

# Friendship as a Moderator of the Relationship Between Social Skills Problems and Peer Victimization

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Previous research, primarily in North America, has found that individual factors (e.g., ‘internalising problems’) and social factors (e.g., friendship) interact to influence children’s levels of peer victimisation. Some research has found that the identity of children’s friends and friendship quality (as ‘protective factors’) are more important than the sheer number of friends. However, studies have produced conflicting findings. A peer nomination inventory was used to assess social skills problems, peer victimisation, peer acceptance, and several different aspects of friendship. Four hundred and forty-nine children aged 9 to 11 years completed the inventory at two time points over the course of an academic year. Social skills problems were found to predict an increase in peer victimisation over time. Two friendship variables were found to moderate this relationship: a) number of friends, and b) the peer acceptance of the very best-friend. The relationship was found to be weaker for those children with lots of friends and for those children with a ‘popular’ best-friend. The findings advance understanding of the factors that promote peer victimisation. *Aggr. Behav.* 32:110–121, 2006. © 2006 Wiley-Liss, Inc.

**Keywords:** peer victimisation; social skills; friendship; peer acceptance; bullying

## INTRODUCTION

Peer victimisation has been defined as, “The experience among children of being a target of the aggressive behaviour of other children, who are not siblings and not necessarily age-mates” [Hawker and Boulton, 2000, p. 441]. Children who are the targets of peer aggression are described by some researchers as ‘being bullied’ [e.g., Olweus, 1991; Whitney and Smith, 1993], and by others as ‘being victimised’ [e.g., Hodges et al., 1997; Schwartz et al., 1993].

Research has found that being bullied by peers may have serious short and long-term consequences, including depression [Neary and Joseph, 1994; Slee, 1995b], anxiety [Olweus, 1978; Slee, 1994], low self-esteem [Boulton and Smith, 1994], loneliness [Boulton and Underwood, 1992], common health symptoms [Williams et al., 1996], school absenteeism [Reid, 1983], relationship problems in adult-life [Gilmartin, 1987], and poorer health status [Slee, 1995a]. A meta-analytic review of cross-sectional studies published between 1978 and 1997 found that while peer victimisation was correlated with a range of psychosocial adjustment indices, the relationship was strongest for depression, and weakest for anxiety [Hawker and Boulton, 2000].

Results from cross-sectional (‘concurrent’) studies can be interpreted in many different ways, so far as development is concerned. It could be that victimisation leads to adjustment difficulties or that these problems are antecedents to victimisation. Indeed, most researchers now agree that maladjustment is likely to be both a cause and a consequence of being bullied [e.g., Matsui et al., 1996; Vernberg, 1990]. Fortunately, in recent years studies have employed prospective longitudinal designs to try and help ‘unravel’ the causal direction of effect. For example, Egan and Perry [1998] found that children with a low self-regard were at risk for increased victimisation and that victimisation led to lower self-regard over the school year. Kochenderfer and Ladd [1996] reported that victimisation in the ‘Fall’ led to later school maladjustment in the Spring.

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Other researchers have focused on how children respond to victimisation; particularly which behaviours dissuade, and seem to promote further victimisation [e.g., Kochenderfer and Ladd, 1997; Salmivalli et al., 1996]. Kochenderfer and Ladd [1997] conducted two interviews (in the 'Fall' and the Spring) with 199 five- to six-year-old children. Children were asked about peers' responses to peer aggression and about their own victimisation experiences. They found that 'having a friend help' was associated with reduced victimisation for boys, whereas 'fighting back' was related to stable victimisation for boys.

Salmivalli and colleagues [1996] also looked at how victims responded to bullying. Five hundred and seventy-three pupils (aged 12–13 years) from schools in Finland completed a questionnaire which asked them to nominate victims of bullying and evaluate each victim's behaviour. Three sub-scales of responding were established: 1) Counteraggressive, 2) Helpless, and 3) Nonchalant. It was found that helplessness (e.g., starting to cry) and counteraggression in girls, and counteraggression in boys were perceived to make bullying start or continue. Nonchalance (e.g., acting as if they didn't care) and the absence of helplessness in girls, and the absence of counteraggression in boys were perceived as factors which make bullying diminish or stop.

Over the past few years researchers have begun to investigate links between friendship and peer victimisation. One of the first studies to look at this was conducted in the UK [Boulton et al., 1999]. Using a longitudinal design, 170 early adolescents (mean age 11.3 years) were assessed at two time points over the course of an academic year. It was found that those children without a very best-friend at either Time 1 or Time 2 showed the greatest increases in victimisation. In addition, a decrease in 'conflict' and 'betrayal' within the friendship was associated with a fall in victimisation.

Using a sample of 5<sup>th</sup> grade students in Georgia ( $N = 154$ ), Pellegrini et al. [1999] examined the relationship between peer victimisation, friendship, and peer acceptance at a single time point. Their results suggested that having friends and being accepted by one's peers are important protective factors for victimisation.

As well as identifying 'protective factors', researchers have attempted to understand the factors that put children at risk for victimisation ('risk factors'). An improved understanding of risk and protective factors is important both theoretically and practically. Risk factors have been defined as, "statistical correlates of poor or negative outcomes"

[Masten et al., 1990, p. 427]. Some researchers have focused on examining the role of distal influences, such as parenting styles, and family characteristics (see Smith and Myron-Wilson, 1998 for a review). In contrast, others have examined proximal influences, such as the behaviours exhibited by the child that might contribute to their victimisation. These are considered below, since they are directly relevant to the present study.

In a number of studies, Hodges and colleagues [e.g., Hodges and Perry, 1999; Hodges et al., 1997, 1999] found that certain behavioural characteristics, termed 'individual risk factors', can increase the risk of being victimised. Using a concurrent design [Hodges et al., 1997], 229 pupils (aged 8 to 13 years) from a number of schools in Florida, completed a modified version of the Peer Nomination Inventory – PNI [Wiggins and Winder, 1961]. This lengthy inventory included 53 items to measure victimisation, physical strength, and a range of social behaviours. Pupils were also asked to nominate three classmates who they most like to play with, and three classmates they least like to play with. Children's 'friends' were peers who reciprocated the child's nomination of liking. Rejection was assessed by calculating percentages based on least preferred nominations. It was found that internalising problems (e.g., withdrawal, anxiety/depression), externalising problems (e.g., aggression, argumentativeness, disruptiveness), and physical weakness were more strongly related to victimisation when children had few friends, friends who were unable to serve a protective function (i.e. who were physically weak), or when children were rejected by their peers. The main limitation of this study is that the data were collected at a single time point. This limits the conclusions that can be drawn regarding the causal direction of effect. In addition, the supportiveness (or protectiveness) of the child's best-friends was inferred in this study (using the 'identity' or characteristics of the best-friend).

These children were followed up approximately one year later [Hodges and Perry, 1999] and it was found that internalising problems, physical weakness, and peer rejection were independently predictive of gains in victimisation over time. Moreover, peer rejection (but not number of friends) moderated the relationship between internalising problems and victimisation, and between physical strength and victimisation. These relationships were stronger for those children rejected by their peers. The use of common respondents in these two studies can lead to alternative interpretations being offered, e.g., response bias and shared method variance. As

a result, Hodges et al., [1999] improved upon the design, by using multiple informants. In addition, they not only looked at the presence of a best-friend, but examined the degree to which the 'very best-friend' "sticks up for" their friend (as opposed to inferring this from the 'identity' of the best-friend).

A large sample of 393 French-Canadian pupils (mean age 10 years, 7 months) participated in this one-year longitudinal study. Victimization was assessed using peer report, and teachers were asked to complete the Child Behaviour Questionnaire [Rutter, 1967]. Children were also asked to nominate three best-friends and complete the Friendship Qualities Scale - FQS [Bukowski et al., 1994]. Children were considered to have a very best-friend if a child's first choice reciprocally nominated them as one of their three best-friends. This time, internalising and externalising problems predicted increases in victimisation over time. Simply having a very best-friend did not moderate these relationships. However, the protection afforded by the very best-friend (as assessed by the FQS) moderated the relationship between internalising problems and victimisation. They suggested that those children without a supportive friendship are at greatest risk for victimisation.

In summary, from a review of the literature some very specific behavioural characteristics have been found to put children at increased risk of being victimised. Many of these behavioural characteristics can be considered manifestations of poor social skills that relate to being submissive and non-assertive. Social skills have been defined as, "The specific behaviours that enable a person to be judged as socially competent by others on a particular social task" [McFall, 1982, p. 12]. Various research [e.g., Hodges et al., Malone and Perry, 1997, 1999; Hodges and Perry, 1999] has been important in highlighting the role of 'individual risk factors' for peer victimisation. In a series of studies, it was found that both internalising and externalising problems put children at risk for peer victimisation. Hodges and colleagues have also shown that 'social risk factors' (i.e. friendship/peer acceptance) "act in concert with behavioural risk factors to promote victimization by peers" [Hodges and Perry, 1996, p. 27]. However, it is important to note that in using prospective longitudinal designs, these investigators found no evidence for the sheer number of friends or the presence of a single very best-friend as moderators. They concluded that the identity of children's friends and the quality of the friendship are more important.

Additional evidence for the 'individual risk'/'social risk' perspective of victimisation comes from another

North American study by Schwartz et al. [1999]. Three hundred eighty-nine children (aged 5 to 6 years) were assessed each year, over a four year period. Teachers completed the Teacher Report Form of the Child Behaviour Checklist - CBC [Achenbach, 1991]. Peer rejection/acceptance, victimisation, and dyadic friendship were assessed using peer nomination interviews. Children were asked to nominate three classmates they like the most and three classmates they like the least, and then rate each of these peers on a liking rating scale. Those children who reciprocally rated each other with the highest possible rating were classed as friends. The total number of friends was calculated for each child. The number of like least nominations was subtracted from like most to yield a 'social preference' score (to assess peer rejection/acceptance).

Externalising problems, Attention problems, and Social problems at Time 1 were found to predict Victimization at Time 4. In addition, the relationship between early behaviour problems and later victimisation was found to be mediated by peer rejection, and moderated by friendship. In a more recent study, Schwartz and colleagues found evidence for friendship as a moderating factor between early harsh home environment and later victimisation [2000]. They concluded by stressing the importance of "interactive models of risk for understanding the developmental pathways to peer group victimization" (p. 660), as opposed to simple 'main effect models'. An interactive model specifies that the risk associated with particular vulnerabilities varies as a function of the presence/absence of other factors.

In a recent study, Boulton and Chau [2005] went further than asking children what their friends do, and observed the behaviour of friends during and after real-life bullying episodes on the playground. Seventy pupils (aged 8-9 years) were classified as victims and were observed on at least three separate occasions. Analyses revealed that friends showed a wide range of 'social support behaviours'. A common response was for children to distract their friend after a bullying episode. At the time of the victimisation, children were observed to 'stick up for' their friends in tangible ways, using both verbal and physical means. In addition, the study examined differences between 'frequent' and 'infrequent' victims, in the behaviour of their friends. It was found that the friends of frequent victims were more likely to withdraw or make no response, and less likely to retaliate on behalf of the victims, compared to the friends of infrequent victims. This study is the first to observe what friends actually do in the bullying situation. It has helped elucidate the

proximal mechanisms by which friendship may buffer children's risk for victimisation.

Hodges et al. [1997] proposed that having friends can protect children in many different ways: 1) Bullies may be afraid of children retaliating to protect their friend, 2) Children with friends are alone less often, and this makes them less salient as targets, and 3) Children with friends can benefit from the advice of their friends on how to deal with the bully. Also, it has been proposed that rejected children are targeted by bullies, because of the knowledge that they are not popular within the peer group. This 'legitimises' their behaviour [see Hodges and Perry, 1999].

The aim of the present study was to add to previous research by investigating whether or not the longitudinal relationship between individual behaviours (social skills problems) and peer victimisation is moderated by friendship/peer acceptance. In summarising previous research, it has been found that peer acceptance moderates the relationship between individual risk factors and victimisation. However, there is mixed evidence for 'number of friends', and 'having a very best-friend' as moderating factors. Some researchers have proposed that the sheer number of friends, and simply having a very best-friend may not be sufficient in protecting children who are at risk for victimisation [Hodges et al., 1999; Hodges and Perry, 1999]. They argue that the identity of children's friends (i.e. those who are not weak or victimised themselves) and the quality of the friendship (i.e. how much a child 'sticks up for their friend') are more important. As a result, in addition to testing for number of best-friends, having a very best-friend, and peer acceptance ('social preference') as moderators, the present study looked at the effect of the identity of the very best-friend, i.e. the victimisation of the very best-friend, the social skills problems of the very best-friend, and the peer acceptance ('social preference') of the very best-friend. We tentatively predicted that the relationship between social skills problems and peer victimisation would be weaker for those children: a) with lots of best-friends, b) with a very best-friend, c) high on peer acceptance, and with a very best-friend who: d) is not highly victimised, e) does not have social skills problems, and f) is high on peer acceptance.

## METHOD

### Participants

Four hundred and seventy-seven pupils from four primary schools in Stoke-on-Trent, UK (selected on

a convenience basis) were recruited to participate. There were 246 females and 231 males. Nine classes of year 5 pupils ( $n = 247$ ) with a modal age of 9 years, and nine classes of year 6 pupils ( $n = 230$ ) modal age 10 years, made up the sample (mean age = 9.8 years). The sample was predominantly white. All four schools happened to be located in areas of high social deprivation. The children were assessed in the December (Time 1) and June (Time 2) of an academic year. At Time 2 the sample was reduced to 449 participants. Thus, a total of 28 children left their school during the period of the study. It is important to note here that we focused on the 9–11 age group because the incidence of bullying has been found to peak at this age [Whitney and Smith, 1993]. As one of the aims of the larger research project (of which this study was part) was to develop a Social Skills Training Programme, it was felt appropriate to intervene at an age when children are most at risk.

### Materials

The Peer Nomination Inventory (PNI) was developed by the authors for the present study. The PNI assesses: 1) social skills problems, 2) peer victimisation, 3) friendship, and 4) peer acceptance.

**Social skills problems.** Eight items represent a 'core' of social skills problems that were found to differentiate between victims and non-victims in previous research (see Introduction and Fox and Boulton, 2005). Some of the items were generated by the authors and others were adapted from the following social skills rating scales: The Social Skills Questionnaire [Spence, 1995], The Social Skills Rating System [Gresham and Elliott, 1990], and The Skillstreaming Checklist [McGinnis and Goldstein, 1997]. When generating the items ourselves we ensured that they adhered to McFall's definition of social skills McFall [1982] (see Introduction). For some of the items the decision was taken to make the items specific to the bullying situation because social skills can vary depending on the situation, as noted by Spence [1995, p. 9], "...problems of social relationships do not always occur with all people, in all situations".

For each item, children were asked to nominate classmates 'it is like'. Each participant's score is the proportion of classmates who nominated him. Thus, for each child, the number of nominations they received for each item was divided by the number of raters and multiplied by 100. Higher scores indicate that more peers believed that the target has a social skills problem or a deficit.

**Table I. Factor Loadings for a One-Factor Solution of the Social Skills Problem Items: Eigenvalue and Percentage of Variance**

Social skills items	Factor loading
Looks upset when picked on	.78
Is not very good at joining in with other kids' games	.80
Looks scared often	.84
Looks like a weak person	.79
Cries when picked on	.79
Does not stand up to the bully and runs away when picked on	.87
Would like to talk to other kids more but finds it really hard	.78
Gives in easily when picked on	.84
Eigenvalue	5.29
Percentage of Variance	66.06

Factor analysis of the eight items revealed a clear one-factor structure with 66.06% of the variance accounted for (see Table I). The eigenvalue was 5.29. In addition, all factor loadings were between .78 and .87. The internal reliability of the eight items was found to be very high (Cronbach's  $\alpha = .92$ ). Individual scores for the eight items were collapsed into a mean score to indicate overall level of social skills problems.

**Peer victimisation.** Three items were chosen to reflect three different types of peer victimization, measure victimisation [adapted from those used by Björkqvist et al., 1992; Crick and Grotpeter, 1995; Rivers and Smith, 1994]: 1) Verbal – 'Gets called nasty names by other kids for no reason', 2) Physical – 'Gets hits and pushed by other kids for no reason', and 3) Social Exclusion – 'Gets left out of the group by other kids for no reason'. Again, children were asked to nominate their classmates on each item and percentage scores were calculated individually for each item. As intercorrelations for the 3 items were found to be high (.58, .61, and .75), the items were collapsed into a composite mean victimization score known as 'general victimization'. Cronbach's  $\alpha$  for the 3 items was also very high (.92).

**Friendship.** Children were asked to 'tick the classmates who are your best-friends' [Parker and Asher, 1993]. The number of reciprocal friendships was calculated for each child. NB: Due to variations in class size, number of friends was standardised by class (i.e. the scores were converted into percentages). Children were also asked to nominate their very best-friend [Parker and Asher, 1993], 'Now tick one of these classmates, who is your very best-friend'. Again, whether each child had a reciprocal very best-friend was calculated (yes or no). This

method, initially used by Boulton and Chau [2005], is stricter than the method used by Parker and Asher [1993]. Parker and Asher [1993] used the following criterion: if a child's very best friend nominated them as one of their *best-friends*, this child was counted as having a very best-friend.

**Peer acceptance.** To index peer acceptance children were asked to nominate the three classmates they like the most, and the three classmates they like the least [see Coie et al., 1982]. For each child, the number of like least nominations was subtracted from the number of like most nominations to yield a social preference score [Coie et al., 1982]. Thus, a high score indicates a high level of social preference.

## Design/Procedure

In December 1999 (Time 1) and June 2000 (Time 2), the PNI was administered to individual children on a whole class basis. Parental and child consent was gained for all participants. From the original target sample, twenty (4%) parents stated that they did not wish their child to take part. The participants were informed that it was not a test and there were no right or wrong answers. However, they were asked to think really carefully about their answers. To encourage honest responses, children were informed that their answers would not be shown to anyone else from their school. They were also asked to keep their answers 'private', i.e. ensure that other children could not see them. The researcher guided the children through all of the questions, reading each question out loud. At the end of the session, the children were thanked for taking part. The children were also told not to discuss their answers with any other children.

## RESULTS

### Intercorrelations

Intercorrelations for the measures at Time 1 and Time 2 are in Table II (Time 1 above, and Time 2 below the diagonal). At each time point general victimisation is positively correlated with social skills problems, and negatively correlated with social preference. When looking at the links between general victimisation and friendship, the only significant finding is that general victimisation at Time 1 is weakly (negatively) correlated with number of best-friends at Time 1. The longitudinal correlations are presented in Table III. The measure of social skills problems at Time 1 is positively

**Table II. Intercorrelations for Victimisation, Social Skills Problems, Friendship, Social Preference, Sex and Year Group (T1 and 2)**

	Vic.	SS probs	No. best-friends	Very BF	Soc. pref.	Sex	Year Group
Victimisation	–	.83**	–.14**	–.10	–.46**	.04	–.04
SS problems	.91**	–	–.16**	–.12*	–.40**	–.16**	–.03
No. of best-friends	–.05	–.09	–	.11*	.33**	–.04	–.18**
Very best-friend	–.05	–.07	.17**	–	.23**	–.03	.04
Social preference	–.44**	–.44**	.33**	.14*	–	–.17**	.04
Sex	.00	–.11*	–.14*	.05	–.19**	–	–
Year Group	–.03	–.04	.01	.01	.00	–	–

Time 1 above the diagonal and Time 2 below.

Sex coded as –1 female, +1 male. Year group coded as –1 year 5, +1 year 6.

\* $p < .05$ . \*\* $p < .001$ .

**Table III. Intercorrelations for Victimisation, Social Skills Problems, Friendship and Social Preference (Time 1 to Time 2)**

Time 1	Time 2				
	Vic.	SS probs	No. best-friends	Very BF	Soc. pref.
Victimisation	.77**	.69**	–.12*	–.07	–.41**
SS problems	.74**	.78**	–.10*	–.09	–.33**
No. of best-friends	–.12*	–.17**	.37**	.02	.24**
Very best-friend	–.10	–.07	.09	<sup>a</sup>	.14*
Social preference	–.35**	–.34**	.30**	.15**	.56**

<sup>a</sup>29% of the sample had a very best-friend at Time 1 and Time 2.

\* $p < .05$ . \*\* $p < .001$ .

correlated with general victimisation at Time 2. Social preference at Time 1 and number of best-friends at Time 1 are negatively associated with general victimisation at Time 2.

Although all measures showed significant stability from Time 1 to Time 2, there was still about 40% unshared variance between the Time 1 and Time 2 measures of victimisation. Thus, it was appropriate to use victimisation as a dependent measure in hierarchical multiple regression analysis (see below).

**Hierarchical Multiple Regression Analyses**

Hierarchical multiple regression was used to investigate whether social skills problems at Time 1 could predict changes in general victimisation at Time 2. Sex and year group were entered on step one, and the social skills problems variable was entered on step two. Sex and year group were entered on step one because of the scattered effects of these variables (See Table II). Along with sex and year group, general victimisation at Time 1 was also entered to control for previous levels of victimisation. This allowed us to investigate if social skills problems at Time 1 predicted *changes* in victimisation. The overall regression model was found to be significant ( $R^2 = .63, p < .001$ ). In predicting general

victimisation (T2) the variable social skills problems (T1), when entered on step two, accounted for a significant increment in  $R^2$  ( $R^2\Delta = .04, \beta = .36, p < .001$ ). The positive beta coefficient indicates that the higher the social skills problems score at Time 1, the greater the increase in general victimisation from Time 1 to Time 2.

The effect of six possible moderating variables was each examined in a separate regression model. These variables were as follows: 1) number of best-friends, 2) having a very best-friend, 3) social preference, 4) the victimisation of the very best-friend, 5) the social skills problems of the very best-friend, and 6) the social preference of the very best-friend. NB: Only for those children with a very best-friend ( $n = 164$ ), were the data collated concerning the ‘identity of their very best-friend’. In each of these separate regression models, general victimisation (T2) served as the criterion variable.

Sex and year group were entered on step one along with general victimisation at Time 1. The social skills problems variable (T1) was entered on step two, followed by the T1 friendship/peer acceptance variable on step three. The corresponding product term (e.g., social skills problems  $\times$  ‘number of best-friends’) which enabled a test of the moderation effect was entered on step four.

Baron and Kenny's [1986] procedure was employed to statistically test for the presence of moderator variables. Table IV shows these results.

**1) Number of best-friends.** Social skills problems (T1) made a significant contribution to  $R^2$  on step two. However, number of best-friends (by itself) did not make a significant contribution on step three. On step four, the interaction (product) term contributed a significant increment to  $R^2$ . This means that number of best-friends moderated the relationship between social skills problems (Time 1) and general victimisation (Time 2).

The nature of the significant interaction was tested using the procedure recommended by Aiken

and West [1991]. The relation of a predictor to a criterion was estimated at one  $SD$  above and one  $SD$  below the mean of the moderator variable. It was found that the relationship between social skills problems (T1) and general victimisation (T2) was weaker for those children with lots of best friends (+1  $SD$ ), compared to those children with a small number of best-friends (-1  $SD$ ). The beta coefficients are displayed graphically in Figure 1 [based on a figure by Schwartz et al., 1999]. NB: both beta coefficients (-1  $SD$  and +1  $SD$ ) were significant at the .001 level.

**2) Very best-friend.** The interaction term when entered on step four did not make a significant

**Table IV. Summary of Hierarchical Regression Analyses for Social Skills Problems (T1) Predicting General Victimization (T2) With Friendship/Social Preference Variables as Moderators**

	R <sup>2</sup>	ΔR <sup>2</sup>	β
Step 1: Sex	.58***		-.03
Yr grp			.02
Gen. vic.(T1)			.77***
Step 2: SS probs (T1)	.61***	.03***	.31***
Step 3: No of best-friends (T1)	.61***	.00	-.01
Step 4: SS probs × No of best-friends	.62***	.01*	-.16*
Step 1: Sex	.59***		-.01
Yr grp			.00
Gen. vic.(T1)			.77***
Step 2: SS probs (T1)	.63***	.04***	.34***
Step 3: Very best-friend (T1)	.63***	.00	-.01
Step 4: SS problems × Very best-friend	.64***	.00	-.08
Step 1: Sex	.59***		-.04
Yr grp			.01
Gen. vic.(T1)			.77***
Step 2: SS probs (T1)	.63***	.04***	.36***
Step 3: Social pref. (T1)	.63***	.00	-.03
Step 4: SS probs × Social pref.	.63***	.00	-.08
Step 1: Sex	.45***		-.01
Yr grp			.02
Gen. vic.(T1)			.67***
Step 2: SS probs (T1)	.51***	.06***	.35***
Step 3: Vic. of VBF (T1)	.51***	.00	-.04
Step 4: SS problems × Vic. of VBF	.52***	.01	.20
Step 1: Sex	.45***		-.01
Yr grp			.02
Gen. vic.(T1)			.67***
Step 2: SS probs (T1)	.51***	.06***	.35***
Step 3: SS probs of VBF (T1)	.51***	.00	.00
Step 4: SS problems × SS probs of VBF	.51***	.00	.09
Step 1: Sex	.45***		-.01
Yr grp			.02
Gen. vic.(T1)			.67***
Step 2: SS probs (T1)	.51***	.06***	.35***
Step 3: Social pres. of VBF (T1)	.51***	.00	-.05
Step 4: SS problems × SP of VBF	.53***	.01*	-.22*

\* $p < .05$ . \*\*\* $p < .001$ .

contribution to  $R^2$ . This means that having a very best-friend did not moderate the relationship between social skills problems (Time 1) and general victimisation (Time 2).

**3) Social preference.** As when testing ‘very best-friend’ as a moderator, the interaction term – ‘social skills problems  $\times$  peer acceptance’ was not significant. Thus, social preference did not moderate the relationship between social skills problems (Time 1) and general victimisation (Time 2).

**4) Victimization of very best-friend.** Again, the interaction term was not significant. Thus, the victimisation of the very best-friend did not moderate the relationship between social skills problems (Time 1) and general victimisation (Time 2).

**5) Social skills problems of very best-friend.** Again, the interaction term was not significant when using the social skills problems of the very best-friend as a possible moderator.

**6) Social preference of very best-friend.** This time, the interaction term when entered on step four was significant. This means that the social preference of the very best-friend did moderate the relationship between social skills problems (Time 1) and general victimisation (Time 2). Follow-up analyses were conducted [using the Aiken and West [1991]

procedure], and it was found that the relationship was weaker for those children whose very best-friend had a high social preference score (+1 SD), compared to those children whose very best-friend had a low social preference score (-1 SD). N.B: Both beta coefficients were significant at the .001 level (-1 SD and +1 SD). The results are displayed graphically in Figure 2.

**DISCUSSION**

The present study examined whether ‘social risk’ factors (e.g., friendship) moderate the longitudinal relationship between social skills problems and peer victimisation. This was an attempt to move beyond a simple main effect model, to provide evidence in support of an ‘interactive model of risk’ [Schwartz et al., 2000]. As noted in the Introduction there is mixed evidence for friendship as a moderator of the relationship between ‘individual risk factors’ and peer victimisation. Some researchers have proposed that the sheer number of friends, and simply having a best-friend may not be sufficient in protecting children who are at risk for victimisation [Hodges and Perry, 1999; Hodges et al., 1999]. They argue

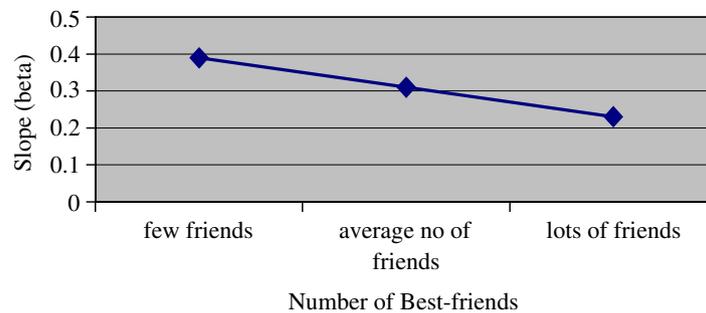


Fig. 1. Changes in the slope of the relationship between social skills problems (Time 1) and general victimisation (Time 2) with different numbers of best-friends.

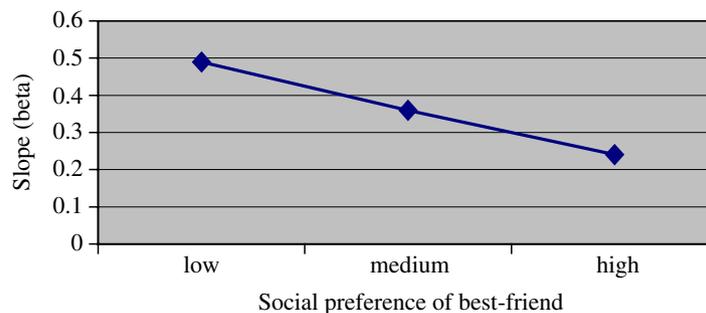


Fig. 2. Changes in the slope of the relationship between social skills problems (Time 1) and general victimisation (Time 2) at different levels of social preference of the very best-friend.

that the identity of children's friends and the quality of the friendship are more important.

Two friendship variables were found to moderate the longitudinal association between social skills problems and general victimisation. In support of some previous research [e.g., Schwartz et al., 1999] the sheer number of best-friends was found to be a moderator, in that the relationship was weaker for those children with lots of best-friends, compared to those children with a small number of best-friends. Taken together these findings provide strong evidence for 'number of friends' as a moderator.

In addition to assessing the influence of the sheer number of friends, we also looked at the identity (i.e. characteristics) of children's very best-friends. For those with a very best-friend, we examined whether the relationship between social skills problems and general victimisation was weaker for those children with a very best-friend: 1) who was not highly victimised, 2) who did not have social skills problems, and 3) who had a high social preference score. In addition to the finding that 'number of best-friends' moderated the relationship between social skills problems and victimisation, the social preference of the very best-friend was also found to be a moderating factor. This provides support for the Hodges et al. [1997] cross-sectional study, which found that the relationship between internalising problems and victimisation was attenuated for those children with a supportive best-friend (i.e. a friend who was not weak or victimised themselves).

Thus, it is possible to state that for the first time, evidence has been provided in support of the identity of the very best-friend as a moderator of the longitudinal relationship between social skills problems and victimisation. Moreover, for the first time the relationship between 'individual risk factors' and peer victimisation was found to be weaker for those children with a 'popular' very best-friend (i.e. with a high social preference score). In contrast to previous studies [i.e. Hodges and Perry, 1999; Schwartz et al., 1999], the present study found no evidence in support of peer acceptance (i.e. social preference) as a moderator. This finding is particularly surprising as the 'social preference of the very best-friend' emerged as a significant moderator.

It is important to note that the variables, 'number of best-friends' and 'social preference of the very best-friend', were not found to predict changes in victimisation over time independently. Rather, these variables 'acted in concert with social skills problems to promote victimisation by peers' [using the quote by Hodges and Perry, 1999]. This highlights the importance of developing interactive models of

risk, by examining how the influence of certain factors varies as a function of the presence (or absence) of other factors.

In terms of 'number of best-friends' as a moderator, the conflicting findings between studies may be due to variations in how friendship is measured. For example, some researchers do not make explicit reference to friendship [e.g., Hodges and Perry, 1999; Schwartz et al., 1999], and studies differ in terms of restricting [e.g., Hodges et al., 1999] versus not restricting [Schwartz et al., 1999] the child's choice of best-friends. The authors argue that the nomination item should make explicit reference to friendship [Parker and Asher, 1993]. This is because the term friendship has a particular meaning to children. Also, by asking children about their 'friends', it is possible to identify a child's best-friends as well as their single very best-friend [Hartup, 1992]. We would argue against limiting children's choices because of the risk that it can lead to a misidentification of friendships [Furman, 1996; George and Hartmann, 1996]. We argue that limiting choices does not provide an accurate picture of the number of children's friends. Indeed, the present study found that many of the children had more than three reciprocal best-friends. An additional strength of the study, therefore, was that the children were asked to name their best-friends (unlimited choice), and one single very best-friend. This enabled us to assess the effect of two best-friendship variables, namely 'number of best-friends', and 'having a very best-friend'. However, it is important to note that children's choices were still limited to their classroom, which raises questions about the sensitivity of this measure [see George and Hartmann, 1996]. Using this method, it is quite possible for a child to be scored as having no friends. Yet, the child may have many friends in other years at school or outside of school. Friends in older year groups are likely to be extremely helpful in protecting an at risk child from peer victimisation (because of their physical size). Particularly when assessing the role of friendship as a protective factor for peer victimisation, it is suggested that researchers 'cast the net a bit wider' when assessing number of friends.

The present study assessed the identity of the child's single very best-friend. Future research could look at the identity of children's other friends, since children may form friendships with different people for different reasons. As Hodges et al. [1999] point out, "some friends may provide protection, whereas other friends primarily provide intimacy exchange, self-validation, and so forth" (p. 100).

The use of qualitative methods could elucidate this, in terms of building up a more in-depth understanding of the differing function of children's friendships. Indeed, Smith [1997] stated that studies of school bullying could learn something from studies of workplace bullying. In reference to case studies, Smith [1997] stated that, "The use of more qualitative data such as this can give insight into processes, and the dynamics of bully-victim relationships, which compliment the quantitative survey statistics" (p. 251).

Previous studies vary in terms of the age range of the sample studied, as well as differing in terms of how friendship is measured. As children's friendships undergo many changes as they get older [Aboud and Mendelson, 1996], it is reasonable to see different interactive models of risk emerging, depending on the age of the sample. In particular, adolescents tend to have close, intimate relationships, and they help each other with psychological problems [Eisenberg and Harris, 1984]. Thus, it is reasonable to expect friends to serve more of a protective function for victimisation in adolescence. There is also good reason to predict that there will be age differences in terms of the social skills problems - peer victimisation linkage. In particular, the behavioural characteristics of the child (i.e. submission) are unlikely to emerge as a significant predictor for peer victimisation in younger children [Hanish and Guerra, 2000]. This is because young children are not skilled at recognising submissive behaviour [e.g., Younger and Boyko, 1987; Younger et al., 1985]. Thus, future studies could address these issues of age differences in risk, and work towards developing a developmentally appropriate model.

Future studies could also assess whether boys and girls (as well as different age groups) become victimised through different social processes. Studies have found that boys and girls experience different forms of victimisation at different rates [Crick and Bigbee, 1998, cited in Hanish and Guerra, 2000, see also, Björkqvist et al., 1992]. Also, some studies suggest that internalising problems are a greater risk factor for boys compared to girls, possibly because withdrawn behaviour is more sex inappropriate for boys than girls [Perry et al., 2001]. However, as noted by Hanish and Guerra [2000], studies that have examined sex as a moderator of the relationship between individual factors and peer victimisation have produced conflicting findings. Hanish and Guerra also noted, "additional work is needed to clarify whether and how sex moderates aggression and withdrawal in predicting victimization" (p. 523).

We further note that sex differences in the quality of children's friendships have been documented. In particular, girls are more likely to report closeness and security, help and guidance, validation and caring, and intimacy exchange [Bukowski et al., 1993]. Thus, friends may serve more of a protective function (in terms of victimisation) for girls, compared to boys.

In addition to differing in terms of how friendship is measured, and the age group of the sample studied, studies have varied in terms of the type of design employed, i.e. concurrent or longitudinal. When developing main effect and interactive models of risk, the prospective longitudinal design is favoured because it is possible to examine changes in victimisation over time - this helps unravel the causal direction of effect. A problem associated with using this design is that the high stability of the measures (i.e. victimisation), and the fact that previous levels of victimisation are controlled, limits the amount of variance that can be explained by other predictors. When this happens, even small amounts of variance accounted for become important [Hodges et al., 1999]. This highlights one of the advantages of studies with extended time periods [e.g., Schwartz et al., 1999 — 4 year gap]. In using a four-year time period, this optimises the amount of change that can be studied, as there are more opportunities for children to escape victimisation, or to become victimised. Having said this, any effects found using a relatively brief time scale must be seen as noteworthy. It is also important to note that in addition to their advantages, long-term longitudinal studies do have their drawbacks, e.g., a reduction in sample size due to drop-out, and more time for other 'moderators' to have an effect. Also, the moderators of interest (i.e. friends) are likely to change quite substantially over four years.

It is acknowledged that the present study only used a six-month gap between the initial and final times of testing the children, and that this makes it difficult to predict changes in victimisation over time. The time period of the study was limited to six months due to practical constraints of time and the resources available. Nevertheless, it was possible to predict changes in victimisation over time, and some moderation effects emerged. It is also important to note here that some of the changes in victimisation were only 1%. However, when the stability of the criterion is high, even small increments in  $R^2$  afforded by other variables are considered important [Hodges and Perry, 1999].

An additional issue related to using longitudinal designs is that of 'shared method variance'. This

occurs when the same method is used to assess both the predictor and the criterion. However, it has been suggested that by controlling for previous levels of functioning, this effectively controls for the problem of shared method variance [Egan and Perry, 1998]. This removes some of the variance in the dependent variable which can be attributed to shared method assessment. In addition, shared method variance cannot account for significant moderation effects [see Egan and Perry, 1998, p. 305]. Nevertheless, we recommend using different methods to assess social skills problems and peer victimisation in a further study. This would guard against any claims of the problem of shared method variance.

In summary, the present study provides support for studies conducted in North America, which have found that individual factors and social risk factors interact to put children at risk for peer victimisation. Thus, there is a need for the field to move away from simple main effect models to developing interactive models of risk. The 'dynamic systems perspective' provides a useful framework for future research. In particular, it suggests that as well as identifying multiple risk factors (i.e. the structures) we should also focus on identifying the mechanisms through which these factors have an effect [Pepler et al., 1999]. This multi-dimensional model acknowledges that the bully-victim relationship takes place in a much broader system. Thus, all parts of the 'system' are involved, not just the bully and the victim. This perspective implies that any intervention is unlikely to be effective unless it is carried out as part of a whole school anti-bullying programme. As noted by Pepler et al. [1999], "interventions to reduce bullying must unfold simultaneously at the individual, dyad, peer classroom, school, and family levels" (p. 449).

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