuli i.e. children who invited often the other peers to play and prefer to play with peers instead of being alone, achieved more opportunities to establish mutual relationships among peers. This finding is consistent with Skarpness and Carson's study (1986), which indicated that children who were more temperamentally sociable exhibited also more mutual friendships (Skarpness & Carson, 1986). However, the current study added new insight on the linkage between social orientation and reciprocated ties.

In addition, the positive emotionality also turned out to be a relevant variable for the RNs. Children who had high positive emotionality (i.e. smiling and laughing), could be more attractive for other children. As a consequence they probably engage in an easier way in interaction with them, as suggested by observational studies (Martin, Fabes, Hanish & Holleinstein, 2005). Also, those children were more accepted, as suggested by experimental studies (Schultz, Ambike, Buckingham-Howes & Cheah, 2008), and established more friendships (Denham, McKinley, Couchoud & Holt, 1990). The result of the present study extended this relation to reciprocated ties.

The current study revealed a positive relationship between the motor activity and RNs. Children who were more "active", for example who tended to express a high level of physical engagement (i.e. run a lot in motor plays) could achieve a positive peer reputation, in particular for males (Gleason, Gower, Hohmann & Gleason, 2005). The current study's findings extended the linkage between motor activity and friendships to reciprocated ties, even if it did not take into consideration gender differences.

Concerning the linguistic skill, two hypotheses were considered. Children's linguistic skill may influence the number of RNs; on the other hand, the number of RNs may promote children's linguistic skill. The findings suggested that children who liked to talk a lot with their mates during play session, increased their receptive vocabulary, and as a consequence they could be abler to manage peer interactions and to resolve conflicts. This ability to maintain an interaction along time in a positive way may lead children to establish more relationship ties with playmates, and in particular the talking ability could be crucial in order to increase closeness among children and their degree of reciprocity. This is consistent with research on peer rejection in poorer linguistic skilled children (Menting et al., 2010) and with research on friendship in children with language impairments (Fujiki, Brinton, Hart & Fitzgerald, 1999). In particular, linguistic skill represented the first step of interaction, which allowed to correctly understand and answer peers' messages. In the current study only the receptive vocabulary ability has been taken into consideration, which is just one facet of language skills. Future research should be conducted on linguistic expressions, and

more in-depth research on pragmatic skills of typically developing preschool children. Alternatively, another potential explanation is that having friends may contribute to the development of linguistic receptive ability. Perhaps, linguistically skilled friends provide a positive model for less skilled children.

Moreover, a negative relationship was found between the RNs and anxiety-withdrawal, highlighting that shy and anxious children who tended to be socially avoidant and disinterested, and exhibited social fear and sadness, are more likely to play alone and to be isolated by peers. Therefore, children who display withdrawal behavior would have more difficulties in establishing reciprocated ties. This is consistent with the results on the linkage between children's anxiety and peer rejection (Coplan, Closson & Arbeau, 2007; Rydell, Diamantopoulou, Thorell & Bohlin, 2009). Also, it could be that children who for several reasons were not able to extend the boundaries of their reciprocated ties developed a negative peer reputation, and as a consequence they started to express withdrawal behaviors (Bierman, 2004). For example, Ladd and Troop-Gordon (2003) reported that children friendlessness in first grade predicted internalizing behaviors at later ages.

Specifically, the inspection of the effect size revealed the important role of social orientation, anxiety-withdrawal and linguistic skill. This result suggested that social orientation, which is a temperament trait, and anxiety-withdrawal can be partially seen as two opposite social dimensions, one which describes the tendency of children towards the others and one which describes the tendency to social withdrawn. Both dimensions were strictly related to the extent of children close-ties. It is also interesting to note the crucial role of linguistic skill in this field. Children who were able to better understand others' ideas, beliefs and emotions were also more likely to established close ties and maintain them.

Unexpectedly, no relationships were found for anger-aggression, negative emotionality, inhibition to innovation, attention and RNs. Although the literature has found aggression to be a risk factor for peer rejection (Nelson et al., 2010; Walker, 2004; Ladd, 2006), the findings of the present study are consistent with studies which failed to show differences in friendship between aggressive children and non-aggressive children (Sebanc, 2003; Engle et al., 2010). Moreover, the present study extended this result to reciprocated ties. With regard to negative emotionality, inhibition to innovation and attention, these temperamental traits may perhaps be less powerful in establishing reciprocated ties, in comparison to other temperamental traits.

At the broadest level of analysis, the evidence yielded by this investigation supported the theoretical premises. Although little is known about reciprocated ties, these findings revealed that this form of relationship is strictly related to social functioning and linguistic skill. This empirical evidence suggested that more attention should be paid to reciprocated ties, social functioning as

well as linguistic skill since preschool years. In particular, more studies should investigate the relationships between temperamental dimensions and peer relationships.

The third aim of this study was to examine similarity – homophily tendency in relation with social functioning and linguistic skill in children's cliques. Consistent with expectations, children who belonged to the same peer cliques displayed similarity in social competence, anger aggression (tendency), social orientation, positive emotionality, inhibition to innovations, attention, motor activity (tendency) and linguistic skill. In particular a strong effect size was reported for social competence. As previously highlighted, the similarity – homophily tendency may be due to a selection process or a socialization process. Accordingly, both hypotheses, the selection and the socialization process, were taken into consideration, when interpreting the results in relation with children's competences. Instead, a socialization process could be less plausible as far as temperamental traits were concerned, since they are more related to biological dispositions.

According to the selection process, children who were socially competent tended to seek interaction with similar peers, instead of peers with higher aggressive behaviors. According to the socialization process, it could be that children spending a lot of time interacting with their peers, reciprocally develop turn-taking ability, strategies to resolve conflict and become more socially competent. On the other hand, previous results on similarity among preschool friends revealed a mixed picture in relation with children's social competence. Concerning social competence and prosocial behavior, research failed to find a similarity tendency among preschool friends (van den Oord et al., 2000; Vaughn et al., 2001); on the contrary, Martin and colleagues' (2005) observational study suggested that competent children tend to entry and return to interact more frequently and faster with similar competent children. Our findings on social competence were coherent with Martin and colleagues' findings, rather than with results coming from the sociometric research of Van den Oord and colleagues (2000) or Vaughn and colleagues (2001). This difference could be connected with the different sociometric methods used across studies.

In addition, affiliation among similarly aggressive children has been already investigated across studies on preschool-age and older children (Farver, 1996; van den Oord et al., 2000; Hanish et al., 2005; Martin et al., 2005). Even if it is a tendency in relationship, the empirical evidence of the current study was congruent with the findings of the previous studies on friendship and extended this relation to reciprocated ties. Aggressive children may be more attractive for other similarly-aggressive children than more socially-competent children, since they share their interaction style and feel more familiar to them. This interpretation pertained to the similarity-selection hypothesis. Following the similarity-socialization hypothesis, those children may be

excluded by other children because they were being too aggressive, and they could select reciprocated ties only among groups of aggressive children.

With regard to temperamental traits such as social orientation, positive emotionality, inhibition to innovations, attention and motor activity, to the author's knowledge, this is one of the first studies to investigate similarity in those variables among preschools friends or reciprocated ties. Findings showed that children choose playmates who resemble them in several temperamental traits. It may be that socially oriented children who were more "liked" among peers, who invited others to play and spent most of their time playing within the peer group, not only were abler to establish higher RNs but they were also more attractive for children with similar social disposition.

In addition, empirical evidence of a similarity hypothesis for positive emotionality was found. Children who smile and laugh quite often prefer children who share their interaction style. Perhaps they chose as reciprocated ties children who were responsive to their smiles.

Children who exhibit inhibition to innovations were more attractive for children with a similar degree of inhibition. Inhibited children may find extroversive children too intrusive. In addition, it could be that less inhibited children preferred to establish reciprocated ties among themselves and thus excluded dissimilarly-inhibited children.

Evidence for attention similarity was also found. For example, children who share a similar degree of attention for tasks could more frequently get engaged in similar play, requiring a high degree of attention, and as a consequence established more reciprocated ties among them.

Finally, children also tended to choose peers who resembled them in motor activity degree. Perhaps children with high motor activity degree are considered with a positive reputation and as a consequence they choose to establish reciprocated ties with similar high socially accepted children.

Moreover, our findings suggested that a similarity-homophily hypothesis could also encompass linguistic skill. It may be that children with a similar degree of linguistic skills were more likely to manage comparable conversation during play and for this reason tended to reciprocate with each other. Conversely, it could also be the case that children who spent a lot of time playing together developed greater linguistic skill.

Unexpectedly, we failed to find similarity in anxiety-withdrawal and negative emotionality.

Perhaps, those variables were not so powerful at influencing children's choices for reciprocated ties, in comparison with other children's characteristics.

Taken together, the results of the current study advance the existing knowledge for the similarity – homophily hypothesis in reciprocated ties at preschool (Byrne, 1971; Hallinan, 1980).

Some comments regarding these results should be made. A first comment concerns the relationships among children's RNs and several dimensions of social functioning, as well as

linguistic skill since preschool years. These findings highlighted the importance for children to establish and maintain several reciprocated ties in order to promote social functioning and linguistic skill. Conversely, those results underlined that children who were not able to establish several reciprocated relationships could be at risk for social maladjustment. In agreement with prior research, this study draws attention to the crucial role of children's relationships for their development and adjustment (Hartup, 1996; Betts et al., 2007; Baumgartner, 2008). On the other hand, these findings also suggested the relevant role of positive social functioning and high linguistic skill in order to establish a higher number of reciprocated ties.

Second, this study highlighted that children tended to choose similar peers for reciprocated ties.

In addition, to the author's knowledge, this is one of the few studies which took into consideration the reciprocated ties and the social cliques that formed on the basis of such ties. Moreover, this is one of few studies to investigate the links between peer relationships, specifically reciprocated ties, socio-emotional competence, temperamental traits and linguistic skill.

Moreover, this study has taken into consideration multiple competences and temperamental traits concurrently, rather than investigating only few aspects.

Finally, another strength of this study was that it employed multiple sources of information – peers, teachers and research assistants – rather than relying solely on one informant.

3.4.1. Limitations

The study contains limitations. We took into consideration children's nominations, instead of multiple informants about their relationships, such as teachers or parents. Also, the sociometric procedure is basically an indirect report on children's relationships and not a direct measure, even if the literature suggests that a sociometric interview provides reliable data since preschool age.

Additionally, the sample of this study displayed a high percentage of children at risk for linguistic skill, yet caution is needed in the interpretation of results, and future research should be conducted in order to replicate those findings.

Moreover, influences of age or gender were not taken into consideration, since the study variables were not-normally distributed and it was not possible to control for age or gender effects as in parametric correlations.

3.4.2. Policy implications

Based on the present findings, it should be noted that teachers might play a special role in facilitating and improving children's relationships and enhance the degree of reciprocity among peers (Johnson, Ironsmith, Snow & Poteat, 2000; Buysse, Goldman & Skinner, 2003; Hollingsworth & Buysse, 2009). Also teachers could be relevant in prevent negative affiliations among similar peers in "negative" cliques. In this view, teachers may organize workgroups in order to facilitate the establishment of relationships between children with mixed level of social functioning (positive and negative) and in this they could limit the spontaneous similarity-homophily tendency among peers.

3.4.3. Future research

Further research should investigate the reciprocated tie relationship in depth, for example the quality of this type of relationship should be taken into consideration. Also, the use of sociometric interviews followed by more complex questions about children's relationships should be employed in future research.

Interestingly, RNs' longitudinal effects on social functioning and linguistic skill could be an important future direction for research. Also, it could be important to investigate the associations among RNs and other sociometric indexes, such as peer acceptance and friendships.

Further research is needed to clarify the development of social groups in preschool children and the role of social functioning and language in peer groups.

Conclusions

The aim of this dissertation was to contribute to the understanding of peer relationships, peer affiliation, social functioning and linguistic skill in preschool children's development.

The major questions for this dissertation were:

1) What is children's social experience of peer groups in child and teacher led contexts?

2) How children develop their reciprocated nominations, the socio-emotional competence, temperamental traits and linguistic skill?

3) What are the relationships among children's reciprocated nominations, the socio-emotional competence, temperamental traits and linguistic skill?

4) Is there a similarity – homophily tendency within preschooler cliques for socio-emotional competence, temperamental traits and linguistic skill?

To answer those questions, two studies were conducted and an update review of the theoretical framework and research findings on peer groups, socio-emotional competence, temperamental traits and linguistic skill was provided.

In the following paragraphs, the answers to those questions will be briefly summarized. After that, general conclusions will be presented, addressing major strengths, limitations and implications of this dissertation.

Study 1 - Peer groups in preschool settings: Peer's social experience in child and teacher led contexts

Study 1 (see Chapter 2) examined the patterns of social interactions in child and teacher led contexts among preschoolers, taking into account group size, gender affiliation, child interactions and the role of teachers in peer groups. From the data on the comparison of the two social contexts, two clear patterns of children's social experience emerged. In child led contexts, children were likely to be alone, in dyads, and in small peer groups; they got involved in solitary, dyads and small peer groups as well as in same-gender groups, engaging in joint interactions. By contrast, in teacher led contexts, children were more likely to get involved in small, medium and whole class groups as well as in mixed-gender groups, engaging in parallel interactions.

This study also found that the teacher's role in peer groups was quite different in the two contexts (Goncu & Weber, 2000; Walsh, 2006; Siraj-Blatchford & Sylva, 2004). Specifically, in child led contexts, teachers were rarely engaged in children's activities, whereas in teacher led contexts, the frequency of their involvement was higher. In teacher led contexts, teachers more

frequently played an active role in most categories: introducing, observing, directing, responding to children's initiatives, and acting.

Taking those findings together, the research underlined the importance of paying attention to the types of groups children experience at preschool, in order to better promote their social competences and learning (Kutnick, Genta, Brighi & Sansavini, 2008a). It seems that a balanced use of large and small groups should be implemented in teacher led contexts, in order to meet both children's initial needs and the teachers' pedagogical aims: children get highly engaged when in small groups, while teachers get a better opportunity to well manage groups in the case of large groups. In particular, this study highlights the crucial role played by teachers in encouraging peer interactions through play-based teacher led activities.

Study 2 - Peer relationships and affiliation: Socio-emotional competence, temperamental traits and linguistic skill

The purposes of Study 2 (see Chapter 3) were to examine the development of children's socio-emotional competence, temperamental traits and linguistic skill. Moreover, it examines the role of children's reciprocated nominations (=RNs) with peers, assessed via sociometric interview, in relation to socio-emotional competence, temperamental traits and linguistic skill. Finally, the similarity-homophily tendency was investigated. Socio-emotional competence and temperamental traits were assessed via teacher ratings, linguistic skill via test administration. Eighty-four preschool children (*M* age = 62.53) were recruited within 4 preschool settings.

First, the results revealed that children were quite representative of preschool population.

Second, the results showed significant relationships among children's RNs and several dimensions of social functioning and linguistic skill since preschool years. Those findings highlighted the importance for children to establish and maintain several reciprocated ties in order to promote social functioning and linguistic skill. Conversely, those results underlined that children who were not able to establish several reciprocated relationships could be at risk for social maladjustment. In agreement with prior research, this study draws attention to the crucial role of children's relationships for their development and adjustment (Hartup, 1996; Betts et al., 2007; Baumgartner, 2008). On the other hand, these findings also suggested the relevant role of positive social functioning and high linguistic skill in order to establish a higher number of reciprocated ties.

Third, this study highlighted that children tended to choose similar peers for reciprocated ties. Children who belonged to the same peer cliques displayed similarity in social competence, anger aggression (tendency), social orientation, positive emotionality, inhibition to innovations, attention, motor activity (tendency) and linguistic skill. In particular, a strong effect size was

reported for social competence. Notably, Study 2 has provided empirical evidence for the similarity-homophily hypothesis on several aspects of social functioning and linguistic skill in relation with preschool children reciprocated ties.

Overall, the results of Study 2 provided several important contributions to the literature on the associations among peer relationships, peer affiliation, social functioning and linguistic skill.

General conclusions

The results corroborated the premises that peer groups, peer relationships, socio-emotional competence, temperamental traits and linguistic skill are crucial for children's positive adjustment since preschool years.

The findings of Study 1 suggested that the two contexts, child-led and teacher-led, are crucial and affect children's social experience, in terms of group size, gender affiliation, type of interaction and role of teachers in peer groups. Notably, this study provides empirical contribution to the line of research that emphasized the effects of context on children's social development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998; Molinari, 2002). Moreover, the results showed that teachers and peers represent two different agents of socialization.

First, as far as peers are concerned, the main conclusions are presented on the basis of three facets of social life: interaction, relationship and peer group (Rubin, Coplan, Chen, Buskirk & Wojslawowicz, 2005).

Peer interaction was investigated in Study 1. The results on the frequency of joint interactions in children led group were notable for the possible effect on the development of social competence. It was within the context of peer interaction that children could establish different types of relationships.

Concerning peer relationships, for example children may be liked by peers for their skills, thus increasing their social acceptance within the class group. Also, children may develop close ties with peers, because they reciprocally like to play together. It could also be the case that children establish and maintain particular ties with peers, i.e. "very best friends", because they share enjoyment, positive affect and trust. The importance of reciprocated ties has been argued in Study 2. The findings highlighted the importance for children to establish and maintain several reciprocated ties in order to promote social functioning and linguistic skill. Conversely, those results underlined the relevant role of positive social functioning and high linguistic skill in order to establish a higher number of reciprocated ties. On the other hand, those findings also suggested that children who were not able to establish several reciprocated ties could be at risk for social maladjustment.

With regard to peer groups, even if dyads occurred frequently in children's affiliation according to Study 1, small group affiliations are crucial since preschool age, as observed in the ethological literature (Barbu, 2003). Those results partially correspond to findings on peer groups reported in Study 2. As observed, children's cliques based on RNs were typically small groups of 3-4 members, whereas peer cliques were slightly larger, being composed of up to 8 members. This difference could be due to the fact that the two instruments had a different purpose: the sociometric interview was used to observe how many peers children would (reciprocally) choose, while mapping was used to observe the prevailing type of social configuration. Moreover, the results of the two studies were consistent with the similarity-homophily hypothesis: children preferred peers who displayed similarity insocial competence, anger-aggression, social orientation, positive emotionality, inhibition to innovation, attention, motor activity and linguistic skill.

Second, with regard to teachers' role, a higher frequency of parallel interactions,when compared with joint interactions, was observed in teacher led context. On the other hand, teachers organize large groups, composed by children with different degree of competences and mixed-gender. This can be seen as an effort to reduce the similarity-homophily tendency of children for social-functioning, linguistic skill and gender affiliation.

General conclusions: Major strengths

The strength of Study 1 was that it employed an observational method. The use of a direct method provided reliable data for the analyses.

The strength of Study 2 was that it employed multiple sources for children's assessment: peers, teachers and research assistants, rather than relying solely on one informant. In addition, the concurrent assessment of different facets of children's competences and features, such as socio-emotional competence, temperamental traits and linguistic skill provided a global picture of children's characteristics and competences.

General conclusions: Major limitations

These studies showed some limitations. The number of school settings and children used for data collection of Study 1 is relatively low; further studies are therefore needed to test whether these results can be generalized.

With regard to Study 2 only children's nominations were taken into consideration, instead of having multiple informants reporting on their relationships, such as teachers or parents. Also, the sociometric procedure used is basically an indirect report on children's relationships and not a direct measure. Future research should consider both indirect and direct measures of children's

relationships. Maybe the use of sociometric interviews followed by more complex questions about children's relationships should be employed in future research.

Moreover, since the study variables of Study 2 were not-normally distributed, it was not possible to control for influences of age or gender.

General conclusions: Major implications

Some policy implications emerged about the role of teachers in organizing the patterns of children's social experience. Teachers might play a special role in facilitating the degree of reciprocity among peers and increasing children's reciprocated ties. Also teachers could be relevant in preventing negative affiliations among similar peers in "negative" cliques. In this view, teachers may organize workgroups in order to facilitate the establishment of reciprocated ties between children with mixed level of social functioning (positive and negative) and in this regard they could limit the spontaneous similarity-homophily tendency among peers.

Teachers should plan their activities with the aim of prompting complex and joint interactions among children. Indeed, they could shape children's social experience in order to improve children's skills.

Moreover, teachers should plan and implement socio-relational training in order to improve children's socio-emotional and linguistic skills, since those characteristics play such a major role in children's positive adjustment.

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