Problem behavior during early adolescence and child, parent, and friend effects: a longitudinal study
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The central aim of this thesis was to examine different types of problem behavior during early adolescence and the relations of these problems with different systems within the network of adolescents. Following the ecological model of Bronfenbrenner (1979, 1986), three main systems within this model have been examined in this thesis: the adolescent self (problem behavior), parents, and friends of the adolescent. Although many other studies have already investigated these systems, there are some gaps or shortcomings within these studies that were addressed in this thesis. The thesis was aimed to investigate: (1) the structure and stability of externalizing and internalizing problem behavior during early adolescence; (2) the relations between parenting and adolescent externalizing and internalizing problem behavior; and (3) the reciprocal effects of parenting and best friends' deviance, on the one hand, and adolescent externalizing and internalizing problem behavior, on the other hand.

To investigate these aims, longitudinal data were used. The data derive from 650 adolescents between 12 and 15 years old from the 8th Grade. Three secondary schools participated that were located in medium- to large-sized municipalities in the Netherlands. The adolescents completed questionnaires during regular school hours. The distribution of boys and girls was about equal. The self-reported ethnicity was mostly Dutch. Data were gathered two times with a one-year interval. A total of 563 adolescents participated again at Time 2.

Chapter 2 focused on the first system within the ecological model: adolescent problem behavior. The central aims of this study were to examine the structure and
stability of externalizing and internalizing problem behavior during early adolescence. It was first tested whether externalizing and internalizing problem behaviors belong to one single factor of general deviance (one-factor model), whether they should be considered as two separate constructs (two-factor model), or whether they can be conceptualized as two separate constructs belonging to one factor of general deviance (two-factor higher-order model). Results showed that the factor model with the higher-order factor (the third model) fitted the data best, on both measurement waves. The factor loadings regarding the different types of internalizing problem behavior were higher for girls than for boys and correlations of the first-order factors with the higher-order factor were also higher for girls. Stability of the structure over time was found when analyzed for boys and girls separately. In general, the results indicate that externalizing and internalizing problem behavior are two distinct constructs with multiple indicators, although they ultimately belong to the same higher-order factor of general deviance. Our findings extend conclusions of previous research by including different types of problem behavior and by including a higher-order factor in the analyses.

Secondly, the stability of problem behavior was examined. Two types of stability were distinguished: relative and absolute stability. The relative stability was found to be moderate, indicating that a large number of adolescents retain their relative position within the group. Absolute stability, the extent to which a construct's absolute level remains consistent over time, appeared to be moderate to high, indicating that many adolescents show the same levels of problem behavior over time. Girls, however, showed more increases in levels of externalizing and internalizing problem behavior than boys. Girls also showed more internalizing problem behavior than boys, but boys did not show more externalizing problem behavior than girls. Considering the moderate to high levels of stability, it seems that previous levels of problem behavior are highly predictive of subsequent levels of problem behavior, a finding that is also found in Chapters 3 and 4. Not only problem behavior can be predictive of subsequent levels, other systems within the ecological model can be predictive as well, including parents and friends of the adolescents. These are investigated in the next chapters.

Chapter 3 was aimed to examine the longitudinal relations between multiple parenting dimensions and adolescent externalizing and internalizing problem behavior. This study extends previous research by including several parenting dimensions simultaneously, as unique predictors of adolescent problem behavior. Four parenting dimensions were analyzed: parental involvement (consisting of responsiveness, quality of parent-adolescent relation, and parental knowledge), parental strictness, emotional
autonomy granting, and decisional autonomy granting. In addition to examining parenting effects on problem behavior, we also examined child effects on parenting and moderator effects. These latter effects have been rarely examined in previous studies during adolescence.

In general, not only were adolescents’ previous levels of problem behavior predictive of subsequent levels of problem behavior, parenting behaviors also seemed to be predictive. It was found that different parenting dimensions exert unique effects on adolescent problem behavior. Decisional autonomy granting only related to externalizing problem behavior, which means that high levels of parental decisional autonomy granting were related to high levels of externalizing problem behavior over time. Parental strictness only related to internalizing problem behavior and seemed to be especially important for adolescents who show high levels of internalizing problems. For these adolescents, high levels of parental strictness were related to higher levels of internalizing problem behavior over time. Emotional autonomy granting showed no relation with externalizing or internalizing problem behavior, whereas parental involvement was associated with both types. It was found that high levels of involvement were related to low levels of externalizing problem behavior. This was also found for adolescents who reported low levels of internalizing problems behavior. For adolescents with high levels of internalizing problems, however, it was shown that high levels of parental involvement increased the level of internalizing problem behavior.

It was further shown that not only parents have an effect on the behavior of their child, but that children also have an effect on the behavior of their parents. Effects were found for parental involvement and decisional autonomy granting. Low levels of internalizing problem behavior and higher levels of externalizing problem behavior predicted an increase in parental involvement. A moderator effect indicated that parents lessen their levels of involvement in response to negative behavior of the adolescent, whereas externalizing problem behavior elicits increased involvement attempts from parents who are less involved over a one-year period. For decisional autonomy granting, higher levels of externalizing problem behavior were related to higher levels of decisional autonomy granting over time. The interaction effect showed that parents who grant low levels of decisional autonomy tend to allow more autonomy to adolescents with high, rather than low levels of externalizing problem behavior.

The results of Chapter 3 indicate that different parenting dimensions have unique effects on adolescent problem behavior. While it seems logical that adolescents also influence the behavior of their parents, this is not often examined in previous
studies. Findings show that both parent effects as well as child effects, including moderator effects, exist and can be found.

Chapter 4 also included the system of parents, but in addition incorporated the system of best friends of the adolescent. The aim was to examine the reciprocal effects of parenting and best friends' deviance, on the one hand, and adolescent externalizing and internalizing problem behavior, on the other hand. Whereas the study in Chapter 3 examined parenting and child effects in separate analyses, the study in Chapter 4 included both relations in simultaneous analyses. Parental involvement was included as parenting dimension, since this dimension showed strong relations with both externalizing and internalizing problem behavior in Chapter 3. Best friends' deviance was assessed by asking friends themselves to report on their own behavior, rather than asking the adolescent to report on their friends' behavior. Previous research has shown that adolescents tend to inflate the degree of similarity between themselves and their friends. Having friends reporting on their own behavior might lead to more realistic estimations of peer effects.

Regarding the reciprocal effects between parenting and problem behavior, it was shown that high levels of parental involvement were associated with low levels of externalizing problem behavior over time. The effect of adolescent externalizing problem behavior on parental involvement one year later was not significant. In contrast, reciprocal effects were found for internalizing problem behavior. Both cross-lagged paths between involvement and problem behavior were significant, which means that parental involvement and internalizing problem behavior are negatively related over time. These reciprocal relations between involvement and internalizing problem behavior were stronger for boys than for girls.

The results for the reciprocal effects between best friends' deviance and problem behavior showed only a unilateral effect: Problem behavior of the adolescent had an effect on friends' deviance one year later, but friends' deviance did not have an effect on problem behavior over time. This pattern of findings suggested the existence of a selection effect, where adolescents select their friends. No evidence was found for an influence effect, where friends influence the behavior of the adolescent.

Further, results of the study suggested that previous research on the relative effect of parents and peers on adolescent problem behavior might have inflated the importance of peers and underestimated the influence of parents. Many of these studies relied on adolescents' reports about their friends' behavior. When friends' own reports were used, no significant differences were found between parenting and peer effects.
A final conclusion that can be drawn from the study in Chapter 4 is that the reciprocal relations between parenting and best friends’ deviance, on the one hand, and adolescent problem behavior, on the other hand, differed for stable and unstable friends. Stable friendships mean that the same friend is paired with the adolescent on both measurement waves, whereas unstable friendships indicate that an adolescent is paired with different friends on both waves. It was found that adolescents with unstable friends were more influenced by their parents than adolescents with stable friends.

Taking the three studies together, the following conclusions can be drawn. First, externalizing and internalizing problem behaviors are distinct constructs, but only at a first-order level. Second, problem behavior is very stable over time. Third, different parenting dimensions have a unique influence on problem behavior. Fourth, there are both child effects on parenting as well as moderator effects that show more comprehensively the effects between parenting and problem behavior. Fifth, parenting and best friends’ effects are of equal magnitude when using friends’ reports about their own behavior. Sixth, a selection effect is more important regarding best friends, than an influence effect. Finally, effects between parenting and best friends’ deviance, on the one hand, and adolescent problem behavior, on the other hand, differ for stable and unstable friendships.

In general, the prospective longitudinal study that is conducted in this thesis shows several strengths that are worthwhile to incorporate in future research. In addition, more measurement waves, different types of samples, and multiple sources of data are needed to disentangle the processes that are involved in the problem behavior of adolescents.