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BEHAVIOR

Unique and Combined Associations Between Experiences With Peers and Problem Behavior
in Early Adolescence

Michael F. H. van den Kerkhof
Utrecht University

Abstract

Aim The present study is the first to examine both the unique and combined associations between relationship quality with best friend, peer victimization, attachment to peers, and sociometric status on the one hand and internalizing and externalizing problem behavior on the other hand in one systematic approach. **Method** Self-report questionnaires (Network of Relationships Inventory, a victimization questionnaire, Inventory of Parent and Peer Attachment, sociometric test, Nijmegen Problem Behavior List) were administered among 342 Dutch early adolescents ($M_{\text{age}} = 11.21$ years, $SD = .76$, 50.6% female) attending 10 different Dutch elementary schools. **Results** Correlational analysis shows significant unique associations between all types of peer experiences and both types of problem behavior. In contrast, when all peer experiences are assessed in combination, hierarchical regression analysis shows that only more peer victimization and a more negative relationship quality with best friend is directly related to both more internalizing and externalizing problem behavior, in addition to a direct association between lower attachment to peers and internalizing problems only. **Conclusion** This study reveals that an integrative approach of multiple peer experiences and problem behavior provides a more comprehensive understanding of the complexity of peer relations in early adolescence. Most noteworthy, the presence of negative aspects of peer experiences seem to be more strongly related to higher levels of problem behavior, compared to the absence of positive aspects. In addition, the combined peer experiences seem to be more strongly related to internalizing than externalizing problem behavior, with an explained variance of respectively 31.5% and 17.9%. Limitations and directions for future research are discussed.

Keywords: peer experiences, internalizing problems, externalizing problems, combined associations, regression analysis

Unique and Combined Associations Between Experiences With Peers and Problem Behavior in Early Adolescence

According to developmental theory, the establishment and development of relationships with peers serves an important function in different aspects of psychosocial adjustment (Bandura & Walters, 1963; Mead, 1934; Piaget, 1932; Sullivan, 1953; Vygotsky, 1978). For example, peer relationships can function as emotional and cognitive resources, providing intimacy, security, and trust, aiding in the development of autonomy and identity, and function as forerunners of subsequent relationships. Most importantly, peer relationships offer a secure foundation for exploration of an individual's behavior with the self, peers, and environment (Rubin, Bukowski, & Parker, 2006). Earlier research indicates that relationships with peers become increasingly important for psychosocial well-being with the transition from late childhood to early adolescence (Brendgen, Vitaro, Turgeon, & Poulin, 2002; Furman & Buhrmester, 1985; Gauze, Bukowski, Aquan-Assee, & Sippola, 1996). Therefore, establishing and maintaining positive relationships with peers seems of significant importance during this period in life to lower the chance of psychosocial problems.

Peer relationships can be experienced in different ways. A model that is often used to make a distinction in these different types of peer experiences is the model of social complexity (Hinde & Stevenson-Hinde, 1987). This model consists of four levels in increasing social complexity: individuals, interactions, relationships, and groups, with each level containing its own unique characteristics. Since the present study focuses on relationships with peers, the *individual* level, which consists of a person's emotional and temperamental dispositions, is beyond the scope of this study and will not be discussed.

The most simple of peer experiences are *interactions*, which refer to a dyadic social exchange in which the participants' actions are interdependent (Rubin et al., 2006, p. 576). These interactions are embedded in the second level of social complexity, that of *relationships*. Relationships refer to the meanings, expectations, and emotions that derive from a series of interactions between two individuals (Rubin et al., 2006, p. 577). At this level, best friendships have been the predominant focus of research, but more recently other dyadic relations such as peer victimization have been studied as well (Gifford-Smith & Brownell, 2003) for their increase in early adolescence (Cater, Andershed, & Andershed, 2014). It could be argued, however, that peer victimization also takes place at the level of groups, since individuals can be victim to a group of bullies and other individuals are involved as bystanders. This brings us to the last level of social complexity, that of *groups*. A group is a collection of interacting individuals that have a reciprocal influence over one

another (Rubin et al., 2006, p. 578). At this level, attachment to one's friends is an important peer experience. In early adolescence, friends increasingly replace parents as primary attachment figures (Rubin et al., 2004). Also, the overall likeability (e.g., popularity or rejection) adolescents by other members of their peer group has been a dominant focus of prior research (Rubin et al., 2006, p. 579), for acceptance and likeability in the peer group become increasingly important during adolescence (Rubin, Coplan, Chen, Buskirk, & Wojslawowicz, 2005).

Peer experiences at these three levels of social complexity are interconnected, but are often addressed in relative isolation in scientific research with regard to problem behavior. However, children and adolescents cannot be seen as isolated units, but as social beings that are part of a network of relationships (Hinde & Stevenson-Hinde, 1987). Examining just one part of these social relationships does not grasp the complexity of how problem behavior in early adolescence is influenced by these different relationships. For this reason, peer experiences on the three levels of social complexity are integrated in the present study. The aim of this study is to examine both the unique and combined associations between relationship quality with best friend, peer victimization, attachment to peers, and sociometric status on the one hand and early adolescent problem behavior on the other hand. Regarding problem behavior, a typological distinction is often made in internalizing problems (e.g., depression and anxiety) and externalizing problems (e.g., aggression and delinquency) (Arnett & Hughes, 2012, p. 449). In the present study, this distinction will also be made, and the associations between the different peer experiences and problem behavior will be examined for both internalizing and externalizing problem behavior.

Relationship Quality With Best Friend and Problem Behavior

As previously mentioned, positive relationships with peers are of importance in early adolescence to lower the chance of psychosocial maladjustment. At the relationship level of social complexity, the relationship with the best friend has been of particular interest (Gifford-Smith & Brownell, 2003). However, most of the prior research on the association between the relationship with best friends and problem behavior has not focused on the quality of relationships, but instead on peer socialization/modeling as a mechanism through which (problem) behavior is learned or reinforced, such as aggression, delinquent behavior and substance abuse (Deater-Deckard, 2001). In addition, much research has been conducted on the quantity of best friend relationships, for instance on the protective factor of having a best friend against rejection and peer victimization (Bollmer, Milich, Harris, & Maras, 2005; Hodges, Boivin, Vitaro, & Bukowski, 1999). Prior research on the direct association between

quality of the relationship with the best friend and problem behavior, however, is scarce, despite clear indications of the importance of quality (Hartup & Stevens, 1997; Hussong, 2000). The few studies that did address this direct association however, found significant associations between both positive (e.g., satisfaction and intimate disclosure) and negative (e.g., conflict and antagonism) aspects of the relationship with the best friend and problem behavior (e.g., Gaertner, Fite, & Colder, 2010; La Greca & Harrison, 2005).

With regard to *internalizing problem behavior*, research has indicated that both positive and negative quality of best friendships were associated with social anxiety and depression (La Greca & Harrison, 2005). A lower positive and higher negative quality were associated with a higher level of social anxiety, whereas only higher negative quality was associated with higher levels of depression. The association between quality of the relationship with best friend and depression was also found in a more recent study by Preddy and Fite (2012). Results showed a negative association between friendship quality in general and depressive symptoms. In addition, Gaertner et al. (2010) also found associations between best friendship quality and internalizing problem behavior in early adolescence. Their longitudinal study showed that a positive quality of best friendships predicted decreases in internalizing problem behavior over time, such as withdrawal, depression and anxiety.

However, in their study, Gaertner et al. (2010) did not find significant associations between relationship quality with best friend and *externalizing problems*. It was suggested that externalizing problem behavior might be relatively stable over time and is not predicted by best friendship quality. The absence of a significant association between best friendship quality and externalizing problem behaviors was also found by Rubin et al. (2004). As mentioned earlier, the association between the relationship with best friends and problem behavior is mostly explained in prior research by peer socialization/modeling, through which (problem) behavior is learned or reinforced (Deater-Deckard, 2001). These results indicate that this might be particularly true for externalizing problem behavior.

In conclusion, prior research has indicated that internalizing problem behavior is positively associated with negative quality of the best friend relationship and negatively with positive quality of this relationship. For externalizing problem behavior, no associations were found.

Peer Victimization and Problem Behavior

Peer victimization among children and adolescents has been increasingly identified as an important contributor to the development of problem behavior (Center for Mental Health Services, 2001; Hawker & Boulton, 2000; Nansel et al., 2001). The most widely used

definition of peer victimization in scientific literature was formulated by Olweus: “A person is victimized when he or she is intentionally exposed, repeatedly and over time, to negative actions on the part of one or more other persons, and he or she has difficulty defending him or herself” (Olweus, 1993, p. 9). This concept suggests a specific type of aggressive behavior, which can be physical (i.e. hitting or kicking), verbal (i.e. name-calling or threatening), or relational (i.e. spreading rumors or exclusion) (Nansel et al., 2001). Peer victimization increases with the transition from childhood to adolescence (Cater et al., 2014) and is associated with or can lead to a range of both internalizing and externalizing problem behavior (Boyes, Bowes, Cluver, Ward, & Badcock, 2014; Cater et al., 2014).

Multiple longitudinal studies showed that victimization leads to increased *internalizing problem behavior* over time, such as withdrawal, anxiety, and depression (Boyes et al., 2014; Hodges & Perry, 1999). In addition, meta-analyses of both cross-sectional and longitudinal studies have also indicated that victimization is associated with and predicted internalizing problems such as higher levels of depression, loneliness, and anxiety (Hawker & Boulton, 2000; Reijntjes, Kamphuis, Prinzie, & Telch, 2010). Prior research has primarily addressed the linkages between peer victimization and internalizing problem behavior. However, a recent meta-analysis indicated that victimization can also lead to *externalizing problems* such as conduct problems, aggression, truancy, and delinquent behavior (Boyes et al., 2014; Reijntjes et al., 2011).

It can be concluded that the prior body of research focusing on peer victimization gives solid evidence of a positive association between peer victimization and both internalizing and externalizing problem behavior.

Attachment to Peers and Problem Behavior

Originally, attachment was merely defined as the strong affective bond between infants and their primary caregivers (Bowlby, 1969/1982, 1973). More recently, however, the concept of attachment has been expanded, containing all significant relationships across the life span including those with peers. Attachment to peers could be an important factor in the psychosocial development of early adolescents in particular, with the start of the exploration of intimate and supportive relations (Laible, 2007; Laible, Carlo, & Raffaelli, 2000; Wilkinson, 2010). Although recent studies have emphasized the importance of peers as attachment figures, to date, there is limited empirical evidence to support the relationship between attachment to peers and problem behavior in early adolescence.

Concerning *internalizing problem behavior*, prior research has indicated that an overall secure attachment to peers in early adolescence is associated with lower levels of

depression and an overall insecure attachment with higher levels of depression (Laible et al., 2000). In addition, it was found that several indicators of secure attachment were associated with high levels of depression and anxiety, in both cross-sectional and longitudinal research (Deković, Buist, and Reitz, 2004; Muris, Meesters, Van Melick, & Zwambag, 2001).

In the same study, Deković et al. (2004) found no significant associations between attachment to peers and *externalizing problem behavior*. In line with findings on the relationship with best friend and externalizing problem behavior, the authors suggested that the development of externalizing problem behaviors is more likely associated with negative aspects of peer relations such as deviant peers and peer pressure, instead of the positive aspects of attachment measured in their study. Inconsistent with these findings, however, the study by Laible et al. (2000) showed that a more secure attachment to peers was associated with less aggression and a less secure attachment with more aggression. In addition, attachment to peers is an extension of, and serves a similar function as attachment to parents. High quality of attachment to parents has been associated with less delinquent and aggressive behavior (Buist, Deković, Meeus, & Van Aken, 2004).

In conclusion, research has shown that a secure attachment to peers is associated with lower levels of internalizing problem behaviors. With regards to externalizing problem behavior, prior research showed inconclusive results.

Sociometric Status and Problem Behavior

The sociometric status of children and adolescents can be perceived in different ways. Scientific research has long focused on how well liked, or rejected, children and adolescents are by their peers (Asher & Coie, 1990; Coie & Cillessen, 1993). This type of sociometric status is referred to as *sociometric popularity*, and taps into the construct of general likability (Cillessen & Rose, 2005). Sociometric popularity is usually assessed by a peer-nomination procedure, in which participants name one or more peers in their class who they like most and least. These positive and negative nomination scores are standardized, providing comparability across grades. For each participant, the number of liked-most minus the number of liked-least nominations then represents sociometric popularity, or *social preference*, on a continuous scale (Coie, Dodge, & Coppotelli, 1982). Participants scoring low on social preference can be defined as *rejected*, and research has shown that many forms of deviant behavior are associated with peer rejection (Cillessen & Rose, 2005).

Research has indicated that rejection by peers is associated with *internalizing problems*, such as social anxiety, withdrawal, and shyness, and that this association only became stronger as children made the transition from childhood to early adolescence

(Cillessen & Rose, 2005). Longitudinal research has shown that peer rejection predicted increases in internalizing problem behavior over time (Kraatz-Keily, Bates, Dodge, & Pettit, 2000).

In addition to the relationship between peer rejection and internalizing problems, early longitudinal research also showed that being rejected by peers during childhood predicted a wide variety of *externalizing problem behavior*, such as conduct disorder, delinquency, attentional difficulties, and substance abuse (Kupersmidt & Coie, 1990), with aggressive behavior as the most common type of externalizing problem behavior (Cillessen & Rose, 2005). Also more recently, several studies have found that peer rejection uniquely predicts externalizing problems, even when controlling for previous levels of externalizing problem behavior (Ladd & Burgess, 2001; Laird, Jordan, Dodge, Pettit, & Bates, 2001).

To conclude, both internalizing and externalizing problem behavior show strong positive associations with peer rejection.

The Present Study

To summarize, the aim of the present study is to examine both the unique and combined associations between relationship quality with best friend, peer victimization, attachment to peers, and sociometric status on the one hand and problem behavior on the other hand. To our best knowledge, these different types of peer experiences have never been included in one systematic approach with regard to problem behavior. In line with prior research, it is hypothesized that (1) internalizing problem behavior is negatively associated with a positive quality of the best friend relationship, and positively associated with a negative quality of the best friend relationship. For externalizing problem behavior, no relationship with the best friend relationship is expected. (2) It is expected that there is a positive association between peer victimization and both internalizing and externalizing problem behavior. (3) We hypothesize that attachment to peers is negatively associated with both internalizing and externalizing problem behavior. And (4), we hypothesize that sociometric status, as indicated by social preference, is negatively associated with both internalizing and externalizing problem behavior.

Method

Participants

In this study, data were collected from 342 early adolescents, selected from 372 respondents who participated in an annual sibling study. This annual sibling study was an ongoing cross-sectional study by the Department of Child and Adolescent Studies of the Faculty of Social Sciences, Utrecht University, with questionnaires on, among others, the

relationship with peers, and problem behavior. In the current study, data were used from the year 2006. Only participants who indicated having a best friend were included for further analysis. This resulted in a selection of 342 target early adolescents.

Independent samples *t* tests showed that target early adolescents who indicated having a best friend did not significantly differ from early adolescents indicating not having a best friend with regards to their mean age, $t(367) = -0.81, p = .416$, and mean level of externalizing problem behavior, $t(368) = -1.51, p = .131$. In addition, Welch's *t* test showed no significant differences in the mean level of internalizing problem behavior, $t(29.51) = -1.28, p = .209$. However, an independent samples *t* test proved significant differences in the mean level of attachment to peers, $t(367) = 2.57, p = .010$. Also, Welch's *t* test showed significant differences in peer victimization, $t(29.42) = -2.68, p = .012$, and social preference, $t(29.78) = 2.29, p = .030$. Combined, these results showed that adolescents without a best friend indicated a lower quality of attachment to peers, experienced more peer victimization, and were perceived by their peers as lower on social preference.

Using χ^2 tests of contingencies (with $\alpha = .05$), it was found that gender was significantly related to not having a best friend, $\chi^2(1, N = 370) = 6.78, p < .01$, indicating that boys were more likely than girls to not have a best friend. For ethnic background, as measured by country of birth, no significant relations were found with having a best friend.

Of the 342 selected early adolescents, 50.6% was female ($n = 173$). The participants varied in age between 9-13 ($M = 11.21, SD = .76$). The country of birth of the participants was predominantly the Netherlands (97.4%). With regards to living arrangements, 80.4% of the participants lived with both parents. Regarding gender of best friend, approximately 96% of both boys and girls indicated having a same-sex best friend.

Procedure

Questionnaires were administered among 10 elementary schools (grades 7 and 8), situated in eight middle to large cities spread across the central part of the Netherlands. The participating schools were representative of Dutch primary schools concerning educational system, class size, and religiosity. Principals from multiple schools were contacted by research assistants with a letter in which the aims of the study were described. The parents of children at the schools that indicated they wanted to participate, were provided with a letter of consent at least a week in advance of the data collection. Approximately 90% of the available early adolescents were granted permission by their parents to participate. The participants at the included schools completed a series of questionnaires individually in their own

classroom, administered by the research assistants. In advance, the participants were informed about the contents, relevance, and anonymity of the study and both verbal and written instructions were given on filling out the questionnaires. The questionnaires were administered in two sessions of one hour each. During the sessions, participants had the opportunity to ask the research assistants for clarification of the questionnaires.

Measures

Relationship quality with best friend. For the assessment of the quality of the relationship with the best friend, a shortened version of the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985; 1992) was used. This version of the NRI consisted of a total of 12 items, assessing both negative and positive aspects of the best friend relationship. All items were rated on a 5-point magnitude scale (1= *little to none* to 5= *the most*). For the assessment of *positive relationship quality* with the best friend, the *Satisfaction* (3 items, e.g., “how satisfied are you with your relationship with this person?”) and *Intimate disclosure* (3 items, e.g., “how often do you share secrets and private feelings with this person?”) scales were used. For the assessment of *negative relationship quality*, the *Conflict/Quarreling* scale (3 items, e.g., “how often do you and this person argue with each other?”) and *Antagonism* scale (3 items, e.g., “how much do you and this person get on each others nerves?”) were used. Computing the mean of the appropriate items created scales for positive and negative quality of the relationship with best friend. The internal consistency (Cronbach’s alpha) of respectively the positive and negative scale was .87 and .77.

Peer victimization. Peer victimization was assessed by the *victimization* scale of a bullying/victimization questionnaire (Goossens et al., 2005), consisting of six items rated on a 4-point scale (1= *no, never* to 4= *often*). Three types of victimization were assessed: *physical* (two items, e.g., “at school, are you being hit, kicked or pinched?”), *verbal* (two items, e.g., “at school, are you made fun of, being called names, or insulted?”), and *relational* victimization (two items, e.g., “at school, are you being excluded from games or activities?”). For this study, victimization was assessed as a whole, rather than separate for the three types of victimization, and accordingly a scale was computed on the mean of the six items on victimization. The internal consistency (Cronbach’s alpha) of the victimization scale was .85.

Attachment to peers. Attachment to peers was assessed by the *Peer* scale of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). The Peer scale of the IPPA consisted of 12 items and provided information on the quality of *communication* (4 items, e.g., “I tell my friends about my problems”), *trust* in peers to respect and accept feelings and needs (4 items, e.g., “my friends listen to what I say”), and negative

feelings towards peers (*alienation*, 4 items, e.g., “I feel lonely when I am with friends”). All items were rated on a 4-point scale, indicating how often each statement was true (1= *almost never* to 4= *almost all the time*). In the analyses, after recoding the alienation scale, total scores on the peer scale were used to assess the quality of relationships with peers. The internal consistency (Cronbach’s alpha) of the peer attachment scale was .75.

Sociometric status. For sociometric status of the participants, a sociometric test was used to assess the acceptance by peers in the classroom (Maassen, Van Boxtel, & Goossens, 2005). Participants were asked to name three peers in their class who they liked the most, and three peers who they liked least. Based on these nominations, scores were calculated per class on *positive nominations* (the amount of times participants were named as *liked*), and *negative nominations* (the amount of times participants were named as *disliked*). These scores were used to compute the *social preference* of the participants (the amount of positive nominations minus the amount of negative nominations for each participant). Next, each of these scores was standardized at class level, providing comparability of participants across classes. This standardized measure of social preference was used to analyze the sociometric status of the participants.

Problem behavior. The Nijmegen Problem Behavior List (NPBL Research version; De Bruyn, Scholte, & Vermulst, 2005) was used to assess problem behavior. The NPBL consisted of a total of 30 items and is derived from the Youth Self Report (YSR; Verhulst, Van der Ende, & Koot, 1997), with items specifically chosen and formulated for use in a subclinical population. All items were rated on a 5-point scale (1= *does not apply to me at all* to 5= *applies to me very well*). For the assessment of internalizing problems, the *Withdrawal* (5 items, e.g., “I distance myself from others”) and *Anxiety/Depression* scales (5 items, e.g., “I worry a lot”) were used. For the assessment of externalizing problems, the *Delinquent* (5 items, e.g., “I do things that could get me in trouble with the law”) and *Aggressive behavior* scales (5 items, e.g., “I fight a lot”) were used. Computing the mean of the appropriate items created scales for internalizing and externalizing problem behavior. The internal consistency (Cronbach’s alpha) of respectively the *Internalizing* and *Externalizing problem behavior* scale was .78 and .67. Item-total statistics of the Externalizing scale showed an increase in Cronbach’s alpha to .74 with the removal of the item “I feel guilty when I do things I am not supposed to do”. Further analyses have been conducted on the Externalizing scale in which this item was removed.

Results

Correlational Analysis

To assess the size and direction of the unique linear relationships between positive relationship quality with best friend, negative relationship quality with best friend, peer victimization, attachment to peers, and social preference on the one hand, and internalizing and externalizing problem behavior on the other hand, bivariate Pearson's product-movement correlation coefficients (r) were used. These correlations, together with descriptive statistics, are presented in Table 1.

Prior to calculating r , the assumptions of normality, linearity, and homoscedasticity were assessed, and found to be supported. Specifically, a visual inspection of the normal Q-Q and detrended Q-Q plots for each of the variables confirmed that none were normally distributed. In addition, visual inspection of the scatterplots of the five peer experiences against both types of problem behavior confirmed the linearity and heteroscedasticity of the association between each of the variables.

Table 1

Means, Standard Deviations, and Pearson Correlations for Key Study Variables (N=340)

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
Peer experiences									
1. Positive relationship quality with best friend	3.66	.85	-						
2. Negative relationship quality with best friend	1.48	.47	-.34**	-					
3. Peer victimization	1.34	.45	.01	.14**	-				
4. Attachment to peers	3.04	.42	.45**	-.24**	-.26**	-			
5. Social preference ^a	0.04	.95	.03	-.03	-.28**	.04	-		
Problem behavior									
6. Internalizing problem behavior	1.89	.54	-.13*	.22**	.49**	-.37**	-.18**	-	
7. Externalizing problem behavior	1.68	.48	-.16**	.33**	.29**	-.22**	-.12*	.45**	-

Note. ^a Standardized score, * $p < .05$, ** $p < .01$ (2-tailed)

We found small but significant correlations between *positive and negative relationship quality with best friend* and internalizing problem behavior (for positive quality: $r = -.13$, p , for negative quality: $r = .22$), as well as externalizing problem behavior (for positive quality: $r = -.16$, for negative quality: $r = .33$).

Together, these results regarding relationship quality with best friend confirmed our hypothesis that early adolescents who perceive the relationship with their best friend as low on positive quality and high on negative quality, experience more internalizing problem behavior such as depression and anxiety. However, the results regarding the relationship between best friendship quality and externalizing problem behavior contradicted our hypothesis that no relationship between these variables existed: Results showed that a lower positive and higher negative relationship quality with best friend were associated with higher levels of externalizing problem behavior.

With regard to *peer victimization*, bivariate correlations indicated moderate to strong statistically significant associations with both internalizing problem behavior, $r = .49$, and externalizing problem behavior, $r = .29$ (Cohen, 1988). As hypothesized, results indicated that early adolescents who experienced more peer victimization reported higher levels of both internalizing and externalizing problem behavior.

Attachment to peers showed moderate statistically significant correlations with internalizing problem behavior, $r = -.37$, as well as externalizing problem behavior, $r = -.22$ (Cohen, 1988), and confirmed our hypothesis that a lower quality of attachment to peers was associated with both more internalizing and externalizing problem behavior.

Last, with regard to *social preference*, small statistically significant correlations were also found with both internalizing, $r = -.18$, and externalizing problem behavior, $r = -.12$. These results confirmed that early adolescents with a low social preference among their peers reported more internalizing and externalizing problem behavior.

Together, results from the correlational analysis have indicated that having more negative peer experiences, as indicated by less positive and more negative quality of relationship with best friend, a lower quality of attachment to peers, experiencing more peer victimization, and a lower social preference among peers, is associated with both more internalizing and externalizing problem behavior.

Regression Analyses

To expand prior research by investigating the associations between each of the peer experiences in conjunction with each other and problem behavior, hierarchical regression analyses were conducted separately for internalizing and externalizing problem behavior. The regression models included the five types of peer experiences: positive relationship quality with best friend, negative relationship quality with best friend, peer victimization, attachment to peers, and social preference. For both internalizing and externalizing problem behavior,

each of the five peer experiences was entered into the model in a separate step. Results of the hierarchical regression analyses are presented in Table 2.

Before interpreting the results of the hierarchical regression analysis, a number of assumptions were tested, and checks were performed. Stem-and-leaf plots and boxplots indicated that each variable in the regression was not normally distributed and that there were some univariate outliers. Second, an inspection of the normal probability plot of standardized residuals and the scatterplot of standardized residuals against standardized predicted values indicated that the assumptions of normality, linearity, and homoscedasticity of residuals were met.

Internalizing problem behavior. On step 1 of the hierarchical regression analysis, positive relationship quality with best friend accounted for a significant 1.6% of the variance in internalizing problem behavior, $F(1, 340) = 5.47, p = .02$. On step 2, negative relationship quality with best friend was added to the regression, and accounted for an additional 3.5% of the variance in internalizing problem behavior, which was significant, $F(1, 339) = 12.40, p < .001$. With the addition of peer victimization on step 3 of the regression equation, a significant 21.8% in the variance was added, $F(1, 338) = 100.76, p < .001$. In step 4, adding attachment to peers to the model, another 4.3% of the variance in internalizing problem behavior was added, $F(1, 337) = 21.03, p < .001$. With the addition of social preference in the 5th and final step of the regression analysis, a non-significant portion of 0.3% was added to the variance, $F(1, 336) = 1.51, p = .221$.

On step 1 of the regression, positive relationship quality with best friend proved to be significantly associated with internalizing problem behavior. However, with the addition of negative relationship quality with best friend on step 2, positive relationship quality no longer made a significant contribution and remained insignificant in further steps of the hierarchical regression. Onwards from step 3, peer victimization and attachment to peers showed to be of significant contribution to internalizing problem behavior. In the 5th step, social preference did not significantly add to the final model with regard to internalizing problem behavior.

In the final model, the five types of peer experiences combined accounted for 31.5% of the variance in internalizing problem behavior, adjusted $R^2 = .30, F(5, 336) = 30.85, p < .001$. This combined association can be considered large in effect size ($f^2 = .46$) (Cohen, 1988). As can be seen in Table 2, experiencing more peer victimization ($\beta = .40$), a lower attachment to peers ($\beta = -.25$), and a higher negative relationship quality with best friend ($\beta =$

.11) were significantly uniquely associated with more internalizing problem behavior when all peer experiences were examined in conjunction.

Table 2

Hierarchical Regression Analyses for the Associations Between Peer Experiences, and Internalizing and Externalizing Problem Behavior (N = 336)

	Internalizing problem behavior					Externalizing problem behavior				
	B	SE B	β	sr^2	ΔR^2	B	SE B	β	sr^2	ΔR^2
Step 1					.02*					.03**
Positive relationship quality with best friend	-.08	.03	-.13*	.02		-.09	.03	-.16**	.03	
Step 2					.04***					.09***
Positive relationship quality with best friend	-.04	.04	-.06	< .01		-.03	.03	-.06	< .01	
Negative relationship quality with best friend	.23	.07	.20***	.03		.32	.06	.31***	.09	
Step 3					.22***					.06***
Positive relationship quality with best friend	-.06	.03	-.09	< .01		-.04	.03	-.07	< .01	
Negative relationship quality with best friend	.14	.06	.12*	.01		.28	.06	.27***	.06	
Peer victimization	.57	.06	.47***	.22		.27	.05	.25***	.06	
Step 4					.04***					.00
Positive relationship quality with best friend	.01	.03	.02	< .01		-.02	.03	-.04	< .01	
Negative relationship quality with best friend	.12	.06	.11*	< .01		.28	.06	.27***	.06	
Peer victimization	.49	.06	.41***	.15		.25	.06	.23***	.05	
Attachment to peers	-.32	.07	-.24***	.04		-.09	.07	-.07	< .01	
Step 5					.00					.00
Positive relationship quality with best friend	.01	.03	.02	< .01		-.02	.03	-.04	< .01	
Negative relationship quality with best friend	.13	.06	.11*	.01		.27	.06	.27***	.06	
Peer victimization	.47	.06	.40***	.13		.24	.06	.22***	.04	
Attachment to peers	-.32	.07	-.25***	.04		-.09	.07	-.08	< .01	
Social preference ^a	-.03	.03	-.06	< .01		-.02	.03	-.05	< .01	
Total R^2					.32***					.18***

Note. ^a Standardized score, * $p < .05$, ** $p < .01$, *** $p < .001$

Externalizing Problem Behavior. On step 1 of the hierarchical regression analysis, positive relationship quality with best friend accounted for a significant 3% of the variance in externalizing problem behavior, $F(1, 340) = 8.98, p = .003$. On step 2, negative relationship quality with best friend was added to the regression, and accounted for an additional 8.6% of

the variance in externalizing problem behavior, which was significant, $F(1, 339) = 32.62, p < .001$. With the addition of peer victimization in step 3 of the regression equation, a significant 6.2% in the variance was added, $F(1, 338) = 24.46, p < .001$. In step 4, adding attachment to peers to the model, a non-significant .04% of the variance in externalizing problem behavior was added, $F(1, 337) = 1.65, p = .200$. With the addition of social preference in the final step of the regression analysis, a non-significant portion of 0.2% was added to the variance, $F(1, 336) = 0.81, p = .368$.

On step 1 of the regression, positive relationship quality with best friend proved to be significantly associated with externalizing problem behavior. Just as with internalizing problem behavior, with the addition of negative relationship quality with best friend on step 2, positive relationship quality no longer made a significant contribution and remained insignificant in subsequent steps of the hierarchical regression. Onwards from step 3, peer victimization showed to be significantly related to externalizing problem behavior. On step 4, attachment to peers proved to be insignificant in the relationship with externalizing problem behavior when the previously entered peer experiences were taken into account. Social preference, entered in the 5th step, did not significantly add to the final model with regard to internalizing problem behavior.

In the final model, the five types of peer experiences combined accounted for 17.9% of the variance in externalizing problem behavior, adjusted $R^2 = .17, F(5, 336) = 14.70, p < .001$. This combined association can be considered medium in effect size ($f^2 = .22$) (Cohen, 1988). As can be seen in Table 2, experiencing a more negative relationship quality with best friend ($\beta = .27$) and experiencing more peer victimization ($\beta = .22$) were significantly uniquely associated with increases in externalizing problem behavior when all peer experiences were examined in conjunction.

Discussion

Prior research has long recognized the unique importance of different types of peer experiences such as best friendships, peer victimization, attachment to peers, and social preference in the development of problem behavior. However, there is considerably less knowledge on the relative importance of each of these peer experiences when studied in conjunction. Therefore, in the present study, we examined both the unique and combined associations between positive and negative relationship quality with best friend, peer victimization, attachment to peers, and sociometric status on the one hand, and early adolescent internalizing and externalizing problem behavior on the other hand. To our

knowledge, this study is the first in addressing these five peer experiences in conjunction with regard to problem behavior. Key findings of this study include differences concerning the unique and combined associations between peer experiences and problem behavior, stronger associations for peer experiences and internalizing problems than for externalizing problems, and the relative importance of negative aspects of peer experiences in higher levels of problem behavior, compared to the absence of positive aspects. These findings will be discussed in more detail in the sections below.

The Relationship Level of Social Complexity: Quality of Best Friendships

Results from the correlational analysis show that both negative and positive relationship quality with best friend are uniquely associated with internalizing problem behavior in the expected direction: experiencing a more negative relationship quality and a less positive relationship quality is associated with higher levels of internalizing problems. These findings are in line with earlier research indicating that a less positive and more negative quality of the relationship with best friend were associated with depression, anxiety, and withdrawal (Gaertner et al., 2010; La Greca & Harrison, 2005; Preddy & Fite, 2012). It was suggested by Gaertner et al. (2010) that when there is less positive quality in best friendships, adolescents might not experience a source of social support, and may consequently experience increased levels of internalizing problems.

When taking into account the other types of peer experiences, however, positive relationship quality with best friend is no longer significantly associated with internalizing problem behavior. In contrast, negative relationship quality remains uniquely associated with internalizing problems when assessing all peer experiences in conjunction. This outcome of a stronger effect of negative features in comparison to positive features is a phenomenon more often found in psychological research (Baumeister, Bratslavsky, Finkenauer, and Vohs, 2001).

With regard to externalizing problem behavior, results from the correlational analysis show that both negative and positive relationship quality with best friend are uniquely associated with externalizing problem behavior as well: experiencing a more negative relationship quality and a less positive relationship quality is associated with higher levels of externalizing problems. Similar to the findings for internalizing problems, positive relationship quality is no longer significant when taking into account other peer experiences. Negative relationship quality remains significantly related to externalizing problems in the assessment of all five peer experiences simultaneously, even more than for internalizing

problems, and in fact shows the most significant relationship with externalizing problems of all peer experiences. Here also, negative features are more prominent than positive features.

For the quality of the relationship with best friend, no relation was however expected with regard to externalizing problem behavior. Nevertheless, our results indicate that having a less positive and more negative relationship quality with best friend does in fact relate to increases in externalizing problem behavior. As a possible explanation for this finding, Berndt (2002) suggested in his review on friendship quality and social development that in close friendship relations in which interactions are high in negative features such as conflict and domination, these interactions might be generalized to other individuals outside of the best friend relationship.

The Relationship/Group Level of Social Complexity: Peer Victimization

Results from the correlational analysis show that experiencing peer victimization to a greater extent is uniquely associated to higher levels of both internalizing and externalizing problem behavior. In conjunction with the other peer experiences, peer victimization is among the strongest unique associations with both types of problem behavior. This finding of a positive association between peer victimization and internalizing and externalizing problems is in line with our hypothesis, and confirms prior research on the subject.

There are several mechanisms through which this association can be explained. In the conclusion of their study, Zwierynska, Wolke, and Lereya (2013) provided an overview of possible mechanisms through which peer victimization can lead to internalizing problems, more specifically depressive symptoms. They summarized that victimization can alter the physiological response to stress by altered HPA-axis activity and a different cortisol response, that it can lead to chronic differences in depression-linked genes and that experiences of peer victimization can activate negative cognitive biases towards others and increased feelings of loneliness and social satisfaction. However, since no conclusions on directionality can be drawn on the basis of the design of this study, it is also possible that early adolescents with prior internalizing problems are more prone to peer victimization, perhaps because they are easy targets for peer victimization due to their behavior that indicates they might be less capable to defend themselves (Hodges & Perry, 1999).

With regards to externalizing problem behavior, early research has suggested that children and adolescents who experience frequent victimization, are at risk for developing a hostile social-cognitive bias, which in turn can lead to aggressive behavior. In addition, victims could also use aggression as a defense mechanism against perpetrators (Dodge, Bates, & Pettit, 1990; Dodge & Schwartz, 1997). Similar to the association between peer

victimization and internalizing problems, previous research also found a path from externalizing problem behavior to subsequent increases in peer victimization. According to Reijntjes et al. (2011), these bidirectional influences create an escalating cycle of victimization in which children with externalizing problems provoke peer victimization, which in turn leads to further increases of externalizing problems.

The Group Level of Social Complexity: Attachment to Peers

When assessed in isolation, results of this study show that early adolescents with a lower attachment to peers report higher levels of internalizing problem behavior. This strong unique relationship is still found when assessed together with the other types of peer experiences. This finding concurs with our hypothesis and is in line with prior research. This result seems to confirm that being accepted by peers and having high quality relationships is important in early adolescence in psychosocial well-being. Indeed, in their study, Deković et al. (2004) concluded that experiencing low quality relationships with peers can be perceived as social incompetence, leading to a low self-esteem and subsequent feelings of depression.

Also for externalizing problem behavior, attachment to peers shows a strong unique association. In accordance with our hypothesis, a lower attachment to peers significantly relates to a higher level of externalizing problems. However, in contrast to the results for internalizing problem behavior, this unique association is no longer significant when attachment to peers is examined in combination with the other peer experiences. It has already been suggested in prior research that negative aspects of peer relations, such as peer pressure and deviant behavior of peers, is more strongly associated with externalizing problem behavior than the absence of positive aspects of attachment (Deković et al., 2004). The present study provides in addition to this finding that negative peer experiences, such as peer victimization and a high negative quality in the relationship with best friend, also show stronger associations with externalizing problem behavior than attachment to peers.

The Group Level of Social Complexity: Social Preference

Although results from the correlational analysis show that a lower social preference, as hypothesized, is uniquely related to both more internalizing and externalizing problem behavior, this relationship is no longer significant in combination with the other peer experiences assessed in this study. This result contrasts previous findings of a relationship between lower social preference and higher levels of problem behavior (e.g., Cillessen & Rose, 2005; Ladd & Burgess, 2001). However, these previous studies have not considered other peer experiences in examining the relationship between social preference and problem behavior. Based on the results of the present study, it cannot be concluded how the other peer

experiences influence the association between social preference and problem behavior, but it does suggest that it is meaningful to include measures of other peer experiences in this research area.

Comprising the Evidence: Peer Experiences Combined

In comprising the conclusions of the combined associations between the different types of peer experiences and problem behavior, two general patterns emerge: a stronger connection for peer experiences with internalizing problem behavior than for externalizing problems, and a greater importance of the presence of negative aspects of peer experiences relative to the absence of positive aspects.

Internalizing Versus Externalizing. When comparing the findings for internalizing and externalizing problem behavior, our study indicates that the combined peer experiences assessed relate to a greater extent to internalizing problems than to externalizing problems. Together, positive and negative relationship quality with best friend, peer victimization, attachment to peers, and social preference account for 31.5% of the variance in internalizing problem behavior, compared to 17.9% for externalizing problem behavior. Also, with attachment to peers being the exception, each of the individual peer experiences relates more strongly to internalizing problems than to externalizing problems when assessed concurrently. Since this is the first study to assess the relationship quality with best friend, peer victimization, attachment to peers, and social preference in conjunction with regard to problem behavior, prior research provides no specific explanation for the stronger relationship with internalizing problem behavior. This matter should receive further attention in future research.

Bad Versus Good. Looking at the associations between the different types of peer experiences in conjunction and problem behavior, not all peer experiences prove to be significantly related. In descending order of their relative contribution, peer victimization, attachment to peers, and negative relationship quality with best friend show the only significant associations. For the association with externalizing problems, negative relationship quality contributes relatively the most, followed by peer victimization.

In general, this seems to imply that the presence of negative peer experiences such as peer victimization and conflict and irritation in the relationship with best friend is more important than the absence of positive aspects, such as satisfaction and intimacy in the relationship with best friend and being liked by peers. This phenomenon is not a novel one, and has been documented by Baumeister et al. (2001) in their paper *Bad is Stronger Than Good*. According to Baumeister et al. (2001), it is an innate human tendency to pay more

attention to negative information, which therefore produces larger effects. More specific to our topic of peer experiences they concluded, building on prior research, that increasing negative features in a relationship affect the relationship to a greater extent than decreases in positive features. Consequently, negative interactions seem to be more influential than positive ones on psychosocial adjustment.

Limitations and Directions for Future Research

There are several limitations to the present study. First of all, although this study provides compelling evidence for the associations between combined peer experiences and problem behavior, it is not possible to determine the direction of these observed associations due to the cross sectional design of this study. Future research should attempt to examine the concurrent associations found in this study over time to examine the direction of effects.

Second, examining the interaction effects of the different types of peer experiences was beyond the scope of this study and only main effects of peer experiences on problem behavior were assessed. However, peer experiences in and between different levels of social complexity are interconnected to a substantial degree (e.g., Bollmer et al., 2005; Cillessen & Rose, 2005), which may explain changes between the unique and combined associations between some of the peer experiences and problem behavior. These interaction effects should be further assessed in future research.

A third limitation of this study is that it was beyond our scope to control for factors that were found to be associated with adolescent problem behavior in prior research. Despite a robust amount of variance explained by the combination of different types of peer experiences in both internalizing and externalizing problems, problem behavior is related to a complex interaction of factors on different levels. Future research should attempt to assess these peer experiences together with confounding factors on the biological, psychological, and social level.

Fourth, in this study, outcome variables were broadly defined and assessed. For instance, the latent variable internalizing problem behavior was used to measure levels of both depression/anxiety and withdrawn behavior. However, when assessed separately, Laible et al. (2000), for instance, only found significant associations between depression and attachment to peers, and not for anxiety. Similar, Hawker & Boulton (2000) reported larger effect sizes for depression than for anxiety in relation to peer victimization. Furthermore, self-reported dimensions of anxiety and depression seemed to be psychometrically distinguishable in a nonclinical sample (Nitschke, Heller, Imig, McDonald, & Miller, 2001). Also for externalizing problems, aggression and delinquency are two distinct types of

problem behavior. Future research might therefore want to focus on more narrowly defined indices of problem behavior in relation to different peer experiences.

Finally, our sample is quite homogenous, consisting of mostly white (Dutch) young adolescents: a limitation that most studies conducted in the West suffer from. Findings of this study can therefore not be generalized to adolescents from other cultures or with other ethnic backgrounds.

The present study was variable centered. Connecting the directions for longitudinal research, interaction effects, and more narrow measures, a next step in examining combinations of peer experiences in relation to problem behavior might be a more person-centered approach. Through cluster analyses, different profiles in peer experiences can be constructed, which subsequently can be linked to different trajectories in adolescent problem behavior (Gifford-Smith & Brownell, 2003).

Notwithstanding these limitations, our study reflects the importance of examining multiple peer experiences in one systematic approach. Expanding current knowledge on the unique associations between relationship quality with best friend, peer victimization, attachment to peers, and social preference on the one hand, and internalizing and externalizing problem behavior on the other hand, this study is the first to show that when examined concurrently, only higher levels of peer victimization, a more negative relationship quality with best friend, and a lower attachment to peers are related to more problem behavior. Most noteworthy, this study provides evidence that the presence of negative aspects of peer experiences are more strongly related to higher levels of problem behavior, compared to the absence of positive aspects of these experiences. In addition, the combined peer experiences seem to be more strongly related to internalizing problem behavior than externalizing problem behavior. The outcome of this study reveals that an integrative approach of multiple peer experiences and problem behavior is useful for a more comprehensive understanding of the complexity of peer relations in early adolescence.

References

- Armsden, G. C., & Greenberg, M. T. (1987). The Inventory of Parent and Peer Attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427-453. doi:10.1007/BF02202939
- Arnett, J. J., & Hughes, M. (2012). *Adolescence and emerging adulthood: A cultural approach*. Essex: Pearson Education Limited.
- Asher, S. R., & Coie, J. D. (1990). *Peer rejection in childhood*. New York: Cambridge University.
- Bandura, A., & Walters, R. H. (1963). *Social learning and personality development*. New York, NY: Holt, Rinehart, & Winston.
- Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology, 5*, 323-370. doi:10.1037//1089-2680.5.4.323
- Berndt, T. J. (2002). Friendship quality and social development. *Current Directions in Psychological Science, 11*, 7-10. doi:10.1111/1467-8721.00157
- Bollmer, J. M., Milich, R., Harris, M. J., & Maras, M. A. (2005). A friend in need: The role of friendship quality as a protective factor in peer victimization and bullying. *Journal of Interpersonal Violence, 20*, 701-712. doi:10.1177/0886260504272897
- Bowlby, J. (1969/1982). *Attachment and loss. Volume 1: Attachment*. New York, NY: Basic.
- Bowlby, J. (1973). *Attachment and loss. Volume 2: Separation: Anxiety and anger*. New York, NY: Basic.
- Boyes, M. E., Bowes, L., Cluver, L. D., Ward., C. L., Badcock, N. A. (2014). Bullying victimisation, internalizing symptoms, and conduct problems in South African children and adolescents: A longitudinal investigation. *Journal of Abnormal Child Psychology, 42*, 1313-1324. doi:10.1007/s10802-014-9888-3
- Brendgen, M., Vitaro, F., Turgeon, L., & Poulin, F. (2002). Assessing aggressive and depressed children's social relations with classmates and friends: A matter of perspective. *Journal of Abnormal Child Psychology, 30*, 609-624. doi:10.1023/A:1020863730902
- Buist, K. L., Deković, M., Meeus, W., & Van Aken, M. A. G. (2004). The reciprocal relationship between early adolescent attachment and internalizing and externalizing problem behaviour. *Journal of Adolescence, 27*, 251-266. doi:10.1016/j.adolescence.2003.11.012

- Cater, A. K., Andershed, A. K., & Andershed, H. (2014). Youth victimization in Sweden: Prevalence, characteristics and relation to mental health and behavioral problems in young adulthood. *Child Abuse & Neglect, 38*, 1290-1302.
doi:10.1016/j.chiabu.2014.03.002
- Center for Mental Health Services (US) (2001). *Youth violence: A report of the Surgeon General*. Rockville, MD: Office of the Surgeon General. Retrieved from:
<http://www.ncbi.nlm.nih.gov/books/NBK44294>
- Cillessen, A. H. N., & Rose, A. J. (2005). Understanding popularity in the peer system. *Current Directions in Psychological Science, 14*, 102-105. doi:10.1111/j.0963-7214.2005.00343.x
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd edition). Hillsdale, NJ: Erlbaum.
- Coie, J. D., & Cillessen, A. H. N. (1993). Peer rejection: Origins and effects on children's development. *Current Directions in Psychological Science, 2*, 89-92. Retrieved from:
<http://www.jstor.org/stable/20182209>
- Coie, J. D., Dodge, K. A., & Coppotelli, H. (1982). Dimensions and types of social status: A cross-age perspective. *Developmental Psychology, 18*, 557-570. doi:10.1037/0012-1649.18.4.557
- De Bruyn, E. E. J., Scholte, R. H. J., & Vermulst, A. A. (2005). *Psychometric analyses of the Nijmegen Problem Behavior List (NPBL): A research instrument for assessing problem behavior in community samples using self- and other reports of adolescents and parents*. Nijmegen, Netherlands: Institute of Family and Child Studies, Radboud University Nijmegen.
- Deater-Deckard, K. (2001). Annotation: Recent research examining the role of peer relationships in the development of psychopathology. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 42*, 565-579. doi:10.1017/S0021963001007272
- Deković, M., Buist, K. L., & Reitz, E. (2004). Stability and changes in problem behavior during adolescence: Latent growth analysis. *Journal of Youth and Adolescence, 33*, 1-12. doi:10.1023/A:1027305312204
- Dodge, K. A., Bates, J. E., & Pettit, G. S. (1990). Mechanisms in the cycle of violence. *Science, 250*, 1678-1683. doi:10.1126/science.2270481
- Dodge, K. A., & Schwartz, D. (1997). Social information processing mechanisms in aggressive behavior. In D. M. Stoff, J. Breiling, & J. Maser (Eds.), *Handbook of antisocial behavior* (171-180). Hoboken, NJ: Wiley.

- Furman, W., & Buhrmester, D. (1985). Children's perceptions of the personal relationships in their social networks. *Developmental Psychology, 21*, 1016–1024. doi:10.1037/0012-1649.21.6.1016
- Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of network of personal relationships. *Child Development, 63*, 103-115. doi:10.1111/j.1467-8624.1992.tb03599.x
- Gaertner, A. E., Fite, P. J., & Colder, C. R. (2010). Parenting and friendship quality as predictors of internalizing and externalizing symptoms in early adolescence. *Journal of Child and Family Studies, 19*, 101-108. doi:10.1007/s10826-9289-3
- Gauze, C., Bukowski, W. M., Aquan-Assee, J., & Sippola, L. K. (1996). Interactions between family environment and friendship and associations with self-perceived well-being during adolescence. *Child Development, 67*, 2201–2216. doi:10.1111/j.1467-8624.1996.tb01852.x
- Gifford-Smith, M. E., & Brownell, C. A. (2003). Childhood peer relationships: Social acceptance, friendships, and peer networks. *Journal of School Psychology, 41*, 235-284. doi:10.1016/S0022-4405(03)00048-7
- Goossens, F. A., Olthof, T., Koot, H. M., Schuengel, C., Bijleveld, C. C. J. H., & Slotboom, M. (2005). *Vragenlijst pesten en gepest worden*. Unpublished manuscript.
- Hartup, W. W., & Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological Bulletin, 121*, 355-370. doi:10.1037//0033-2909.121.3.355
- Hawker, D. S. J., & Boulton, M. (2000). Twenty years' research on peer victimization and psychosocial maladjustment: A meta-analytic review of cross-sectional studies. *Journal of Child Psychology and Psychiatry and Allied Disciplines, 41*, 441-455. doi:10.1017/S0021963099005545
- Hinde, R. A., & Stevenson-Hinde, J. (1987). Interpersonal relationships and child development. *Developmental Review, 7*, 1-21. doi:10.1016/0273-2297(87)90002-5
- Hodges, E. V. E., Boivin, M., Vitaro, F., & Bukowski, W. M. (1999). The power of friendship: Protection against an escalating cycle of peer victimization. *Developmental Psychology, 35*, 94-101. doi:10.1037/0012-1649.33.6.1032
- Hodges, E. V. E., & Perry, D. G. (1999). Personal and interpersonal antecedents and consequences of victimization by peers. *Journal of Personality and Social Psychology, 76*, 677-685. doi:10.1037//0022-3514.76.4.677
- Hussong, A. M. (2000). Perceived peer context and adolescent adjustment. *Journal of Research on Adolescence, 10*, 391-415. doi:10.1207/SJRA1004_02

- Kraatz-Keily, M., Bates, J. E., Dodge, K. A., & Pettit, G. S. (2000). A cross-domain analysis: Externalizing and internalizing behaviors during 8 years of childhood. *Journal of Abnormal Child Psychology*, *28*, 161-179. doi:10.1023/A:1005122814723
- Kupersmidt, J. B., & Coie, J. D. (1990). Preadolescent peer status, aggression, and school adjustment as predictors of externalizing problems in adolescence. *Child Development*, *61*, 1350-1362. doi:10.1111/1467-8624.1990.tb02866
- La Greca, A. M., & Harrison, H. M. (2005). Adolescent peer relations, friendships, and romantic relationships: Do they predict social anxiety and depression? *Journal of Clinical Child and Adolescent Psychology*, *34*, 49-61. doi:10.1207/s15374424jccp3401_5
- Ladd, G. W., & Burgess, K. B. (2001). Do relational risks and protective factors moderate the linkages between childhood aggression and early psychological and school adjustment? *Child Development*, *72*, 1579-1601. doi:10.1111/1467-8624.00366
- Laible, D. (2007). Attachment with parents and peers in late adolescence: Links with emotional competence and social behavior. *Personality and Individual Differences*, *43*, 1185-1197. doi:10.1016/j.paid.2007.03.010
- Laible, D., Carlo, G., & Raffaelli, M. (2000). The differential relations of parent and peer attachment to adolescent adjustment. *Journal of Youth and Adolescence*, *29*, 45-59. doi:10.1023/A:1005169004882
- Laird, R. D., Jordan, K. Y., Dodge, K. A., Pettit, G. S., & Bates, J. E. (2001). Peer rejection in childhood, involvement with antisocial peers in early adolescence, and the development of externalizing behavior problems. *Development and Psychopathology*, *13*, 337-354. doi:10.1017/S0954579401002085
- Maassen, G. H., Van Boxtel, H. W., & Goossens, F. A. (2005). Reliability of nominations and two-dimensional rating scale methods for sociometric status determination. *Applied Developmental Psychology*, *26*, 51-68. doi:10.1016/j.appdev.2004.10.005
- Mead, G. H. (1934). *Mind, self, and society*. Chicago: University of Chicago.
- Muris, P., Meesters, C., Van Melick, M., & Zwambag, L. (2001). Self-reported attachment style, attachment quality, and symptoms of anxiety and depression in young adolescents. *Personality and Individual Differences*, *30*, 809-818. doi:10.1016/S0191-8869(00)00074-X
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with

- psychosocial adjustment. *Jama-Journal of the American Medical Association*, 285, 2094-2100. doi:10.1001/jama.285.16.2094
- Nitschke, J. B., Heller, W., Imig, J. C., McDonald, R. P., & Miller, G. A. (2001). Distinguishing dimensions of anxiety and depression. *Cognitive Therapy and Research*, 25(1), 1-22. doi:10.1023/A:1026485530405
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Cambridge, MA: Blackwell.
- Piaget, J. (1932). *The moral judgment of the child*. Glencoe, IL: Free.
- Preddy, T. M., & Fite, P. J. (2012). The impact of aggression subtypes and friendship quality on child symptoms of depression. *Child Indicators Research*, 5, 705-718. doi:10.1007/s12187-012-9143-9
- Reijntjes, A., Kamphuis, J. H., Prinzie, P., Boelen, P. A., Van der Schoot, M., & Telch, M. J. (2011). Prospective linkages between peer victimization and externalizing problems in children: A meta-analysis. *Aggressive Behavior*, 37, 215-222. doi:10.1002/ab.20374
- Reijntjes, A., Kamphuis, J. H., Prinzie, P., & Telch, M. J. (2010). Peer victimization and internalizing problems in children: A meta-analysis of longitudinal studies. *Child Abuse & Neglect*, 34, 244-252. doi:10.1016/j.chiabu.2009.07.009
- Rubin, K. H., Bukowski, W. M., & Parker, J. G. (2006). Peer interactions, relationships, and groups. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology* (6th Edition, Volume 3) (pp. 571-645). New York, NY: Wiley.
- Rubin, K. H., Coplan, R., Chen, X., Buskirk, A., & Wojslawowicz, J. C. (2005). Peer relationships in childhood. In M. Bornstein & M. Lamb (Eds.), *Developmental psychology: An advanced textbook* (5th Edition). (pp. 469-512). Hillsdale, NJ: Erlbaum.
- Rubin, K. H., Dwyer, K. M., Booth-LaForce, C., Kim, A. H., Burgess, K. B., & Rose-Krasnor, L. (2004). Attachment, friendship, and psychosocial functioning in early adolescence. *Journal of Early Adolescence*, 24, 326-356. doi:10.1177/0272431604268530
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York, NY: Norton.
- Verhulst, F. C., Van der Ende, J., & Koot, H. M. (1997). *Handleiding voor de Youth Self-Report (YSR)*. Rotterdam: Sophia Kinderziekenhuis/Erasmus MC.

- Vygotsky, L. (1978). Interaction between learning and development. In M. Gauvain & M. Cole (Eds.), *Readings on the development of children* (2nd ed.) (pp. 29-36). New York, NY: W. H. Freeman.
- Wilkinson, R. B. (2010). Best friend attachment versus peer attachment in the prediction of adolescent psychosocial adjustment. *Journal of Adolescence*, *33*, 709-717.
doi:10.1016/j.adolescence.2009.10.013
- Zwierzynska, K. Wolke, D., & Lereya, T. S. (2013). Peer victimization in childhood and internalizing problems in adolescence: A prospective longitudinal study. *Journal of Abnormal Child Psychology*, *41*, 309-323. doi:10.1007/s10802-012-9678-8