Relations Between Childhood/Adolescent Family and Peer Relationships and Young Adulthood Externalizing Behavior Problems

Manfred H. M. van Dulmen

University of Minnesota

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Abstract

The study of relationship antecedents of externalizing behavior problems has primarily focused on potentially harmful aspects of relationships such as conflict and hostility. Although a large body of literature has investigated the role of family and peer relationships in the development of externalizing behavior problems, few research efforts have focused on studying these relationship domains in conjunction. I investigated the relative role of family and peer relationships during middle childhood and adolescence in predicting externalizing behavior problems during young adulthood by analyzing data from the Minnesota Longitudinal Study of Parents and Children. Results showed that the quality of family and friendship relationships each uniquely predict young adulthood externalizing behavior problems, and that these effects cannot be accounted for by middle childhood peer competence. Second, results indicate that adolescent friendship quality does not account for the impact of adolescent family quality. In considering how the quality of relationship processes may affect change in externalizing behavior problems from age 16 to age 26, results showed that the quality of family relationships but not the quality of friendship relationships was a significant predictor of change in externalizing behavior problems.

Keywords: Externalizing Behavior Problems, Family Relationships, Peer Relationships
Youth violence prevalence rates have declined in recent years, but there are still a high percentage of adolescents who engage in violent behavior (Satcher, 2001) and an increasing number of children that are referred to the juvenile court system (Loeber and Farrington, 2001). In order for intervention and prevention efforts to be effective, it is important that detailed information is derived on the relationship processes underlying the development of externalizing problem behaviors. The purpose of this paper is to investigate these relationship processes, more specifically the quality of family-peer linkages, and how they affect the development of externalizing behavior problems from adolescence into young adulthood.

Few studies deal directly with studying how social relationships affect the development of aggression (Hartup, 2002). The majority of research investigating the relation between social relationships and externalizing behavior problems has focused on relationship processes that ‘promote’ the development of externalizing behavior problems, such as ineffective parenting (e.g. Baumrind, 1971; Patterson & Bank, 1989) and peer rejection (Laird et al., 2001). There has been less emphasis on the protective aspects of relationship processes in the development of externalizing behavior problems. For example, Moffitt and colleagues showed that parent-child relationship quality was a strong predictor of levels of externalizing behavior problems during adolescence (Moffitt, Caspi, Rutter, & Silva, 2001). Criss, Shaw, and Ingoldsby (2003) investigated mother-son synchrony (i.e. mutual responsiveness) and found that higher levels of mother-son synchrony was related to lower levels of both child and child’s friend antisocial behavior. Similarly, in a diverse sample of American High-School students, Arbona and Power (2003) found that securely attached adolescents were less likely to be involved in antisocial behavior as compared to less securely attached adolescents.
Gender differences have also been found in studies focusing on the relation between the quality of family relationships and the development of externalizing behavior problems. Storvoll and Wichstrom (2002) investigated this relation in a school stratified sample of over 12,000 Norwegian adolescents. They found that family conditions (parental separation, parental care, parental monitoring, and family leisure activities) were associated more strongly with the development of externalizing behavior problems in boys than in girls. This suggests that the quality of family relationships may be more strongly related to the development of externalizing behavior problems among boys than girls. In investigating the role of open communication in parent-child relationships, Clark and Shields (1997) found that open communication may be more important for boys as compared to girls in predicting externalizing behavior problems. In summary, these findings suggest that the quality of family relationships affect the development of externalizing behavior problems, but this relationship may be stronger for boys than for girls.

In addition to examining the impact of family relationships on externalizing behavior problems, research efforts have also focused on the impact of friendships and peer relationships on the development of externalizing behavior problems. These have, however, been primarily limited to the study of peer rejection, or deviant talk (e.g. Shortt, Capaldi, Dishion, Bank, & Owen, 2003) or have focused on peer and friendship quality within the realm of understanding deviant peer relationships (e.g. Laird, Pettit, Dodge, & Bates, 1999). For example, Pleydon and Schner (2001) did not find any differences in friendship quality aspects of deviant versus non-deviant friendship relationships. Engels and ter Bogt (2001) studied a sample of adolescents in the Netherlands focusing on the relation between risk behaviors and quality of peer relationships. Although they found that the quality of peer relationships was associated with for example substance abuse, their data did not support such a relationship for criminal activity.
In summary, the research on peer and friendship quality as predictors of externalizing behavior problems is less robust than the findings on the quality of family relationships, and, also of importance, researchers have found important gender differences. The role of family and peer relationships in the development of externalizing behavior problems has been studied primarily in isolation. That is, studies have focused on either the role of family or peer relationships. This, despite the fact that research on family-peer linkages has grown drastically in the past ten years and from this large body of research can be concluded that these two relationship domains affect each other in important ways throughout development (Parke & Ladd, 1992; Kerns, Contreras, & Neal-Barnett, 2000). Furthermore, as argued by Dishion et al. based on a review of the literature, “parent-peer models hold the most promise for guiding comprehensive intervention strategies that prevent or reduce antisocial behavior prior to adulthood” (Dishion et al., 1995, p.448). Thus, there is a clear need to investigate these contextual domains in conjunction.

This study investigates several research questions with regard to the role of family-peer linkages in the development of externalizing behavior problems. First, I investigate whether adolescent family and peer relationships have independent effects on young adulthood externalizing behavior problems. Second, I investigate whether the relationship between adolescent family relationships and young adulthood externalizing behavior problems can be accounted for by adolescent friendship quality (mediation). Third, I investigate whether the relationship between adolescent externalizing behavior problems and young adulthood externalizing behavior problems depends on the level of adolescent friendship quality (moderation). And fourth, I investigate whether adolescent family and friendship quality not only predict the level of externalizing behavior problems but also the change in externalizing behavior
problems from age 16 to age 26. For each of these four questions, I will also investigate potential gender differences.

Methods

Participants. Participants for this study were drawn from the Minnesota Parent-Child Project, an ongoing 26-year longitudinal study of developmental adaptation in a high-risk urban sample of young mothers and their first-born children (Egeland & Brunnquell, 1979). Primiparous mothers, aged 12-34, were recruited for the study (originally n=267) while seeking prenatal care from the Minneapolis Public Health Clinic from 1975 to 1977. When the children of the mothers were 24 months of age, 212 families remained in the sample with attrition being due primarily to residential mobility. Since age two, 88% of the participants have been retained. Participants were considered at high-risk due to a variety of factors including the majority of mother's pregnancies being unplanned, being unmarried, being of low socioeconomic status and low educational attainment at time of delivery, and experiencing a high degree of instability and life stress.

The families in this study have been seen at 26 different time-points over a 26-year period. The population utilized for this research was a subsample of 169 participants for whom data for either the age 23 or age 26 assessments was available. The sample included 87 males and 82 females.

Measures.

Middle Childhood Peer Competence. Teacher rankings of peer competence were assessed at grades 1, 2, 3. Teachers were asked to rate all the children in their class on peer competence. Teachers were provided with the following description and asked to rank all the children in the classroom: ‘social competence refers to the child’s effectiveness in the peer group’. Criteria for a
child scoring high on peer competence would include the following: a) sociability, b) wide acceptance among other children, c) friendship, and d) social skills and leadership qualities. For the statistical analyses, an average of the grade 1, 2, and 3 peer competence scores was used.

Grade 6 Friendship Quality. Friendship quality was coded from a semi-structured friendship interview during grade 6. Criteria for a high score on the friendship quality scale included whether the friendship relationship was ongoing, reciprocated by the named best friend, age-appropriate, fun, and close. A high score on the scale reflects that ‘the child readily names a best friend and describes a relationship that is close, rewarding, and a positive force in the child’s life’. Interrater reliability for this scale was $r = .83$.

Age 16 Quality of Family Functioning. Age 16 quality of family functioning was assessed through the health scale of the self-report family inventory (SFI) administered to adolescents. The SFI is based on the Beavers Systems Model of Family Functioning (Beavers & Hampson, 2000) and assesses overall family competence and style. The SFI has shown good internal consistency and test-retest reliability (Grotevant & Carlson, 1989).

Adolescent Friendship Quality. Adolescent friendship quality was derived from the age 19 relationship interview. This interview focused on important relationships in the participant’s life, specifically intimate relationships such as dating partners and/or close friendships. The adolescent friendship quality scale was based on characteristics such as: mutual caring, trust, and emotional closeness; sensitivity to one another’s needs and wishes; deep sharing of experience, as well as enjoyment of each other; loyalty and fidelity. A high score on this scale is characterized by the following: ‘Within the limits of the 19-year old’s capacity, this is a wonderful relationship. The relationship is characterized by deep caring. There is no question
regarding the emotional investment present. All of the qualities of a positive relationship are obvious. No concerns about the relationship arise’. The interrater reliability for this scale \( r = .83 \).

Externalizing Behavior Problems. Externalizing behavior problems at age 16 was assessed using the Youth Self-Report (YSR, Achenbach, 1991c). The YSR is administered to the adolescent. The problem scale of the YSR consists of 113 items such as ‘defiant’, ‘easily frustrated’, and ‘unhappy, sad or depressed’, that are scored on eight subscales (withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior) that make up the internalizing and externalizing scales. The externalizing scale consists of the delinquent and aggressive behavior sub-scales. One-week test-retest reliability on the YSR ranges from .67 to .91 (Pearson correlation) for the internalizing and externalizing scales (Achenbach, 1991c). Test-retest reliability is lower for younger adolescents (11-14 years of age) than older adolescents (15-18 years of age). At age 23 and age 26 the young adult version of the YSR, the Young Adult Self Report Form was used to assess externalizing behavior problems (YASR; Achenbach, 1997) was used to assess behavior problems at age 23 and age 26.

Results

First, descriptive and correlational analyses were conducted to investigate the bivariate relationships among the variables under study (see Table 1)

| Insert Table 1 about here |

With regard to the externalizing behavior problem scores at age 16, age 23, and age 26, a general decline in this sample, as compared to normed scores, is evident. At age 16 the
externalizing behavior problem t-score was $m=57.53$, whereas this score was lower at age 23 $m=50.24$ and age 26 $m=51.20$. Growth curve analyses in PRELIS confirmed this trend, although there was also a fair amount of random variation ($p=.06$) in change in externalizing behavior problems from age 16 to age 23, suggesting that individuals differed substantially from each other in the course of externalizing behavior problems.

The bivariate correlations from Table 1 indicate that the middle childhood peer competence and friendship quality variables were not significantly associated with externalizing behavior problems during adolescence or young adulthood. Age 16 quality of family functioning was significantly associated with age 19 friendship quality ($r=.27, p<.01$) as well as with externalizing behavior problems at various ages (age 16: $r = -.44, p<.01$; age 23: $r = -.54, p<.01$; age 26: $r = -.52, p<.01$). Interestingly enough, potential concerns about shared method variance were not validated. In other words, both externalizing behavior problems and quality of family functioning were derived from self-reports at age 16. However, the relation between externalizing behavior problems and quality of functioning was not stronger cross-sectionally as compared to longitudinal relationships between quality of family functioning and externalizing behavior problems.

Age 19 friendship quality was not significantly associated with age 16 externalizing behavior problems but was significantly associated with age 23 ($r = -.22, p<.05$) and age 26 ($r = -.22, p<.05$) externalizing behavior problems. The externalizing behavior problem scores at age 16, age 23, and age 26, were significantly interrelated, ranging from $r = .29$ (age 16 with age 23/age 26) to $r = .75$ (age 23 with age 26).

Next, regression analyses were conducted to investigate the relationship between middle childhood peer competence, grade 6 friendship quality, age 16 quality of family relationships,
age 19 quality of friendship relationships, and young adulthood externalizing behavior problems (see Table 2).

Results showed that age 16 quality of family relationships and age 19 quality of friendship relationship were statistically significant predictors of young adulthood externalizing behavior problems, even after considering the impact of middle childhood peer competence and grade 6 friendship quality. Higher levels of self-reported age 16 quality of family relationships were associated with lower levels of age 23 ($\beta=-.25$, $p<.05$) and age 26 ($\beta=-.22$, $p<.05$) externalizing behavior problems. Higher levels of age 19 quality of family relationships were associated with lower levels of age 23 ($\beta=-.20$, $p<.05$) and age 26 ($\beta=-.18$, $p<.05$) externalizing behavior problems. These results do not only indicate that adolescent quality of family and friendship relationships predict young adulthood externalizing behavior problems above and beyond middle childhood peer relationships, but also that the quality of adolescent family and friendship relationships each uniquely predict young adulthood externalizing behavior problems.

I further analyzed whether gender served as a moderator variable. Interaction effects for gender by age 16 family quality and gender by age 19 friendship quality were calculated. Regression analyses revealed non-significant interaction effects by gender, suggesting that there were no important differences between boys and girls as to how relationship quality variables affect externalizing behavior problems.

Next, we investigated whether or not age 19 friendship quality would moderate the relationship between age 16 family quality and young adulthood externalizing behavior
problems. Regression analyses were conducted entering age 16 quality of family relationships and age 19 quality of friendship relationships at step 1, and the interaction effect at step 2. At age 23, the interaction effect of age 16 family quality and age 19 friendship quality approached statistical significance ($\beta=.15, p=.08$) but this interaction effect was non-significant in predicting age 26 externalizing behavior problems.

We further investigated whether age 19 friendship quality would mediate the relationship between age 16 family quality and young adulthood externalizing behavior problems. Following Baron and Kenny (1986) several regression models were conducted to test for mediation. Criteria for testing mediation were met in that the independent variable (quality of family relationships) was significantly associated with the dependent variable (externalizing behavior problems), and that the mediator (quality of friendship relationships) was associated with both the independent and dependent variable. Tests for mediation showed that age 19 friendship quality did not mediate the relationship between age 16 quality of family relationships and age 23/age 26 externalizing behavior problems. The relationship between age 16 quality of family relationships and age 23/age 26 externalizing behavior problems dropped only marginally ($\Delta\beta=.02$ and .03 resp.) after considering the impact of age 19 quality of friendship relationships. Results of the Sobel test were not statistically significant. Because the earlier interaction effects with gender were not statistically significant, mediational tests by gender were not conducted.

Growth curve analyses were conducted in PRELIS to investigate whether friendship quality and family quality were associated with change in externalizing behavior problems. Results showed that friendship quality was not a statistically significant predictor of change in externalizing behavior problems, but family quality was ($\beta=-1.02$ (SE=.35), $p<.001$). Higher levels of family quality at age 16 were associated with a sharper decrease in externalizing
behavior problems than lower levels of family quality. We also investigated three way-interactions with gender and quality of friendship and quality of family relationships. The three-way interaction for change in externalizing behavior problems was not statistically significant but the three-way interaction for starting level in externalizing behavior problems was ($\beta=-7.19$ (SE=2.14). The relation between quality of family relationships at age 16 and the starting level of externalizing behavior problems was stronger for girls as compared to boys.

In summary, the results of this study indicate that the quality of adolescent friendship and family relationships each independently affect young adulthood externalizing behavior problems. Furthermore, I found no evidence that the quality of adolescent friendship relationships can account for the impact of the quality of family relationships on young adulthood externalizing behavior problems, and only minimal evidence for the moderating effect of adolescent friendship relationships. Contrary to other studies, I found that the relation between the quality of family relationships and adolescent externalizing behavior problems was stronger for girls as compared to boys.

Discussion

The findings suggest that, despite the fact that experiences with families and peers are intertwined in important ways, quality relationships in one domain cannot account for quality relationships in a different domain. Despite the large body of literature suggesting that peers become more important during adolescence, these results re-iterate the importance of high quality family relationships during adolescence. These findings support other results in the area of family relationships and adolescent development (see e.g. Grotevant, 1997).

The results of this study also suggest that the quality of family relationships, but not the quality of friendship relationships, is associated with change in externalizing behavior problems
from age 16 to age 26. Based on general systems models of adolescent development in relationship context, I expected that both the quality of family relationships and the quality of friendship relationships would have been associated with the change in externalizing behavior problems, similar to these quality variables predicting the level of externalizing behavior problems at age 23. It remains a question why quality family relationships affect the general trend of diminishing externalizing behavior problems from adolescence to young adulthood, but the same is not true of quality friendship relationships.

In conducting the growth curve analyses, I also discovered an important gender difference with regard to the predictors of the starting level of externalizing behavior problems. One potential reason for the discrepancy in findings for gender is that the measures by Clark and Shields (1997) and Storvoll and Wichstrom (2002) focused primarily on the parent-child relationship. The measure used in this particular study focused on family functioning in general. The literature on the relation between parental monitoring and externalizing behavior problems has primarily focused on the study of delinquent boys. It could be that parenting is more important for boys whereas overall family relationships are more relevant for predicting externalizing behavior problems in girls. This would explain the discrepancy between the findings in this study and the findings by Clark and Shields (1997) and Storvoll and Wichstrom (2002).

The limitations of this study include the fact that the analyses were based on a non-representative sample of individuals in the United States. Therefore, these findings cannot be generalized to normative populations. Second, growth curve analyses were only based on 3 assessment points which makes the reliability of the trajectories minimal. Furthermore, although other research in this project focuses on analyzing sub-groups of individuals with various
trajectories of externalizing behavior problems (i.e. childhood versus adolescent onset externalizing behavior problems), this paper focused on relationship processes as predictors of externalizing behavior problems in general. In future research I hope to investigate the specific linkages between quality aspects of relationship processes during adolescence as well as various groups of individuals with homogeneous trajectories of externalizing behavior problems from childhood through young adulthood.

References


Patterson, G. R., & Bank, L. (1989). Some amplifying mechanisms for pathological processes in


### Table 1

*Descriptive Statistics and Intercorrelations*

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<td>-.44**</td>
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<td>.27**</td>
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<td>.06</td>
<td>-.54**</td>
<td>.29**</td>
<td>-.22*</td>
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<td>7 Age 26 Externalizing Behavior Problems</td>
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<td>.11</td>
<td>-.52**</td>
<td>.29**</td>
<td>-.22*</td>
<td>.75**</td>
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<td>Mean</td>
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<td>57.53</td>
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<td>SD</td>
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<td>1.58</td>
<td>10.50</td>
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*p<.05; **p<.01*
Table 2.

Regression Analyses Predicting Externalizing Behavior Problems from Family and Peer Relationship Variables

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<td>R² = .12; F (99,4) = 3.35*</td>
<td>R² = .13; F (102,4) = 3.71**</td>
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*p<.05, **p<.01