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# Bully/Victim Problems among Preschool Children: Naturalistic Observations in the Classroom and on the Playground

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*Abstract: Studies examining the process of victimization in the preschool are limited. The present research provides qualitative data regarding the prevalence rates as well as the background of victimization interactions taking place among preschool children. A total of 167 children (4-6 years) in Greece participated in the present study. Data were collected through unobtrusive naturalistic observations. All in all, 158 episodes of victimization were recorded. Preschool children engaged more frequently in physical bullying interactions compared to verbal and relational bullying. Most episodes took place during joint play activities. One out of three attacks in the preschool was organised by a whole group of peers. Bystanders played an important role in relation to victimization process. Moreover, active supervision related to the way both aggressors and victims react. Preschool bullies showed more impulsive and less prohibited behaviour. The percentage of teacher intervention in the preschool was higher compared to prior data. Contrary to prior research conducted in primary and secondary schools, our analyses showed that bullying episodes occurred more frequently into the preschool classroom than on the playground. Implications for educational interventions are highlighted.*

*Keywords: Bullying, Preschool Children, Physical and Social Environment*

## Introduction

**B**ullying is defined as an aggressive act which is carried out repeatedly and is characterized by an imbalance of power (Farrington, 1993; Olweus, 1999; Smith and Sharp, 1994). Most of the research undertaken for studying bullying in schools has emphasised on middle childhood and adolescence, while there is scarce empirical evidence concerning the manifestation and development of the problem in early childhood years. However, the evidence emanating from the limited number of studies available supports the existence of this problem even in such an early developmental phase and addresses its adverse effects on many aspects of children's later life including school avoidance, peer-rejection, emotional difficulties, etc. (see, Vlachou, Andreou, Botsoglou & Didaskalou, 2011).

An account for the limited number of studies available in preschool education relates to the methodological constraints underpinning the investigation of bullying at this particular early developmental phase. However, recent evidence indicates that preschoolers can be the perpetrators and victims of both direct and indirect peer aggression and that children of this age are capable of displaying different forms of bullying such as verbal, physical and relational (social exclusion) (Alsaker and Gutzwiller-Helfenfinger 2010; Crick, Ostrov, Burr, Cullerton-Sen, Jansen-Yeh and Ralston, 2006; Malti, Perren and Buchmann, 2010; Monks, Ruiz and Val, 2002). Björkqvist and colleagues (Björkqvist, Österman and Kaukiainen, 1992; Björkqvist, Österman and Lagerspetz, 1994) showed that physical aggression is more frequent in preschool children compared to relational and indirect forms of aggression. In a study conducted with preschool children in Switzerland, data showed that 6% of children were classified as victims, 10% as bully-victims, 11% as bullies, and 47% were not involved in bullying. A 17% of the remaining children could not be categorized according to the researchers' criteria (Perren and Alsaker, 2006). Using peer nominations Monks, Smith and Swettenham (2005) found that

preschool participants nominated peers for taking the roles of aggressor, victim or defender. Although almost 30% were not assigned to any clear role, a quarter were assigned to the role of aggressor, 22% to the role of victim and 16% to the role of defender.

Victimization takes place within a group context. Despite descriptions of bullying as a group phenomenon (Craig and Pepler, 1995; Rodkin, Farmer, Pearl, and Van Acker, 2006; Salmivalli, and Peets, 2008), much of the research has focused on the characteristics of and the interactions between individual bullies and victims (Craig and Pepler, 1995; Salmivalli, Lagerspetz, Björkqvist, Österman and Kaukiainen, 1996). In relation to this, little is known about playful interactions among peers and bullying incidence in the preschool context. Regarding peers, prior research has identified, apart from central participant roles, five peripheral roles: the assistant, the reinforcer, the defender, and the observers (Salmivalli et al., 1996). These roles have been identified in children aged 12–15 years (Salmivalli et al., 1996; Salmivalli, Lappalainen, and Lagerspetz, 1998) and 7–10 years (Sutton and Smith, 1999). Previous studies based on peer nominations and teacher reports showed that preschool children often nominate peers for the roles of aggressor, victim, and defender, they do not so often nominate peers for the more peripheral roles of assistant, reinforcer, or observer in aggression (Monks et al., 2002; Monks, Smith and Swettenham, 2003; 2005). Up to now, there is limited data examining the peripheral roles in preschool children through naturalistic observations. Based on observational data on the playground and into the classroom, prior research showed that peers were present during 85% of bullying episodes, in various roles ranging from active participants to passive observers (Atlas and Pepler, 1998; Craig and Pepler, 1995). Although present, peers rarely intervened: they were observed to intervene in 10% of bullying episodes in the classroom (Atlas and Pepler, 1998) and 11% of bullying episodes on the school playground (Craig and Pepler, 1995). When bullying occurred on the playground, observers reinforced the bullies' aggression through their attention. Global ratings of peer behaviors indicated that peers reinforce the bullies' behaviors, in some way, in 81% of bullying episodes (Craig and Pepler, 1995). O'Connell, Pepler and Craig (1999) found that playground bullying behaviors appear to have a high potential for drawing peers into actively assisting the bully and that peers reinforced bullying 54% of the time by passively attending to the episode and not helping the victim.

The physical attributes of the early childhood classroom can be as critical for early childhood program's quality, as teacher education and experience (Maxwell, 2007). In a recent study examining the physical environment of the preschool classroom, it was shown that locations within the classroom must receive consideration in designing intervention strategies for the reduction or elimination of particular aggressive acts of preschool children (Decker and Decker, 1997; McEvoy, Reichle, and Davis, 1999). School playgrounds are, also, particularly prone to be sites for aggression problems (Leff, Costigan and Power, 2004; Nabors, Leff, and Power, 2004). Furthermore, the playground environment is typically more conducive to aggressive behaviour than the classroom setting (Craig and Pepler, 1997; Craig, Pepler and Atlas, 2000). Craig et al. (2000) found that aggressive behaviors occurred nearly twice as frequently on the playground as in the classroom. There has been insufficient research on playground aggression even though the playground is a school setting where aggressive behaviors occur frequently (Craig and Pepler, 1997; Craig et al., 2000). There are four important aspects of the playground setting that may impact playground aggression: (a) playground activities available to children (Nabors, Willoughby, Leff, and McMenamin, 2001; Pellegrini, Blatchford, Kato and Baines, 2004); (b) the ratio of playground supervisors to children on the playground (Ladd and Price, 1993; Leff et al., 2004); (c) active supervision (Leff, et al., 2004; Leff, Power, Costigan, and Manz, 2003; Nabors et al., 2004); and (d) playground rules (Leff et al., 2003). Although researchers, pointed out the scarcity of data concerning the relation between the physical environment and aggressive behaviours, limited research has been conducted in this area (Altomare, Vondra and Rubenstein, 2005; Coyne, Archer and Eslea, 2006; Crain, Finch, and

Foster, 2005; Hill, Degnan, Calkins and Keane, 2006; Keenan and Shaw, 1997; Nelson, Hart, Yang, Olsen and Jin, 2006; Ostrov, Crick and Stauffacher, 2006).

The present research was designed in order to provide qualitative data regarding the prevalence rates as well as the background of victimization interactions taking place among preschool children. We hypothesized that preschool children would show more frequently physical aggression in comparison to verbal and relational bullying. Since victimization is a group process, episodes would occur more frequently during group rather than joint or solitary play. In relation to this, group bullying episodes and peripheral roles would be observed in preschool children. In order to acquire a closer insight on victimization episodes, victims', perpetrators' and supervisor reactions will be examined. Finally, we hypothesized that bullying episodes would be more frequent when active adult supervision is loose. In relation to physical environment, we hypothesized that the bullying episodes observed would be more frequent on the playground than into the classroom. In addition, victimization would be more frequent in non-specified, i.e. open spaces, rather than in specified places, i.e. learning centers.

## **Method**

### ***Participants***

Participants were 167 children (88 girls and 79 boys) recruited from eight preschools classes in Greece. Schools were randomly selected and were located at middle income urban areas. Out of the 167 participants, the 115 children were 5 to 6 years old and the 52 were 4 to 5 years. Participants came from families of Greek, Albanian and/or East Balkan background. Some participants had a mixed nationality background. All participants had already attended school for at least two years.. Children officially diagnosed with learning difficulties and/or disabilities did not participate in the present research. Teachers and children's parents were contacted directly by the researchers and were thoroughly informed on the content of the present investigation. Parents' written consent was obtained before children were asked for their voluntary participation in the research.

### ***Procedure***

A series of naturalistic observations were carried out in order to record bullying episodes. Participants were observed during regularly scheduled free play periods into the classroom, and outdoors on the playground. The work of Ostrov and Keating (2004) revealed that recording observations on paper as they occurred was less disruptive in preschool settings than videotaping interactions: unlike the response to camcorders, children quickly grew bored with the clipboards observers carried. Conversations among children are easier to distinguish for an observer posted a few feet away from the action than for a coder relying on videotaped interactions recorded at some distance. Moreover, school directors, parents, and teachers are more comfortable with written than videotaped data records. Thus, we developed an observational checklist and relied on written records of live observations for data collection.

In order to carry out naturalistic observations two trained and experienced observers took notes independently one from the other. In the beginning, the observers were introduced to the children and teachers, spending a few days in the classroom to let others adjust to their presence and to memorize the names of study participants. The observers did not generally interact with the children or with teachers. Their presence into the classroom and on the playground became a routine and was largely ignored, which is a fundamental goal of observational procedures (Pellegrini, 1998, 2001). Observations were collected during the middle of school year, so that the children were well acquainted with each other (Laursen and Hartup, 1989). Also, during the second semester, children would have got to know each other well, and have shared many experiences. In all cases, participant's anonymity was ensured. Each participant (focal child) was

observed for a total period of forty minutes, 20 minutes into the classroom and 20 minutes on the playground. Those 40 minutes of observations were divided into 4 periods of 10-minute observations. Therefore, each child was observed at 4 different times interacting with his/her peers over the course of a week. The observers remained within earshot of the focal child and did their best to remain unobtrusive. Interactions with children were avoided by appearing to study information on the clipboards the observers carried. The researchers used an observational form that contained the list of categories as follows: central participant roles (victim, bully, bully-victim), forms of bullying (verbal, physical, relational), forms of play (group, joint, solitary play), group bullying, peripheral roles, the reaction of the victim, the bully and the teacher, active adult supervision and location of the episode. For each bullying episode corresponding categories on the observational checklist were checked. We defined an episode as an incidence (occurrence) during which a victimization interaction took place. Coding for all variables except from participants' reactions was made a priori. Based on field notes, data concerning the reactions of victims, bullies and teachers were coded and classified into sub-categories (see Appendix for scoring and coding procedure).

## **Results**

A series of data analyses was carried out. First, the frequencies of central participant roles were calculated in relation to the three forms of bullying. Then, we were interested to analyze the background of bullying episodes. Finally, and in order to get a more detailed insight on bullying episodes background, we were interested to examine the interaction between some of our research variables.

### ***Prevalence of Central Participant Roles***

Based on field notes, children were assigned to the role for which they were observed to undertake twice or more. If they were observed to assume more than one role they were assigned to a dual role. Table 1 illustrates the frequencies for the central participant roles as noted down by the two researchers separately. Also, agreement between the two raters (Cohen's Kappa) was calculated for each form of bullying.

Table1: Central participant roles in preschool children

		Rater 1		Rater 2		Inter-rater Agreement
		N	%	N	%	
<b>Verbal Bullying</b>	<b>No central role</b>	146	87.4%	146	87.4%	K=.87 Sig=.000**
	<b>Victim</b>	6	3.6%	4	2.4%	
	<b>Bully</b>	11	6.6%	10	6.2%	
	<b>Bully-victim</b>	4	2.4%	7	4.2%	
<b>Physical bullying</b>	<b>No central role</b>	96	57.4%	96	57.4%	K=.88 Sig=.000**
	<b>Victim</b>	31	18.6%	32	19.2%	
	<b>Bully</b>	31	18.6%	28	16.8%	
	<b>Bully-victim</b>	9	5.4%	11	6.6%	
<b>Relational bullying</b>	<b>No central role</b>	120	71.9%	120	71.9%	K=.88 Sig=.000**
	<b>Victim</b>	18	10.7%	19	11.3%	
	<b>Bully</b>	24	14.4%	20	12%	
	<b>Bully-victim</b>	5	3%	8	4.8%	

\*p&lt;.05 \*\*p&lt;.001

Prevalence rates for the central participant roles were calculated. Our results show that the 167 participants a 12.4% of the children observed were involved in verbal bullying episodes as perpetrator, victim or bully-victim, 57.4% in physical bullying, and a 28.1% in relational bullying. In addition, Cohen's Kappa outcomes show that agreement between the two raters for the three forms of bullying is significant.

### *Analyses of Bullying Episodes' Background*

At a second phase, data collected through field note-taking were elaborated. Table 2 illustrates the frequencies for aspects related to social features and physical environment as recorded by the two researchers separately. Also, agreement between the two raters (Cohen's kappa) was computed for each category separately.

Table 2: Categories for bullying episodes

Category		Rater 1		Rater 2		Inter-rater Agreement
		N	%	N	%	
<b>Play</b>	<b>Group play</b>	64	40.5%	64	40.5%	K=.949 Sig=.000**
	<b>Joint activities</b>	92	58.2%	92	58.2%	
	<b>Solitary</b>	2	1.3%	2	1.3%	
<b>Group bullying</b>	<b>Yes</b>	43	27.2%	42	26.6%	K=.952 Sig=.000**
	<b>No</b>	115	72.8%	116	73.4%	
<b>Peripheral roles</b>	<b>Observer</b>	63	40.1%	72	45.9%	K=.815 Sig=.000**
	<b>Assistant</b>	28	17.8%	32	20.4%	
	<b>Reinforcer</b>	14	8.9%	10	6.4%	
	<b>Defender</b>	14	8.9%	14	8.9%	
	<b>No children present</b>	38	24.2%	29	18.5%	
<b>Victim reactions</b>	<b>Does nothing</b>	84	53.5%	84	53.5%	K=.968 Sig=.000**
	<b>Speaks to teacher</b>	48	30.6%	48	30.6%	
	<b>Reacts prosocially</b>	18	11.5%	15	9.6%	
	<b>Reacts aggressively</b>	7	4.5%	10	6.4%	
<b>Bully reactions</b>	<b>Does nothing</b>	63	40.1%	63	40.1%	K=.953 Sig=.000**
	<b>Speaks to teacher</b>	1	.6%	1	.6%	
	<b>Reacts prosocially</b>	10	6.4%	6	3.8%	
	<b>Reacts aggressively</b>	83	52.9%	87	55.4%	
<b>Teacher reactions</b>	<b>Does nothing</b>	13	8.2%	13	8.2%	K=.894 Sig=.000**
	<b>Speaks to bully and/or consoles victim</b>	26	16.5%	23	14.6%	
	<b>Actively engages to resolve conflict</b>	42	26.6%	45	28.5%	
	<b>Physically not present</b>	77	48.7%	77	48.74%	
<b>Active adult Supervision</b>	<b>Yes</b>	60	38%	58	36.7%	K=.919 Sig=.000**
	<b>No</b>	98	62%	100	63.3%	
<b>Location</b>	<b>Classroom non-specified</b>	34	21.5%	34	21.5%	K=.983 Sig=.000**
	<b>Classroom specified</b>	51	32.3%	51	32.3%	
	<b>Playground non-specified</b>	44	27.8%	42	26.6%	
	<b>Playground specified</b>	29	18.4%	31	19.6%	

According to our analyses bullying episodes were more frequently observed during joint play activities (58.2%) rather than group or solitary play. Group bullying was observed in preschool children at a rate of approximately 27%. In addition, we analyzed peripheral roles children undertook during bullying attacks. Our results showed that, almost, eight out of ten



episodes observed occurred in the presence of classmates. Classmates were present at a percentage of approximately 79% of the episodes observed; the majority were passive observers whereas an almost 27% were bully's supporters. Only, 8.9% of the children observed acted as the victim's defender. Outcomes concerning victim's reactions revealed that they behaved in a passive way and at a lower frequency sought help from the teacher. In relation to perpetrators, our analyses showed that either they reacted aggressively or stopped any interaction once their attack came to an end. Although in half of the incidences recorded the teacher was physically absent, the times he/she was present, he/she intervened in an active and effective way. According to our analyses, the bullying episodes took place more frequently when adult supervision was not active. In regards to space, results showed that the bullying episodes were more frequent into the preschool classroom (53.8%) rather than on the playground (46.2%).

### ***Interaction between Aspects Related to Bullying Episodes***

In order to examine the interaction between categories of episodes recorded, cross-tabulations using  $\chi^2$  test of independence were computed. For  $\chi^2$  tests only the measurements collected from Rater 1 were used. First, our  $\chi^2$  analyses show that peripheral roles are related to the reactions of both victims ( $\chi^2 = 44.34$ ,  $p < .000^{**}$ ) and bullies ( $\chi^2 = 41.56$ ,  $p < .000^{**}$ ). We adjusted  $p$  values for multiple comparisons using the Bonferroni method in order to find out on which terms this relationship is significant. Thus, we found that when observers or assistants were present then the bully tended to augment aggressiveness whereas when the defender of the victim intervened then the bully tended to quit. Lastly, when reinforcers were present then the victim tended to react in a social manner. Also, active adult supervision is related to the reactions of both the bully ( $\chi^2 = 10.32$ ,  $p < .016^*$ ) and the victim ( $\chi^2 = 10.51$ ,  $p < .015^*$ ). Using multiple comparisons we found that when an aggressive act ended, victims tended to seek help from the supervisor and bullies tended to stop it immediately. In contrast, when a supervisor was not actively supervising the victim's reaction was passive while the bully tended to insist on behaving aggressively. In relation to active adult supervision, we were interested to examine its interaction with indoor/outdoor space. Analyses revealed that these are two related variables ( $\chi^2 = 16.509$ ,  $p < .001^{**1}$ ). Multiple comparisons showed that when bullying episodes occurred into the classroom supervision was more frequently active whereas on the playground supervision was less active. In order to get a more detailed insight into the teacher's role, we computed the interaction between teacher's reactions and space ( $\chi^2 = 24.25$ ,  $p < .004^*$ ). Bonferroni method revealed that teachers tend to do nothing when a bullying episode occurs in the non-specified locations on the playground, and this difference is greater compared to the specified places into the classroom. Significant interaction was also revealed between playful activities and the physical environment ( $\chi^2 = 56.65$ ,  $p < .000^{**}$ ). Post-hoc analyses indicated that during joint activities bullying acts are more probable to occur in non-specified spaces into the classroom (and its close surroundings i.e. toilets, corridors), whereas during group activities in the specified areas of both the classroom and the playground. Finally,  $\chi^2$  analyses indicated a significant interaction between peripheral roles and specified/non-specified locations ( $\chi^2 = 41.45$ ,  $p < .000^{**}$ ). Multiple comparisons showed that bullying episodes occurred more frequently in interior non-specified places (classroom/corridors/toilets) when peers were not present. Whereas in the specified locations of the classroom and on the playground (both in specified and non-specified areas), peers were present during bullying episodes.

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<sup>1</sup> \* The Chi-square statistic is significant  $\geq 0.05$  level.

\*\* The Chi-square statistic is significant  $\geq 0.01$  level.

## Discussion

Our findings indicate that victimization interactions emerge during the preschool years and that participant roles, both central and peripheral, become distinct. The mean prevalence rates including all three forms of bullying were: 10.97% of participants observed to demonstrate the role of the victim, 12.43% the role of the bully, 4.4% the role of the bully-victim. In line with previous studies, we found that physical bullying was more frequently observed in preschool children compared to verbal or relational bullying. According to Bjorkqvist and colleagues' (Bjorkqvist, Österman and Kaukiainen, 1992; Bjorkqvist, Österman and Lagerspetz, 1994) relational and indirect forms of aggression are more sophisticated types of behaviour and therefore are less frequent in preschool children. Contrary to our hypothesis, bullying episodes were more frequent when children were involved in joint compared to group or solitary play activities. It seems that in the preschool victimization interactions manifests primarily during dyadic activities where it would be easier for the perpetrator to manipulate a target child. According to our results, preschool children were capable of organizing group bullying acts. Almost one out of three of the episodes recorded were attacks directed to a victim by a whole group of peers. Our results imply that bullying might be a social phenomenon even in the early years. This is very important, since research data investigating the occurrence of group bullying in this young age group is extremely scarce. Past studies based on peer nominations or teacher reports implied that peripheral roles in preschool children might not be as salient. The results of our observational data show that children undertake peripheral roles. According to our observations, preschool peers were present in almost eight out of ten bullying episodes. Of those children present, the majority watched passively the event, a considerable percentage supported the bully and a small percentage defended the victim. A possible explanation for this comes from our finding that the perpetrators' behavior tended to be influenced by the reactions of children standing by. When observers or assistants were present during the episode this seemed to work as reinforcement for the aggressive reactions of the bully. According to Twemlow, Fonagy and Sacco (2010), the role of the observer entails active involvement and for this reason it should not be considered as neutral. Children who simply watch bullying will often contend that they "aren't doing anything". In their observations, O'Connell et al. (1999) found that peers reinforced bullying 54% of the time by passively attending to the episode and not helping the victim. Besides, and according to our results, preschool victims reacted mainly in a passive and submissive way. This is in line with previous research which found that submissiveness is the hallmark of victimization (Perren and Alsaker, 2006; Perren, 2000). Also, in our study, when preschool teachers were physically present they intervened to help the victim at a higher rate compared to prior research data conducted with school teachers (Craig and Pepler, 1995, 1997; Salmivalli and Voeten, 2004). A possible explanation for this finding is that preschool children are more dependent and rely more often on adult attendance than school children. Therefore, teachers working with young children tend to be more considerate and observant than school teachers. In relation to this, Jimerson, Swearer and Espelage (2010) argue that the social context in the school constitutes a substantial factor when examining bullying behavior. Teachers' attitudes and interventions could contribute significantly to the decrease of victimization prevalence (Biggs, Vernberg, Twemlow, Fonagy, and Dill, 2008; Jimerson et al., 2010). In line with previous research (Craig and Pepler, 1995, 1997; Salmivalli and Voeten, 2004), we found that bullying episodes occurred more frequently when adult supervision is not active.

Furthermore, our results showed that when bullying episodes occurred into the classroom supervision was more frequently active compared to supervision on the playground. Support for the above finding comes from prior data where most children, knowing that aggression is prohibited, restrict their aggression toward peers to the less supervised locations of the playground, or out of the sight of adult supervisors (Pellegrini, 1990). Nevertheless, preschool children were observed to demonstrate bullying behaviour at a relatively high percentage even

when supervision was active. This may imply that preschool perpetrators act in a more impulsive and less prohibited way than their school-age counterparts.

In our study, teachers tended to act passively when victimization processes occurred in the non-specified locations of the playground. A possible explanation is that teachers, in this specific location, might have mistaken bullying episodes for rough-and tumble play. Support for this comes from a study of Blatchford (1996) where a high percentage of school personnel continued to view recess as a carefree and positive play period for children. It is thus important to include teacher sensitization and training when designing effective prevention programs (Hazler, Miller, Carney, and Green, 2001). As far as the physical environment is concerned the findings from the present study point out that bullying episodes occurred into the specified locations of the preschool class more frequently than on the playground both in the non-specified areas and the specified ones. Contrary to the formal school settings, the structure of the preschool class might incite children to engage into victimization processes. More specifically, the preschool environment is separated into learning areas where children interact and move with greater freedom, when in a typical school class is organised and arranged in a way that pupils' interactions and mobility are restrained. For this reason, school-age children may find it easier to organise bullying attacks during recess on the playground rather than into the classroom.

### ***Educational Implications***

The implementation of effective prevention programs, as early as in the preschool, is critical. The fact that preschool bullies demonstrate aggressive behaviour even when supervision is active may help teachers to intervene actively and prevent victimization processes from escalating. Also, preschool teachers should be particularly attentive in the non-specified interior places, i.e. corridors, toilets, where perpetrators are capable to isolate their victims. According to our findings, the role of the observer during victimization interactions in the preschool is active and critical; it can be either favourable or detrimental. Therefore, primary prevention programs should include developmentally appropriate activities informing preschool children about the process of victimization and should focus on training them to implement strategies to defend victims. They should also include partnering with parents, developing positive relationships with children, preventing and reducing inappropriate behaviour and teaching social and emotional skills (see, Vlachou, Andreou, Botsoglou & Didaskalou, 2011).

Finally, the results of the present study have shown that bullying is a social phenomenon and involves a whole group of persons even in the preschool. One out of three attacks were organised by a whole group of peers. The fact that the majority of episodes occurred during social play activities means that anti-bullying prevention programs should take the development of social play processes into account. As far as the physical environment is concerned, our results show that bullying episodes occur into the specified locations of the preschool class. Space arrangement and classroom general layout play an important role in the occurrence of bullying episodes. Particularly important is the consideration of the overall classroom arrangement, especially in spaces that remain unspecified in children's use; for instance, teacher areas, large open spaces, and walk through pathways leading to other classrooms. Planning of every space is essential in ensuring positive social interactions among children (Harms, Clifford and Cryer, 1998; Peisner-Feinberg, Burchinal, Clifford, Culkin, Howes, Kagan, et al., 2000). Therefore, certain arrangements should be made into the classroom in order to ensure positive peer interactions, i.e. environment quality, abundance of materials, arrangement of learning corners, setting rules etc.

### ***Limitations - Future Research***

It is a fact that during our naturalistic observations, the presence of observers, although unobtrusive, might have altered children's behaviour. It might be difficult to observe and

evaluate children's playground aggression because adults may not always be aware of the aggressive incidents that occur privately between peers (Cairns and Cairns, 2000; Pellegrini, 1995). Therefore, future research should seek to triangulate data collected through observations. Also, given the distance and noise present on the playground, observers might have been unaware of verbal or relational playground aggression that has occurred. Future research should seek to examine in depth those parameters of the preschool context, both into the classroom and on the playground, that influence bullying behaviour. For example, it could be interesting to compare space arrangement and layout from different preschools and find out the degree to which those parameters correlate to each other. Bullying behaviour is largely influenced by the social environment of the school. It would be interesting to examine which personality traits influence the attitude and behaviour of children present (observers, assistants, reinforcers, defenders). Qualitative data are also needed in relation to group bullying, its occurrence and underlying aetiological factors. Cross-sectional or longitudinal studies comparing peripheral roles and group bullying between preschool and school-age children are needed in order to design effective prevention programs. Finally, future research should examine prevention programs that include developmentally appropriate activities in relation to social play in preschool children.

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## Appendix

### *Scoring/Coding*

1. For central participant roles, children were scored as perpetrators if they initiated an unprovoked aggressive act towards their peers. The bully was clearly the leader in the episode. The victim was the recipient of the act by a more dominant individual. Also, children were scored as bully-victims when they were observed to display dual role behaviours.
2. The forms of bullying recorded were: *physical bullying* (i.e. hitting, pushing, pulling, punching, or forcibly taking objects), *verbal bullying* (i.e. antagonistic teasing, mean names, verbal threats of harm, or insult not expressed at friendship status; i.e. 'Shut up!', 'Chicken!' etc), and *relational bullying* (excluding from playgroup, withdrawing friendship, maliciously telling lies, ignoring a peer; e.g., 'You can't play with us but she can,' 'You can't come to my party,' or deliberately turning away and ignoring a peer's request to join in play). Social exclusion involved the rejection of an individual from a group. It was only considered to be bullying when the exclusion was related to the child, not the nature of the activity from which they were excluded. If, during an episode, a focus child was observed to demonstrate or receive more than one form of bullying behaviour then the roles corresponding to those forms of bullying were checked i.e. a focus child demonstrated social exclusion and physical bullying during the same episode then the role of perpetrator was checked for both forms of behaviour for the same child.
3. Playful activities were scored according to the following categories: 1. Solitary play: refers to children who play all alone, 2. Joint play: refers to a pair of children playing together, and 3. Group play: refers to groups of three or more children who are actively playing together.
4. It was also noted whether the episode took the form of group bullying. Scores for this variable were dichotomous (yes/no). Group bullying was scored anytime an aggressive act of two or more children was directed towards a sole child.
5. For the peripheral roles, children were scored as observers, assistants, reinforcers and defenders. More specifically, observers were children who were in close proximity and merely watching the bullying episode. An assistant was a child who co-operated with the bully but did not initiate the act. The reinforcer referred to the child who joined in the episode but did not initiate the attack nor shared major responsibility, i.e. laugh while a victim is humiliated. Defenders were children who took the victim's side, supported or consoled the victim, and/or intervened in bullying on behalf of the victim.
6. A brief description of the reactions of the victim, the bully and the supervisor (if present) were recorded. Based on our field notes, codes for the reactions of the bully and the victim were selected and classified in the following categories as: 1. aggressive, i.e. beatings, kicks etc, 2. prosocial, i.e. shows social behaviour, 3. passive, i.e. does nothing, and 4. speaks to the teacher. The reactions of the teachers were recorded as: 1. passive, i.e. does not react, watches inactively, 2. speaks to the child, i.e. tells children to stop it, to play carefully, 3. resolves immediately the conflict, i.e. separates the bully (ies) from the victim(s), sanctions the bully, tries to integrate a socially excluded victim.
7. The presence of active adult supervisor was also noted down. Active supervision was defined as either the physical presence of the teacher maintaining direct visual contact or as being attentive to children's interactions i.e. talking to the group of

children, maintaining unobstructed supervision (hindrance from furniture), standing at a close distance from children during outdoor activities.

8. For all episodes, the location of the event was recorded. More specifically, we noted whether the event occurred into the classroom (or the locations close to the classroom) or on the playground. For each location it was, also, noted whether the location was specified or non-specified. Specified places refer to all organised areas equipped with educational materials/structures i.e. into the classroom the learning areas e.g. reading area, arts etc, and on the playground the areas for psycho-motor play, i.e. sliding frames, bowling etc. Non-specified places are those “open” spaces offering no organisation at all i.e. free open play spaces, the open space surrounding the “circle”. Also, we recorded bullying episodes that took place in the areas adjacent to classroom such as the corridors, toilets, storage sheds. Those areas were considered as open “classroom” spaces, since in the preschool context children are free to move or interact into those places during free play activities.

### *Criteria for Identifying Bullying Episodes*

Bullying is defined as an **intended** and **unprovoked** aggressive act which is carried out **repeatedly** and is characterized by an **imbalance** of power (Farrington, 1993; Olweus, 1999; Smith and Sharp, 1994). During observations and in order to distinguish aggressive from bullying acts we followed the above criteria.

Negative **intent** is difficult to quantify because we cannot see what one is thinking. However, negative intent may be exhibited through facial expressions or verbalisations of intent. Therefore, in the present study participant roles were attributed when negative, **unprovoked** acts (the perpetrator displayed proactive aggression) were directed towards a weaker peer. For our data analyses, only those participants who were observed to act more than once as either perpetrator and/or victim for the same form of bullying were assigned the corresponding role. Roles were attributed independently from the interaction between two children. For example, the role of perpetrator for physical bullying was attributed to child A if it kicks child B and next child C, and/or kicks child B into the classroom and child C on the playground. Therefore, the criterion of **repetition** “more than once a week” was fulfilled. Also, we have selected only those negative interactions where an **imbalance** of social power or physical strength was observed among participants. Counts were made each time a behavior occurred, i.e. one insult added one episode, two insults added two episodes and so on. One episode was marked even when the behaviors were part of the same encounter. If a child maintained a continuous aggressive act i.e. a pinch for an extended period of time, only one episode of physical bullying was made. Similarly, the continuous statement, ‘We don’t like you, so you can’t play with us’ would be coded as one act of relational bullying rather than two, given the immediate temporal association and interdependency between the two phrases. Two episodes were counted if the victimization acts were observed in different contexts and therefore were distinct. When an act was not intended i.e. a ball that sailed out of control and hit another child, it was not an event that scored as an aggressive act.

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