

Examination of Peer Rejection and Depressive Symptoms as Mediators of the Link between Rule-Breaking Behavior and Poor Academic Performance

Paula J. Fite · Amber R. Wimsatt ·
Michael L. Vitulano · Jamie L. Rathert · Sonia Schwartz

Published online: 20 December 2011
© Springer Science+Business Media, LLC 2011

Abstract The current study further evaluated the association between rule-breaking behavior and academic performance by examining peer rejection and depressive symptoms as potential mediators of this association. Study hypotheses were examined using a sample of 147 school-age children (54.4% male) ranging from five to 13 years of age ($M=8.22$, $SD=1.99$). A mediational path model was estimated, and findings suggested that peer rejection mediated the association between rule-breaking behavior and academic performance two months later when also considering the stability of academic performance. That is, high levels of rule-breaking behavior were associated with high levels of peer rejection, which in turn was associated with poor academic performance. Depressive symptoms were not indicated as a mediator of this association. Findings and their implications are discussed.

Keywords Academic performance · Rule-breaking · Peer rejection · Depressive symptoms

Poor academic performance is a prevalent problem for youth, with approximately 34% of elementary school

children reportedly below basic levels of reading and 19% below basic levels of math (U.S. Department of Education 2010). Furthermore, poor academic performance is associated with a host of long-term negative outcomes, including poor job satisfaction, trouble with the law, poor work competence, and problems with romantic relationships (Masten et al. 1995; Masten et al. 2005; Roisman et al. 2004). Given the prevalence and potential consequences of poor academic performance, research is needed to better understand the preventable and treatable factors that contribute to academic difficulties, such as rule-breaking behavior (e.g., Kazdin 2010; Webster-Stratton and Reid 2003). Rule-breaking behavior (e.g., delinquent behaviors such as lying, cheating, stealing, substance use, etc.) has been repeatedly found to be a precursor to academic difficulties among elementary school-age children, as rule-breaking behavior disrupts attention and can lead to less time in the classroom (e.g., Bardone et al. 1996; Hawkins et al. 2003; Masten et al. 1995). However, other factors may also be involved in this link. That is, peer rejection and depressive symptoms have been found to be associated with both rule-breaking behavior (Schwartz et al. 1998; Dodge et al. 2003; Schwartz et al. 2005; Wolff and Ollendick 2006) and poor academic performance (e.g., Bardone et al. 1996; Kovacs and Devlin 1998), and as such they may play a role in the link between rule-breaking behavior and academic performance. If we can further understand the factors that account for the link between rule-breaking behavior and poor academic performance then we can more effectively prevent the development and exacerbation of academic difficulties. Accordingly, the current study evaluated peer rejection and depressive symptoms as potential mediators of the link between rule-breaking behavior and academic difficulties in school-age children.

P. J. Fite · S. Schwartz
University of Kansas,
Lawrence, KS, USA

A. R. Wimsatt · M. L. Vitulano · J. L. Rathert
University of Tennessee,
Knoxville, TN, USA

P. J. Fite (✉)
Clinical Child Psychology Program, University of Kansas,
2012 Dole Human Development Center, 1000 Sunnyside Avenue,
Lawrence, KS 66045, USA
e-mail: pfite@ku.edu

Peer Rejection as a Mediator

In general, children who demonstrate positive behaviors, such as compliance with established boundaries and cooperation, tend to fare well socially (Coie et al. 1990). In contrast, child engagement in rule-breaking behavior is associated with high rates of social problems, such as peer rejection (e.g., Coie and Dodge 1998; Rubin et al. 1998). Deficits in mastery of rule-governed behavior, a skill set largely expected of children as they develop, are harmful to the formation of adaptive and positive interpersonal relationships (Bierman 2004). For example, peers have a tendency to withdraw from children who cheat or lie during play or group activities, take others' things without permission, and/or refuse to apologize or show remorse for infractions made (Bierman 2004). That is, children do not prefer to associate with those who break the rules, and this bodes negatively for the problematic child's social and behavioral outcomes (e.g., Laird et al. 2001).

In addition to the standalone implications of rule-breaking behavior, children who experience social problems have increased odds of experiencing continued negative outcomes, such as anxiety, depression, later antisocial behavior (Laird et al. 2001; Parker et al. 1995) and academic difficulties (Coie 1990; Hinshaw 1992; Masten et al. 2005). Peer rejection is believed to be a stressful life event that can lead to subsequent negative outcomes due to both feelings of isolation as well as a failure to bond with conventional social institutions (e.g., Bierman 2004; Dodge et al. 2003; Prinstein and Aikins 2004; Prinstein et al. 2000). Rejected children become less invested in rules and norms of conventional social institutions (such as family, school, and peers), putting these children at risk for subsequent problem behaviors, including substance use, delinquency, depressive symptoms, and academic difficulties (Bierman 2004; Coie 1990; Hawkins et al. 1986). That is, rejected children become disenfranchised from the rules of conventional institutions, and this lack of engagement in such social institutions is thought to provide little motivation to engage in socially valued behavior, including academic performance (Coie 1990; Bierman 2004). Furthermore, rejection by peers tends to affect a child's ability to perform and interact confidently in social environments, including school, which interferes with academic performance (Bierman 2004; Rubin et al. 1998). Thus, rule-breaking behavior appears to be associated with peer rejection, which is also associated with other negative outcomes, including both depressive symptoms and academic difficulties.

Depressive Symptoms as a Mediator

Rule-breaking behavior and depressive symptoms are also linked (e.g., Wolff and Ollendick 2006). Rule-breaking

behavior appears to precede depression based on the typical onset of depression occurring later than externalizing behavior (e.g., Lewinsohn et al. 1994). For example, children with high levels of behavior problems are about four times more likely to report a depressive episode in early adulthood (Mason et al. 2004). This may be explained by the dual failure model, which posits that behavior problems lead to a wide variety of future adjustment difficulties, including depressive symptoms (Capaldi 1991).

Rule-breaking behavior may also be indirectly linked with depressive symptoms through peer rejection. As stated above, peer rejection is characterized as a stressful negative life event and has been found to result in depressive symptoms (e.g., Bierman 2004; Prinstein and Aikins 2004). Thus, rule-breaking behavior may be associated with depressive symptoms directly as well as indirectly through peer rejection.

Furthermore, depressive symptoms themselves appear to further lead to subsequent problems, including academic difficulties (e.g., Bardone et al. 1996; Keisner 2002). For example, fifth graders with co-occurring depressive symptoms and conduct problems were found to exhibit poorer academic adjustment and social competence two years later than those who exhibited only conduct problems (Ingoldsby et al. 2006). Depressive symptoms include an inability to concentrate/pay attention, memory difficulties, etc. (American Psychiatric Association 2000), which can hinder a child's ability to complete assignments and perform up to his or her potential/ability. Indeed, there is evidence to suggest that children suffering from depressive symptoms are slow at switching attentional resources from one task to the next. Depressed youth also tend to make more errors when making shifts in attention than children who are not exhibiting depressive symptoms (Wilkinson and Goodyer 2006), which ultimately hinders academic performance (Keisner 2002). Thus, there may be a developmental progression from childhood rule-breaking behavior to depressive symptoms and subsequent adjustment difficulties, including poor academic performance.

Current Study

Although there is ample literature supporting associations between rule-breaking behavior and academic performance, other factors may also play a role in this relation (e.g., Masten et al. 2005). Accordingly, the current study examined peer rejection and child depressive symptoms as potential mediators of this association. Rule-breaking behavior was expected to be associated with decreases in academic performance two months later. Moreover, both peer rejection and depressive symptoms were expected to play a role in the association between rule-breaking behavior and academic performance, such that rule-breaking behavior would

be associated with high levels of both peer rejection and depressive symptoms, which in turn would be associated with decreases in academic performance. Finally, we also posited a complex meditational pathway to partially account for this association, such that high levels of rule-breaking behavior would be associated with peer rejection, which in turn would be associated with depressive symptoms, which would ultimately be associated with decreases in academic performance.

Methods

Participants

Children were recruited from a mid-sized, southeastern community-based facility that provides low cost after-school and summer care for approximately 300 school-age children. A table with a sign that said “Earn \$5.00” was setup in the main hallway where caregivers come in to pick up their children for 1 week. Only families who approached the table were informed of the study. Families who approached the study staff were: a) provided a brief description of the study goals, b) informed that their child, a staff member, and the director would answer questions about the child, and c) informed that their child would receive five dollars for completing a brief survey. The families were also provided with the opportunity to look over the items included in the survey. One hundred forty-seven children were enrolled in the study by caregivers.

Children ranged from five to thirteen years of age ($M=8.22$, $SD=1.99$). Just over half of the children were male (54.4%). The racial composition of the sample was 67% African American, 20.5% Caucasian, 5% Hispanic/Latino, and 7.5% biracial or identified with another racial/ethnic group. The majority of study participants (96%) received a fee reduction for their children to attend the program, and 87% of all children received government assistance in paying fees. Most children (86%) attended the program daily, with only seven percent attending the program an average of three or fewer days per week.

Measures

Rule-Breaking Behavior Lead staff member reports of the rule-breaking behavior scale of the Teacher Report Form (TRF; Achenbach and Rescorla 2001) were obtained. The measure consists of 12 items including, “swearing or obscene language,” “steals,” and “doesn’t seem to feel guilty after misbehaving.” Responses were obtained using the following scale: 1 = *Not True*, 2 = *Somewhat or Sometimes True*, 3 = *Very or Often True*. This measure has been found to be valid and reliable (Achenbach and Rescorla 2001).

Further note that program staff reports of teacher measures have been found to be valid and reliable indicators of child behavior (e.g., Cicchetti and Rogosch 1997). Average scores were computed and used for analyses, with average scores ranging from 1 to 2. The internal consistency of the rule-breaking behavior scale was good ($\alpha=.89$). T-scores indicated that approximately 12% of children demonstrated clinically significant levels of rule-breaking behavior based on staff member reports.

Peer Rejection Peer rejection was assessed using lead staff member reports of four items (Doesn’t get along with other kids, feels others are out to get him/her, gets teased a lot, and not liked by other kids) from the Teacher Report Form (Achenbach and Rescorla 2001). The staff member responded using a three-point likert scale (1 = *Not True*, 2 = *Somewhat or Sometimes True*, 3 = *Very or Often True*). This subscale has been used in previous research and has been found to be related to other peer and social constructs (e.g., Fite, et al. 2010), providing some evidence of construct validity. Items were averaged and used for analyses. Internal consistency of the scale was good ($\alpha=.91$).

Depressive Symptoms Children completed the “withdrawn/depressed” subscale of the Youth Self Report (Achenbach and Rescorla 2001). The scale consists of eight items, such as “I am unhappy, sad or depressed” and “I prefer to be alone than with others.” Children responded using the following scale: 1 = *Not True*, 2 = *Somewhat or Sometimes True*, 3 = *Very or Often True*. This measure has been found to be reliable and valid (Achenbach and Rescorla 2001). The items were averaged for analyses, and internal consistency of the measure in this sample was good ($\alpha=.88$).

Academic Performance Academic performance was reported by the facility director. The director was asked to rate children’s academic performance on a five-point likert scale (including: 1 = *well below average*, 2 = *somewhat below average*, 3 = *average*, 4 = *somewhat above average*, 5 = *well above average*). The director made this assessment based on student academic records (e.g., report cards), which he had access to for children in the program. The director’s assessment of this construct was necessary because student academic records were not available to the research team. Baseline data were collected shortly after the start of the Spring semester, with academic performance based on Fall semester grades. In contrast, follow-up data were collected shortly after the mid-semester report cards were distributed, allowing for change in academic performance to be assessed. Note that academic scores at both baseline and two months later ranged from 1 to 4, with the mean scores falling between “somewhat below average” and “average”. At baseline, 56% of children’s scores were

below “average” and 44% of children’s scores were “average” or “slightly above average”. Two months later 49% of children’s scores were below “average” and 51% were “average” or “slightly above average.”

Procedures

Child, staff, and director reports of behavior were collected at baseline and two months later for children whose caregivers provided written consent. However, child-collected data were not relevant to the current study. A lead staff member reported on child behavior and peer relationships at baseline (February) and two months later (April) using Medialab interview software. The staff member was provided a laptop for two weeks to respond to questions for children whose parents signed consent forms. Interviews were completed in less than ten minutes per child and the staff member was compensated three dollars per child at each time point. Data from this particular staff member were collected because he had daily contact with all study participants. He oversees all of their tutoring needs, which is a major component of the after school program. Additionally, he oversees many group activities and field trips that the children engage in. Finally, this individual also aids in providing bus transportation for the children (from schools to the afterschool program). As such, the staff member had frequent direct interactions with the children within a multitude of social situations, providing ideal reports of behavior.

Facility director reports of child demographic information, academic performance, and attendance were collected at baseline and two months later using Medialab interview software. The director was provided a laptop for two weeks to respond to questions for children whose caregivers signed consent forms. Interviews were completed in less than five minutes per child and the director was compensated two dollars per child at each time point.

Statistical Analyses

Study hypotheses were evaluated by estimating a mediational path model using Mplus statistical software (Muthen and Muthen 2010). Skewness of all variables were less than three (−.01 to 2.01), suggesting that non-normality was not a concern for the estimated model (Kline 2010). Accordingly, maximum likelihood estimation was employed. More specifically, full information maximum likelihood estimation (FIMLE) was used in order to accommodate the minimal (<10%) missing data associated with the current study. FIMLE has been found to be less bias and more efficient than other methods used to accommodate missing data (Arbuckle 1996).

Fit indices used to evaluate model fit included χ^2 , Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). A model is considered a good fit when $\chi^2/2 < 2.0$, $CFI \geq .95$, and $RMSEA \leq .08$ (Bollen and Curran 2006; Hu and Bentler 1999; Tabachnick and Fidell 2001).

The biased corrected bootstrap method was used to evaluate mediated paths. This method has been found to provide a more accurate balance between Type 1 & Type 2 errors than other methods used to test indirect effects, such as Sobel’s method (MacKinnon et al. 2004). Five hundred bootstrap samples and the 95% bias-corrected confidence intervals (CIs) were used to test the significance of indirect effects. Confidence intervals that did not contain zero were considered to be significant.

Results

Descriptive Statistics

Correlations, means, and standard deviations between all study variables are reported in Table 1. As expected, rule-breaking behavior was positively associated with peer rejection and depressive symptoms and negatively associated with academic performance at both baseline and two months later. Note that the association between rule-breaking behavior and peer rejection was strong while the association between rule-breaking behavior and depressive symptoms was modest. Likewise, peer rejection and depressive symptoms were negatively associated with academic performance at both baseline and two months later. Furthermore, peer rejection and depressive symptoms were strongly positively related. Age was positively related to rule-breaking behavior and peer rejection, such that older children exhibited higher levels of rule breaking behavior and experienced higher levels of peer rejection than younger children. Finally, gender was related to depressive symptoms, peer rejection, and academic difficulties, such that boys experienced higher levels of depressive symptoms, peer rejection and academic difficulties than girls (See Table 1).

Mediational Model

A model whereby peer rejection and depressive symptoms were examined as mediators of the link between rule-breaking behavior and academic performance two months later while also accounting for prior levels of academic performance was estimated (see Fig. 1). Note that age and gender were also originally included as predictors of academic performance, which resulted in a fully saturated model that does not allow for an evaluation of model fit. However, these paths were not statistically significant. Furthermore, excluding these paths from the model did not

Table 1 Correlations, means, and standard deviations of study variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|----------------------------|------|-------|-------|-------|-------|------|------|
| 1. Age | – | | | | | | |
| 2. Gender | .07 | – | | | | | |
| 3. Rule-Breaking T1 | .21* | .10 | – | | | | |
| 4. Depressive Symptoms T1 | .15 | .18* | .19* | – | | | |
| 5. Peer Rejection T1 | .30* | .17* | .61* | .52* | – | | |
| 6. Academic Performance T1 | .14 | -.45* | -.18* | -.19* | -.30* | – | |
| 7. Academic Performance T2 | .01 | -.38* | -.31* | -.23* | -.43* | .75* | – |
| Mean | 8.22 | – | 1.20 | 1.18 | 1.27 | 2.33 | 2.50 |
| Standard Deviation | 1.99 | – | .30 | .31 | .46 | .85 | .86 |

* $p < .05$; T1 = Time 1 (Baseline) and T2 = Time 2 (two month follow-up); Gender (1 = female; 2 = male).

result in a significant decrement in the model fit, and path coefficients of the other variables did not change when these paths were removed. Accordingly the model specified in Fig. 1 was the evaluated model. This model provided a good fit to the data, $\chi^2(2) = .44, p = .80, CFI = 1.00, RMSEA = .00$. As seen in Fig. 1, rule-breaking behavior was unrelated to academic performance as well as depressive symptoms, but was positively associated with peer rejection. In turn, peer rejection was positively associated with both depressive symptoms and academic performance. Depressive symptoms were unrelated to academic performance.

Findings indicated that peer rejection may mediate the link between rule-breaking behavior and academic performance. However, depressive symptoms were ruled out as a mediator of this association given that depressive symptoms were unrelated to academic performance in the model. Indeed, the test of indirect effects suggested that peer rejection accounted for the link between rule-breaking behavior and academic

performance ($B = -.10, 95\% CI = -.17 \text{ to } -.03$), such that high levels of rule-breaking behavior were associated with high levels of peer rejection, which in turn predicted decreases in academic performance (See Fig. 1). Peer rejection fully mediated the link between rule-breaking behavior and academic performance, as rule-breaking behavior was no longer directly associated with academic performance.

Further evaluation of the indirect effects supported that peer rejection also accounted for the link between rule-breaking behavior and depressive symptoms ($B = .35, 95\% CI = .20 \text{ to } .51$), such that high levels of rule-breaking behavior were associated with high levels of peer rejection, which was subsequently associated with high levels of depressive symptoms (See Fig. 1). However, there was no indication of a complex mediational pathway from rule-breaking behavior to peer rejection to depressive symptoms and subsequent academic performance ($B = .003, 95\% CI = -.03 \text{ to } .04$).¹

Discussion

The current study further advanced the rule-breaking and academic performance literature by examining the role of peer rejection and depressive symptoms in the association between rule-breaking behavior and academic performance two months later in a sample of school-age children. Findings suggested that peer rejection accounted for the link between rule-breaking behavior and academic performance, such that high levels of rule-breaking behavior were associated with high levels of peer rejection, which in turn was associated with decreases in academic performance. However, depressive symptoms were not found to be associated with academic performance when also accounting for the

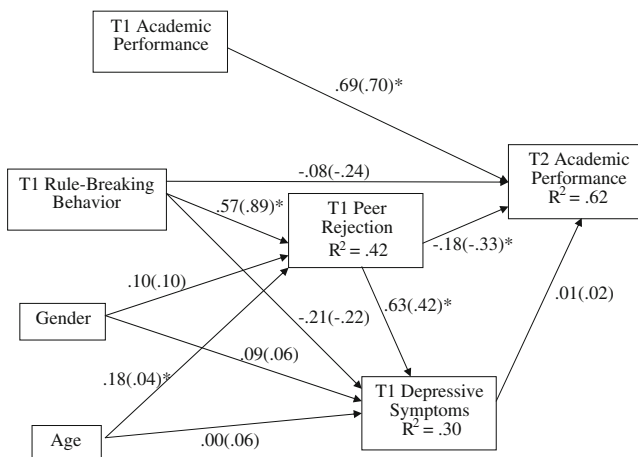


Fig. 1 Estimated Mediation Path Model. Note. Standardized parameter estimates are reported outside parentheses and unstandardized parameter estimates are reported inside parentheses. * $p < .05$. Covariances between all exogenous variables, academic performance at Time 1 and peer rejection, and academic performance at Time 1 and depressive symptoms not included in figure for clarity purposes. T1 = Time 1 (baseline), T2 = Time 2 (two month follow-up). Gender (1 = female; 2 = male). Model fit: $\chi^2(2) = .44, p = .80, CFI = 1.00, RMSEA = .00$

¹ Note that reverse associations were examined, whereby academic performance was examined as a predictor of rule-breaking behavior two months later; however, academic performance was not a significant predictor of subsequent rule-breaking behavior ($p > .40$). Findings are consistent with previous research suggesting that rule-breaking behavior is eliciting poor academic performance, not vice versa, in elementary school-aged children (e.g., Bardone et al. 1996; Hawkins et al. 2003; Masten et al. 1995).

stability of academic performance and variance associated with rule-breaking behavior and peer rejection.

Consistent with expectation and previous research (Bierman 2004; Coie and Dodge 1998; Rubin et al. 1998), rule-breaking behavior was strongly positively associated with peer rejection. In turn, peer rejection was associated with both depressive symptoms and academic performance. More specifically, high levels of peer rejection were strongly associated with high levels of depressive symptoms and moderately associated with low levels of academic performance, which is also consistent with previous research (Bierman 2004; Dodge et al. 2003; Hinshaw 1992; Masten et al. 2005; Prinstein and Aikins 2004; Prinstein et al. 2000). Extending previous research, the current study provided evidence that peer rejection accounted for (mediated) the link between rule-breaking behavior and academic performance. Further note that results also indicated that peer rejection accounted for the link between rule-breaking behavior and depressive symptoms. These findings further support the importance of peer rejection in the pathways from rule-breaking behavior to subsequent problem behavior, including academic difficulties and depression (e.g., Dodge et al. 2003; Bierman 2004; Prinstein and Aikins 2004). Rule-breaking behavior is disruptive and obtrusive, and as such children do not want to affiliate with those who engage in such behavior (Bierman 2004). In turn, peer rejection appears to be associated with negative outcomes, including academic difficulties, which may be due to a failure to bond to conventional institutions (Bierman 2004). More specifically, rejection by peers may result in a lack of motivation as well as a lack of confidence to perform well academically (Bierman 2004; Coie 1990; Hawkins et al. 1986; Rubin et al. 1998).

We had anticipated that rule-breaking behavior would directly and indirectly (through peer rejection) be associated with depressive symptoms, which in turn would be associated with academic problems due to an inability to focus and concentrate (American Psychiatric Association 2000). Although modest correlations supported these associations, the path model indicated that once taking into account the effects of rule-breaking behavior, peer rejection, and the stability of academic performance, depressive symptoms were not significantly associated with academic performance two months later. It appears that peer rejection alone better accounts for the link between rule-breaking behavior and academic problems, at least in the short-term, for school-age children. It may be that the effects of depressive symptoms are more evident over longer time periods. Alternatively, it may be that in older age groups depressive symptoms become more prevalent and more severe (Lakdawalla et al. 2007; Hankin et al. 2008), and therefore these effects may not occur until children age into adolescence and emerging adulthood. Rather, the lack of motivation and lack of

confidence to perform in social contexts associated with peer rejection (e.g., Bierman 2004; Coie 1990) may be more strongly influencing academic performance at earlier ages. Future research that further evaluates the role of depressive symptoms in the development of academic problems over longer periods of time and at older ages is needed.

In sum, findings suggest the importance of peer rejection in the pathways from rule-breaking behavior to subsequent problem behavior, academic difficulties and depressive symptoms specifically. Furthermore, the current study suggests that depressive symptoms do not appear to play as strong of a role in the link between rule-breaking behavior and academic difficulties as peer rejection during the elementary and middle school years.

Limitations and Future Directions

There are several limitations that need to be considered when interpreting the results. First, this study utilized director report of academic performance assessed using one item. Ideally actual grades would have been utilized. Unfortunately, study staff were not privy to this information. We note, however, that current findings are consistent with previous research, providing some evidence of validity for the current measure. Nonetheless, future research utilizing more in-depth measures of academic performance is needed. Also note that the mean level of academic performance in the current sample was below “average”, and no child was reportedly “well above average” with regard to their academic performance. Therefore, findings should be examined in a more normative sample with regard to academic performance before findings are generalized. It is also important to consider that the longitudinal nature of this study is limited to a two month time period. Although the short-term nature of the study could also be viewed as a strength of the study (given that these processes likely occur within short a timeframe), future studies should include a longer time period between data collection points. Further note that the current study included school-age children, so findings may not generalize to adolescent- and college-age populations. Lastly, the current study only examined two potential mediators, peer rejection and depressive symptoms, of the link between rule-breaking behavior and academic performance, and there are likely other mechanisms (e.g., peer delinquency, social information processing) that play a role in this association. Future research examining other potential mediators is needed.

Despite these limitations, the current study further supports rule-breaking behavior as a precursor to academic difficulties in elementary school-age children, and peer relationships appear to play an important role in this association. Furthermore, findings suggest that peer rejection also accounts for the link between rule-breaking behavior and depressive symptoms.

Peer rejection is a serious problem for youth (Bierman 2004) and findings suggest the need to target peer social relationships in the prevention of, and assistance with, academic difficulties as well as depressive symptoms. Thus, academic programs and other intervention efforts may need to include a focus on peer relationships social skills training, particularly for individuals who exhibit rule-breaking behavior. Indeed, there is growing support for the use of social skills in treating behavior problems (Kazdin 2010; Webster-Stratton 1990; Webster-Stratton and Reid 2003).

References

- Achenbach, T. M., & Rescorla, L. A. (2001). *Manual for the ASEBA school-age forms and profiles*. Burlington: University of Vermont Department of Psychiatry.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders, Fourth Edition-Text Revision*.
- Arbuckle, J. L. (1996). Full information estimation in the presence of incomplete data. In G. A. Marcoulides & R. E. Shumaker (Eds.), *Advanced structural equation modeling: Issues and techniques* (pp. 243–277). Mahwah: Lawrence Erlbaum Associates, Inc.
- Bardone, A. M., Moffitt, T. E., Caspi, A., Dickson, N., & Silva, P. A. (1996). Adult mental health and social outcomes of adolescent girls with depression and conduct disorder. *Developmental and Psychopathology*, 8, 811–829.
- Bierman, K. L. (2004). *Peer rejection: Developmental processes and intervention strategies*. New York: The Guilford.
- Bollen, K. A., & Curran, P. J. (2006). *Latent curve models: A structural equation perspective*. Hoboken, NJ: Wiley and Sons.
- Capaldi, D. M. (1991). Co-occurrence of conduct problems and depressive symptoms in early adolescent boys: I. Familial factors and general adjustment at grade 6. *Development and Psychopathology*, 3, 277–300.
- Cicchetti, D., & Rogosch, F. A. (1997). The role of self-organization in the promotion of resilience in maltreated children. *Development and Psychopathology*, 9, 797–815.
- Coie, J. D. (1990). Toward a theory of peer rejection. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 365–401). Cambridge: Cambridge University Press.
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 779–862). New York: Wiley.
- Coie, J. D., Dodge, K. A., & Kupersmidt, J. G. (1990). Peer group behavior and social status. In S. R. Asher & J. D. Coie (Eds.), *Peer rejection in childhood* (pp. 17–59). Cambridge: Cambridge University Press.
- Dodge, K. A., Lansford, J. E., Burks, V. S., Bates, J. E., Pettit, G. S., Fontaine, R., & Price, J. M. (2003). Peer rejection and social information-processing factors in the development of aggressive behavior problems in children. *Child Development*, 74, 374–393.
- Fite, P. J., Raine, A., Stouthamer-Loeber, M., Loeber, R., & Pardini, D. A. (2010). Reactive and proactive aggression in adolescent males: examining differential outcomes 10-years later in early adulthood. *Criminal Justice and Behavior*, 37, 141–157.
- Hankin, B. L., Wetter, E., & Cheely, C. (2008). Sex differences in child and adolescent depression: A developmental psychopathological approach. In J. R. Z. Abela & B. L. Hankin (Eds.), *Handbook of depression in children and adolescents* (pp. 377–414). New York: Guilford.
- Hawkins, J. D., Lishner, D. M., Catalano, R. F., & Howard, M. O. (1986). Childhood predictors of adolescent substance abuse: toward an empirically grounded theory. *Journal of Children in Contemporary Society*, 18, 11–48.
- Hawkins, J. D., Smith, B. H., Hill, K. G., Kosterman, R. F. C., Catalano, F. C., & Abbott, R. D. (2003). Understanding and preventing crime and violence: Findings from the Seattle social development project. In T. P. Thornberry & M. D. Krohn (Eds.), *Taking stock of delinquency: An overview of findings from contemporary longitudinal studies* (pp. 255–312). New York: Kluwer Academic/Plenum.
- Hinshaw, S. P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence. *Psychological Bulletin*, 111(1), 127.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55.
- Ingoldsby, E. M., Kohl, G. O., McMahon, R. J., Lengua, L., & The Conduct Problems Prevention Research Group. (2006). Conduct problems, depressive symptomatology and their co-occurring presentation in childhood as predictors of adjustment in early adolescence. *Journal of Abnormal Child Psychology*, 34, 602–620.
- Kazdin, A. E. (2010). Problem-solving skills training and parent management training for oppositional defiant disorder and conduct disorder. In J. R. Weisz & A. E. Kazdin (Eds.), *Evidence-based psychotherapies for children and adolescents* (2nd ed., pp. 211–226). New York: Guilford.
- Keisner, J. (2002). Depressive symptoms in early adolescence: their relations with classroom problem behavior and peer status. *Journal of Research on Adolescence*, 12, 463–478.
- Kline, R. B. (2010). *Principles and practice of structural equation modeling* (4th ed.). New York: Guilford.
- Kovacs, M., & Devlin, B. (1998). Internalizing disorders in childhood. *Journal of Child Psychology and Psychiatry*, 39, 47–63.
- 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.
- Lakdawalla, Z., Hankin, B. L., & Mermelstein, R. (2007). Cognitive theories of depression in children and adolescents: a conceptual and quantitative review. *Clinical Child and Family Psychology Review*, 10, 1–24.
- Lewinsohn, P. M., Clarke, G. N., Seeley, J. R., & Rohde, P. (1994). Major depression in community adolescents: age at onset, episode duration and time to recurrence. *Journal of the American Academy of Child and Adolescent Psychiatry*, 33, 809–818.
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: distribution of the product and resampling methods. *Multivariate Behavioral Research*, 39, 99–128.
- Mason, W. A., Kosterman, R., Hawkins, J. D., Herrenkohl, T. I., Lengua, L. J., & Mccauley, E. (2004). Predicting depression, social phobia, and violence in early adulthood from childhood behavior problems. *Journal of the American Academy of Child and Adolescent Psychiatry*, 43, 307–315.
- Masten, A. S., Coatsworth, J. D., Neemann, J., Gest, S. D., Tellegen, A., & Garnezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child Development*, 66, 1635–1659.
- Masten, A. S., Roisman, G. I., Long, J. D., Burt, K. B., Obradovic, J., Riley, J. R., Boelcke-Stennes, K., & Tellegen, A. (2005). Developmental cascades: linking academic achievement and

- externalizing and internalizing symptoms over 20 years. *Developmental Psychology*, 41, 733–746.
- Muthen, L. K., & Muthen, B. (2010). *Mplus: The comprehensive modeling program for applied researchers*. Los Angeles: Muthen & Muthen.
- Parker, J. G., Rubin, K. H., Price, J. M., & DeRosier, M. E. (1995). Peer relationships, child development and adjustment: A developmental psychopathological perspective. In D. Cicchetti & D. Cohen (Eds.), *Developmental psychopathology: Vol. 2. Risk, disorder, and adaptation* (Vol. 2, pp. 96–161). New York: Wiley.
- Prinstein, M. J., & Aikins, J. W. (2004). Cognitive moderators of the longitudinal association between peer rejection and adolescent depressive symptoms. *Journal of Abnormal Psychology*, 113(2), 147–158.
- Prinstein, M. J., Boergers, J., Spirito, A., Little, T. D., & Grapentine, W. L. (2000). Peer functioning, family dysfunction, and psychological symptoms in a risk factor model for adolescent inpatients' suicidal ideation severity. *Journal of Clinical Psychology*, 29(3), 392–405.
- Roisman, G. I., Masten, A. S., Coatsworth, J. D., & Tellegen, A. (2004). Salient and emerging developmental tasks in transition to adulthood. *Child Development*, 75(1), 123–133.
- Rubin, K. H., Bukowski, W., & Parker, J. G. (1998). Peer interactions, relationships, and groups. In W. Damon (Series Ed.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 619–700). New York: Wiley.
- Schwartz, D., McFadyen-Ketchum, S. A., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1998). Peer victimization as a predictor of behavior problems at home and in school. *Development & Psychopathology*, 10, 87–100.
- Schwartz, D., Gorman, A. H., Nakamoto, J., & Toblin, R. L. (2005). Victimization in the peer group and children's academic functioning. *Journal of Educational Psychology*, 97, 425–435.
- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). Needham Heights: Allyn & Bacon.
- U.S. Department of Education (2010). Digest of Education Statistics. retrieved from <http://nces.ed.gov/programs/digest/d10/>.
- Webster-Stratton, C. (1990). *Dina Dinosaur's social, emotional and problem solving curriculum*. Seattle, WA: 1411 8th Avenue West.
- Webster-Stratton, C., & Reid, M. J. (2003). Treating conduct problems and strengthening social and emotional competence in young children: the Dina dinosaur treatment program. *Journal of Emotional and Behavioral Disorders*, 11, 130–143.
- Wilkinson, P., & Goodyer, I. (2006). Attentional difficulties and mood-related ruminative response style in adolescents with unipolar depression. *Journal of Child Psychology and Psychiatry*, 47, 1284–1291.
- Wolff, J. C., & Ollendick, T. H. (2006). The comorbidity of conduct problems and depression in childhood and adolescence. *Clinical Child and Family Psychology Review*, 9, 201–220.