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Exploring parents' experiences and reactions to adolescents' hyperactivity, impulsivity, and
attention problems

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Exploring parents' experiences and reactions to adolescents' hyperactivity, impulsivity, and
attention problems

Abstract

Adolescents' hyperactivity, impulsivity, and attention problems (HIA) have been shown to make parents feel powerless. In this study, we examined if these feelings were dependent on parents' experiences with their older children. Two models were explored, the learning-from-experience model and the spillover model, which offers different predictions of how parents make use of their earlier experiences when raising their later-born children. We used reports from 372 parents with one child ($M_{\text{age}} = 11.92$) and 198 parents with two children ($M_{\text{age}} = 11.89$ and 14.35) from a small town in a European country. The results did not support a learning-from-experience process. Instead, consistent with a spillover process, parents felt particularly powerless about their younger children with HIA if they also felt powerless about their older children. This study suggests that parents' experiences of raising their older children are of importance for their reactions to HIA in their younger children.

Keywords: adolescence, birth order, parenting, parent-child relations

Exploring parents' experiences and reactions to adolescents' hyperactivity, impulsivity, and attention problems

People learn from their experiences, positive as well as negative, and parents who have raised a child before have a unique source of knowledge when they raise their subsequent children. This knowledge might be especially relevant when parents encounter challenging behaviors in their younger children. It is still much unknown, though, what role parents' experiences with their older children play in their reactions to problematic behaviors in their younger children.

Some behaviors are especially difficult for parents to deal with. Several studies have shown that ADHD in children and adolescents influences parents in a negative way (e.g. Johnson & Reader, 2002; Lange, et al., 2005; Mash & Johnston, 1983; Reader, Stewart, & Johnson, 2009; Podolski & Nigg, 2001). In a community-based sample, hyperactivity, impulsivity, and attention problems (HIA) were shown to make parents feel powerless in their parenting role (Glatz, Stattin, & Kerr, 2011). This finding is consistent with Bugental's parental attribution model (Bugental, Mantyla, & Lewis, 1989; Bugental & Shennum, 1984), which focuses on parents' sense of power over caregiving failures and successes. According to this model, parents with a low sense of power perceive problematic child behaviors as difficult to change, and these perceptions are expected, in turn, to make parents behave negatively toward their children. Bugental's model has received substantial empirical support (for a review, see Bugental, 2009), and seems to be a useful model for understanding how children's problematic behaviors are linked to parents' feelings and behaviors. It is unknown, however, how the processes described in this model might be affected or altered by parents' experiences with an earlier child.

Two general models have been presented in the literature to describe how parents use their earlier experiences when they raise their later-born children (Shanahan, McHale, Osgood, & Crouter, 2007). These are based on a family system perspective (Minuchin, 1974) and take the dynamics within the family into consideration. In addition, both suggest that parents' experiences with their younger children can be partly explained by their experiences with their older children. The models, however, offer contrasting ideas about how parents make use of these experiences when they face problematic situations with their younger children.

First, according to the learning-from-experience model, the experience of having raised children before increases parents' abilities to deal with problems in their subsequent children. Hence, when parents face problems, they learn more efficient strategies to be able to handle similar problems in a better way in the future (Shanahan, McHale, Osgood, et al., 2007). It has been shown that parents give more autonomy (Wray-Lake, Crouter, & McHale, 2010), show more warmth (Shanahan, McHale, Crouter, & Osgood, 2007) and less hostility (Conger & Conger, 1994) toward their younger children than toward their older children. Further, parents have fewer conflicts with their younger children than with their older children (Whiteman, McHale, & Crouter, 2003). These behaviors may be an indication that parents have learned to deal with challenging behaviors in a better and more constructive way. In that way, when their younger children behave in a problematic way, they may feel comfortable to keep up a positive approach and to put effort into the relationship. In sum, according to the learning-from-experience model, parents learn strategies when raising their older children, and by using these strategies they tend to have better relationships with their younger children.

Second, according to the spillover model (Larson & Almeida, 1999; Shanahan, McHale, Osgood, et al., 2007), when parents have experienced problems with their older children, this

will be transferred into negative experiences with their younger children. In support of this model, parents' conflicts with their older children have been associated with similar levels of conflict with their younger children (Shanahan, McHale, Osgood, et al., 2007). In addition, parents' negative experiences with their older children have been linked to expectations about problems in their younger children (Whiteman & Buchanan, 2002). These results indicate that processes with the younger children follow similar trajectories as processes with the older children. Such trajectories may take the form as linear declines or increases, or temporary perturbations (Shanahan, McHale, Osgood, et al., 2007). In sum, in contrast to the learning-from-experience model, the spillover model has been presented to explain the continuation of negative processes from one relationship to another.

Both the learning-from-experience and spillover models have limitations. The most obvious is that neither takes into account the full variation in parents' perceptions of and experiences with both their children. Even though both models have received empirical support, it is likely that the ways parents use their experiences of raising their older children are dependent on their perceptions of both children's behaviors and their abilities to parent them. Concerning parents' reactions to problematic behaviors, Bugental's attribution model (Bugental et al., 1989; Bugental & Shennum, 1984) puts strong emphasis on parents' feelings of power, or lack thereof, in dealing with problematic child behavior. When studying HIA in children, parents' feelings of powerlessness should be a key factor for making predictions about their different experiences of raising their older and younger children. Thus, acknowledging variations in parents' perceptions of and experiences with both their older and younger children would offer new knowledge about how parents make use of their experiences.

The aim of this study is to explore the roles parents' experiences with their older children play in their reactions to HIA in their younger children. In line with Bugental's model (Bugental et al., 1989; Bugental & Shennum, 1984) and the strong link between HIA in adolescents and parents' feelings of powerlessness (Glatz et al., 2011), we assume that HIA will be associated with feelings of powerlessness among parents, independent of whether they had raised a child before. Contrariwise, however, we expect that parents' feelings of raising their younger children will be different depending on whether they have had a positive or negative experience of raising their older children. In this study we test which of these models that provides a better explanation for parents' feelings of powerlessness about raising their younger children with HIA. Two aspects should be mentioned before formulating predictions based on these models. First, ideally, a true test of which of these two models provides a better explanation for parents' reactions to children's HIA requires a longitudinal design, which was not available for this study. Instead, we use an approach where we examine parents' different experiences with their younger and older children at the same point in time (Shanahan, McHale, Osgood, et al., 2007). Second, even if the learning-from-experience and spillover models have been presented as distinct models, they might offer complementary explanations for the same processes. However, because the models suggest different implications for parents' reactions to HIA in their younger children, we contrast the models in the present study. With basis in the definitions of these models, we predicted that parents who encounter HIA in their older children should, according to the learning-from-experience model, learn from this experience and be better equipped to handle HIA in their younger children. Because of this, they should not feel particularly powerless when they encounter HIA in their younger children. The spillover model, in contrast, suggests different predictions. From this model, it can be expected that parents who feel powerless about

their older children with HIA should feel particularly powerless about their younger children with HIA. More generally, even if their older children do not have HIA, parents' feelings of powerlessness about their older children may be associated with their feelings of powerlessness about their younger children with HIA.

METHOD

Participants

Participants in this study were drawn from a large community-based project that included all adolescents between 10 and 18 years, and their parents, in a small town in a European country. Data collections started in 2001 and at that point, the population in this town reached about 26,000 inhabitants. The yearly income rate was somewhat lower (20,390 US dollars/person) compared to the whole country (20,960 US dollars/person). A minority (12%) of the population in this town was born outside of the country (compared with 8.4% for the whole country), and the unemployment rate was 6.5% (compared with 5.8% for the whole country). Questionnaires were administrated to the adolescents during school-time and parents received questionnaires by mail. Participation was voluntary, but the majority of the target sample participated (94% of the adolescents and 75% of the parents). Before the project started, the University Ethics Board approved the study and all procedures. Parents with several children filled out separate questionnaires for each child and they could choose the order by themselves.

For this study, we used two sub-samples of parents. These samples are presented below, and additional information is found in Table 1. In the majority of the cases, the mothers filled out the questionnaires (70.2% in Sub-sample 1, 64.1% for older children in Sub-sample 2, and 61.6% for younger children in Sub-sample 2) and all analyses in this study are based on the reports made by the participating parent (or both parents if they filled out the questionnaires

together). The first sub-sample consisted of parents with one child between 10 and 14 years ($M_{\text{age}} = 11.92$). In total, 529 parents had only one child who was in this age range. Of these, 372 (70%) were included in the sample because the parents had data for at least one of the relevant variables: parents' feelings of powerlessness and HIA in the adolescents. Of the adolescents, 182 were boys and 190 were girls. Further, the majority of the participants were born in the country (80% of the mothers, 78% of the fathers, and 88% of the adolescents). The second sub-sample consisted of parents of first-born children between 13 and 16 years and second-born children between 10 and 14 years. Thus, all children in this sub-sample were first-born and second-born children (hereafter we will refer to these as older and younger children). The criterion of having both children born within 2 or 3 years was chosen to obtain siblings who were close in age, so that parents should have enough time to learn new strategies. There were totally 252 parents fulfilling these criteria. Out of these 252 parents, 183 (73%) parents had data on the relevant variables: parents' feelings of powerlessness about both children and both children's HIA. To sum, the second sub-sample for this study consisted of 183 parents of two children within 2 to 3 years in between ($M_{\text{age}} = 11.89$ and 14.35 , for the younger and older children, respectively). Of the sibling pairs, 105 were same-sex siblings and 78 were opposite-sex siblings. Among the younger children, 104 were boys and 79 were girls and among the older children, 92 were boys and 91 were girls. Concerning nationality, 93% of mothers and fathers were born in the country, and among the adolescents, 89% of the older and 92% of the younger children were born in the country.

Missing data analyses

We used two logistic regression analyses to test whether (a) the 157 children who were excluded from Sub-sample 1 differed from the 372 children who were included in this sub-

sample, and (b) the 69 siblings who were excluded from Sub-sample 2 differed from the 183 siblings in this sub-sample. In these analyses, we used the adolescents' ages, genders, nationality (born in the country versus not), family structures (two-parent household versus other), and adolescents' delinquency and impulsive-irresponsible behaviors as predictors. The latter measure is one of three dimensions from a scale measuring adolescents' self-reported psychopathic traits (Andershed, Kerr, Stattin, & Levander, 2002). In the first analysis, there was one significant difference. Adolescents who were excluded from Sub-sample 1 were more likely to come from two-parent families than were adolescents in our sample ($OR = 1.89, p = .001$). The Nagelkerke R^2 for the first model was .04. In the second analysis, the younger children who were excluded from Sub-sample 2 reported more delinquent activities than adolescents in our sample ($OR = 0.25, p = .006$). The Nagelkerke R^2 for the second model was .11. Thus, adolescents in our samples were more likely to come from one-parent households and to be less delinquent than adolescents who were excluded because they had missing data. From the low Nagelkerke measures, this should not particularly influence the results in this study.

Measures

For this study, we used parents' reports about their own feelings and their children's behaviors in order to capture parents' perceptions about and reactions to their children.

The adolescents' HIA. To measure HIA, we used the Swanson, Nolan, and Pelham Questionnaire (SNAP, Swanson et al., 2001), which has shown to have good reliability (Bussing et al., 2008; Glatz et al., 2011). This scale was developed to assess ADHD symptoms according to criteria from the DSM-III and can be used as a screening and diagnostic tool for children's ADHD in community-based populations (Bussing et al., 2008). The parent reported SNAP scale has shown expected associations with other related behaviors, such as children's ODD (Bussing

et al., 2008). Parents reported how well 17 statements described their children's behaviors within three different areas: *Hyperactivity*, *Impulsivity*, and *Attention problems*. The response alternatives for all statements ranged from 1 = *does not apply at all*, to 4 = *applies exactly*. For the *Hyperactivity* scale, we used five items and examples of these items were: "Often leaves seat in situations in which remaining in seated is expected" and "Often fidgets with hands or feet or squirms in seat." Alpha reliabilities for this scale were .79, for both older and younger children. Examples of the three items in the *Impulsivity* scale were: "Often has difficulties awaiting turn" and "Often interrupts or intrudes on others (e.g., butts into conversations/games)." The alpha reliabilities for the impulsivity scale were .73 and .71, for older and younger children, respectively. The *Attention problem* scale consisted of nine items and examples of these were: "Often is distracted by extraneous stimuli" and "Often has difficulties sustaining attention in tasks or play activities." The alpha reliabilities were .89, for both older and younger children.

Parents' feelings of powerlessness. We used five items to measure parents' feelings of powerlessness about raising their children (Glatz et al., 2011). These items were: "Have you had such big problems with your adolescent that neither reprimands nor discussions work," "Have you ever felt powerless and thought that there was not much you could do about the problems you were having with your adolescent," "Have you ever during this term felt that it didn't matter what you said, the adolescent would do whatever he/she wanted anyway," "Have you ever during this term been on the border of giving up—felt that there was nothing you could do about the problems you had with the adolescent?" For these four items, parents responded on a Likert scale ranging from 1 = *has not happened*, to 5 = *yes, very often*. The fifth item was: "Do you feel that you have tried absolutely everything to correct your adolescent's behavior, but nothing has helped?" The response alternatives for this item ranged from 1 = *disagree*, to 4 = *totally*

agree. Because the questions had different response options, the items were standardized before computing the variable. The alpha reliabilities were .92 for both older and younger children.

Analytic Strategy

We used the MPlus program (Muthén & Muthén, 1998-2006), with Maximum Likelihood estimator (ML), to test three models. We started by testing the models while controlling for specific demographic variables. First, parents of same-sex siblings have shown to differ more in their treatment of siblings than parents of opposite-sex siblings (Whiteman & Buchanan, 2002; Whiteman et al., 2003). To take into account possible differences in parents' reactions, we controlled for both children's gender in the analyses (coded as 1 = *boys*, 2 = *girls*). Second, the age span for both the younger (10 to 14 years) and the older children (13 to 16 years) offer variations concerning adolescents' developmental stages as well as parents' abilities to take advantage of their experiences. With these developmental aspects in mind, we controlled for both children's age in the analyses. Third, parents' SES might be an important factor explaining parents' feelings in their parenting role. Parental education has been used as a proxy for parents' SES (Hamilton, Noh, & Adlaf, 2009; Humensky, 2010), and we, therefore, controlled for parents' education (coded as 1 = *elementary school*, 2 = *high-school*, 3 = *university*) in the analyses. After testing the models including adolescents' gender, age, and parents' education as control variables, we excluded those control variables that showed no significant associations with the other variables in the models and conducted the same analyses again. Thus, the estimates reported in this study are based on the results from the models including only the significant control variables. Different analysis techniques were then used when testing the separate models.

For the first model—where we test the link between HIA and parents’ feelings of powerlessness—we used χ^2 difference tests to examine possible significant differences between parents who had raised a child before versus parents with only one child. To do this, we started by placing equality constraints on all paths, and then we freed one path at a time to see if this significantly improved the χ^2 . For the second and third models—where we test the learning-from-experience and spillover hypotheses—we computed interactions between (a) continuous latent variables (the second model) and (b) between one continuous latent variable and one continuous manifest variable (the third model) in MPlus (Muthén & Asparouhov, 2003). The underlying logic of testing interactions in MPlus is highly similar to the traditional methods of interaction tests (e.g., Aiken & West, 1991). One difference, though, is that the MPlus program allows testing interaction variables between two latent variables, or one latent variable and one manifest variable (see Muthén & Asparouhov, 2003 for technical details). We used the XWITH command structure of MPlus language to specify the interaction variables. Further, the type=random command must be specified when declaring interaction variables in Mplus, and with this command, standardized estimates and χ^2 test of model fit are not computed. On the other hand, in the models including interactions, our focus was on the estimates of the interactions and not on the fit of the models. Thus, for the second and third models, the reported estimates are non-standardized.

RESULTS

Measurement-Model Properties and Descriptive Statistics

Three indicators—hyperactivity, impulsivity, and attention problems—made up the latent factor HIA among the older and the younger children. We performed a confirmatory factor analysis to test whether the latent factors reached acceptable reliabilities. Here, we used three

different indices to evaluate the model fit: the Comparative Fit Index, (CFI, Bentler, 1990), the Root Mean Square Error of Approximation, (RMSEA, Browne & Cudeck, 1993) and the Standardized Root Mean Square Residual (SRMR, Hu & Bentler, 1999). According to recommendations, CFI values of 0.95 or higher, RMSEA values of 0.06 or lower, and SRMR values close to .08 are considered indicators of a good fit between the hypothesized model and the observed data (Hu & Bentler, 1999). The model including both latent variables yielded an acceptable fit, $\chi^2(8) = 16.68, p = .034$, CFI = 0.98, RMSEA = 0.08, SRMR = .05. In addition, all the indicators had factor loadings over .65. From these results we concluded that the indicators were acceptable in measuring the construct HIA among both older and younger children.

In Table 2, we report correlations between all the measures as well as means and standard deviations for both sub-samples. The results showed that parents' feelings of powerlessness were significantly related to all sub-scales of HIA and among parents with two children, their feelings of powerlessness for each child were significantly correlated. Further, the results in Table 2 show that the three sub-scales of HIA in older children was significantly correlated with parents' feelings of powerlessness about their younger children (r s ranging from .26 to .32, all $p < .001$). In comparison, the correlations were weaker between the three sub-scales of HIA in the younger children and parents' feelings of powerlessness about their older children ($r = .16, p = .037$ for the correlation with hyperactivity, $r = .05, p = .521$ for the correlation with impulsivity, and $r = .28, p < .001$ for the correlation with attention problems). Overall then, problematic behaviors in the older children seem to be somewhat more important for the way parents feel about raising their younger children than the younger children's behaviors are for parents' feelings about their older children.

Bugental's parental attribution model: HIA should make parents feel powerless, independent of whether they have raised a child before or not

To test this hypothesis, we used a model where adolescents' HIA predicted parents' feelings of powerlessness. For parents with more than one child, only data about their younger children were used in this analysis. None of the control variables were significantly related to HIA or parents' feelings of powerlessness, and were therefore deleted from further analyses. For the whole sample (all parents, independent of the number of children, $N = 555$), the results showed that HIA was associated with parents' feelings of powerlessness ($\beta = .52, p < .001$). Next, to test whether this association was different for parents who had already raised a child ($n = 183$) compared with parents without this experience ($n = 372$), we fitted a multiple-group model with equality constraints and conducted a χ^2 difference test to compare the constrained model to the freely estimated model. There was a significant decrease in χ^2 between the constrained model and the freely estimated model ($\Delta\chi^2 = 15.74 (2), p < .001$), which suggests that the constrained model was more suitable than the freely estimated model. Thus, adolescents' HIA was highly associated with parents' feelings of powerlessness, independent of whether parents had raised a child before or not.

The Learning-From-Experience model: Parents who encounter HIA in their older children learn from this experience and are better equipped to handle HIA in their younger children

According to the learning-from-experience model, if parents have raised an older child with HIA, they should have learned strategies to deal with these behaviors and should feel less powerless if their younger children were also high on HIA. Thus, it was expected that HIA in older children would moderate the link between HIA in younger children and parents' feelings of powerlessness about these children. To do this, we selected parents who had two children ($n =$

183) and tested the same model as previously. This time, however, we also included one interaction variable consisting of both children's HIA. The older children's age was the only significant control variable in this model and the following results are based on the estimates from the model including only this control variable. As shown in Figure 1, the interaction variable was significantly associated with parents' feelings of powerlessness about their younger children ($\beta = 2.47, p < .001$). This interaction is depicted graphically in Figure 2. Contrary to what can be expected from the learning-from-experience model, parents who had raised an older child with HIA showed more, rather than less, feelings of powerlessness in response to HIA symptoms in their younger children. Thus, the high level of powerlessness for younger children, indicates that those parents who had encountered HIA in their older children did not seem to be better equipped to handle HIA in their younger children.

The Spillover model: HIA in younger children should make parents feel particularly powerless if they already feel powerless about parenting their older children

According to the spillover model, feelings of powerlessness should spill over from older to younger children if (a) the older children have HIA and if parents feel powerless, or (b) if parents have generally high feelings of powerlessness about the older children. To test these two suggestions, we used the same model as was described above, but we included three other interaction variables. The first variable was a two-way interaction computed of parents' feelings of powerlessness about their older children and the older children's HIA. With this interaction, we tested whether parents' feelings of powerlessness were transferred to their relationship with their younger children, independent of the younger children's HIA. The second variable was a two-way interaction with HIA in the younger children and parents' feelings of powerlessness about their older children. The third variable was a three-way interaction consisting of HIA in

both children and parents' feelings of powerlessness about their older children. The only difference between the two latter interaction variables was that in the last one, we wanted to test whether parents' feelings of powerlessness about their older children were connected specifically to their older children's HIA, whereas in the first one, we focused on their general feelings of powerlessness about their older children.

Again, the only significant control variable was the older children's age, and the reported estimates are based on the results from the model including only this control variable. The results showed that the two-way interaction with parents' feelings of powerlessness about their older children and the older children's HIA was not a significant predictor ($\beta = -.13, p = .639$). This suggests that parents' feelings of powerlessness for their older children with HIA, alone, were not linked to their feelings of powerlessness for their younger children without HIA.

Conversely, however, the two-way interaction with parents' feelings of powerlessness about their older children and their younger children's HIA was significantly associated with parents' feelings of powerlessness about their younger children ($\beta = .96, p < .001$). This interaction effect is illustrated in Figure 4, where it is shown that parents who encountered HIA in their younger children and who felt powerless about their older children reported high levels of feelings of powerlessness in their parenting of their younger children. In contrast, parents who did not feel powerless about their older children reported low feelings of powerlessness about their younger children with HIA. Finally, the three-way interaction with both children's HIA and parents' powerlessness about their older children was non-significant ($\beta = -.29, p = .671$). Hence, the combination of HIA in the older children and parents' feelings of powerlessness about these children was not associated with parents' feelings of powerlessness when they encountered HIA in their younger children. The results, then, support the idea that parents' feelings of

powerlessness about their older children generally, and not linked specifically to the older children's HIA, spill over from parenting of the older children to parenting of the younger children, but only when the younger children displays HIA.

DISCUSSION

The question of this study was how parents deal with HIA in their adolescents, depending on their experiences with their older children. First, in line with Bugental's attribution model (Bugental et al., 1989; Bugental & Shennum, 1984), we proposed that HIA would be associated with parents' feelings of powerlessness, independent of whether they had raised a child before or not. The results supported this hypothesis. Next, we used two models to explore which offered the best explanation concerning how parents' experiences with their older children were related to their feelings of powerlessness about raising their younger children. The results suggested that the spillover model was more suitable, compared with the learning-from-experience model, to explain parents' reactions to HIA. When parents encountered HIA in their younger children and felt powerless about raising their older children, they felt particularly powerless in relation to their younger children. As a extension to the spillover model, we also tested whether parents who felt powerless about HIA in their older children would feel particularly powerless if their younger children also were high on HIA. We did not find support for this hypothesis. Thus, feelings of powerlessness about the older children more generally, rather than specifically related to HIA in the older children, were linked to parents' feelings of powerlessness about their younger children with HIA.

This study makes a couple of unique contributions to the broader family studies as well as to the specific literature concerning parenting of several children. First, it highlights the importance of studying all relationships within a family. Theoretically, it is not reasonable to

isolate the impact one person has on another without taking into account what other relationships both these persons are involved in. In this study, we examined parents' relationships with two of their children. The results in this study extend our knowledge about how relationships are shaped within the family, and they should encourage researchers to focus on parts of the family system that might have a direct or indirect effect on parenting and the parent-child relationship. Second, in this study we took a more comprehensive approach to test the learning-from-experience and the spillover models than what has been done earlier. We studied the variations in parental perceptions of both their older and younger children's HIA, and variations in how they were able to handle both children's behaviors. Generally, parents' feelings of powerlessness were not automatically transferred from the relationship with their older children to the relationship with their younger children. We found that even if parents' negative experiences with their older children were associated with negative feelings about their younger children, it took place only when their younger children were perceived as high on HIA. Further, we also found that parents who had positive experiences with their older children did not feel particularly powerless for their younger children, even if the younger children were high on HIA. Hence, parents' feelings of powerlessness for their younger children depended much on their younger children's behaviors—parents' feelings of powerlessness about their older children were transferred to their relationship with their younger children only when the younger children showed HIA—and their experiences with their older children—HIA in the younger children were not associated with parents' feelings of powerlessness when they had had a positive experience with their older children. All in all, then, to better understand what parents take with them from their experiences of raising their older children, the present findings highlight

measuring the variations in parents' perceptions of behavior problems as well as their perceived abilities to handle behavior problems in both children.

Even if the spillover and learning-from-experience models have been presented as contrasting models, it is questionable if this is entirely realistic. First, the learning-from-experience model explains how previous negative experiences of raising an older child are translated into positive parenting behaviors and child outcomes. With few exceptions, these processes have been described in the literature as exclusively positive. Yet, all of what parents learn might not be positive. Parents might change their behaviors or cognitions in a way that have negative outcomes, such as lower expectations for their younger children (East, 1998). Thus, the learning-from-experience model needs to be extended to include both positive and negative aspects of learning. Second, the spillover model describes repetition of negative trajectories within the family and does not specify what parents learn from raising their older children. In fact, the repetitions of negative trajectories might indicate a lack of learning, and a subsequent lack of behavioral change. If this is the case, spillover processes may be incorporated in the learning-from-experience model. In short, some processes might be difficult to understand using only one of the models and it is unclear how they actually are related—do they represent two distinct and separate models or is the learning-from-experience model a general framework that also includes spillover processes? Further, to this discussion it should also be added that it is unknown whether the applicability of the models differ as a result of the domain being examined. In this study, we focused on parents' feelings of powerlessness, and it has been suggested that negative feelings are more easily transmitted (or spilled over) than positive feelings (Larson & Almeida, 1999). Examining other dimensions of parenting might offer support for the learning-from-experience model or both the spillover and the learning-from-

experience models. To summarize, to be able to truly understand how parents benefit, or not benefit, from their earlier experiences, researchers might need to modify their way of defining and testing these two models in different domains.

The children in this study have specific behavioral problems that were connected to parental feelings. Other problematic behaviors in children might be connected to other emotions among parents. In line with our results, however, other problematic behaviors in adolescents have shown to be linked to emotion-based parental reactions, such as worries and lessened trust (Kerr & Stattin, 2003; Kerr, Stattin, & Pakalniskiene, 2008) and decreases in support (Hafen & Laursen, 2009; Huh, Tristan, Wade, & Stice, 2006; Kerr & Stattin, 2003; Stice & Barrera, 1995). To our knowledge, this is the first study to show that parents' negative experiences with their older children were associated with more powerlessness in relation to their younger children's problematic behaviors. Connecting the results of this study with the field of research about parents' reactions, future researchers should adapt a broader view of adolescents' influences on their parents. Parents' experiences with other children in the same family seem to be important to take into account to understand why parents react as they do to problematic behaviors.

The generalizability of the findings in this study should be discussed with the sample characteristics in mind. First, the majority of the participants were mothers. It is likely, however, that strong emotions, such as feelings of powerlessness, indicate a general within-family experience and may not necessarily be specific to the parent who filled out the questionnaire. Second, the majority of the participants were born in the country, and consequently, we could not test whether parents with different nationalities in the country reacted differently to their younger children's HIA. Hence, the generalizability concerning nationality is unknown. Third, in this study we used a sample of parents with two children within the age

range of two or three years. The reason for this choice was that parents should have had enough time to learn new strategies. Still, it is possible that this is too few years for parents to be able to learn efficient strategies and it might cause stress that pulls for greater spillover processes. Further, parents with three or more children might follow a different developmental trajectory. Theoretically, the results concerning families with two children should be quite similar to what is expected among parents with more than two children because they have had a chance to copy or change their strategies. On the other hand, it is also possible that the learning-from-experience and spillover processes might be intensified as the number of children increases. Overall, it is possible that using another age span might have brought other results. With these aspects in mind, and until the models are examined using other samples, it is difficult to make clear statements about the generalizability of our results.

This study has some limitations that should be discussed. First, because we use only parents' reports, there is risk of single reporter bias. However, we were interested in parents' experiences of their children's behaviors and how they felt as a result of these behaviors, and the most logical choice was to use parents' own reports about these aspects. Second, our sample was too small to compare groups based on the siblings' gender constellations. Doing this would have lead to power problems in the analyses. Third, it is likely that some parenting strategies and adolescent behaviors are different for 10-year-old children compared with 16-year-old children. This was partly solved by the use of age as a control variable in the analyses. In future studies, however, it might be better to adapt a more systematic developmental approach when studying parenting of several children in different ages. Fourth, the cross-sectional design used here has some known drawbacks. For example, there is a risk of overlooking possible spurious relations, such as shared genetic variance and/or the fact that children might learn from each other's

behaviors. In addition, this design makes it difficult to draw conclusions about reciprocity. In this study, we cannot unequivocally claim that parents' reactions to HIA in their younger children were a result of their experiences with their older children. It is possible that parents' experiences with their younger children influenced their feelings of powerlessness about their older children. Yet, the associations between HIA in the older children and parents' feelings of powerlessness about their younger children were stronger than the reverse associations, which supports the idea that spillover effects follow the order of power within the family and that older children generally have higher status than younger children (Larson & Almeida, 1999; Shanahan, McHale, Osgood, et al., 2007). Although the results in this study are cross-sectional, they may serve as a starting point for the development of empirical models examining these family processes over time.

Despite the limitations, this study has several strengths. First, in this study we considered the variations in parents' experiences with both their children. Most studies have examined how the presence or absence of an older sibling affects parents' treatment of their younger children. Because differential parental treatment is related to negative adjustment for the disadvantaged child (e.g. Burt, McGue, Iacono, & Krueger, 2006; Conger & Conger, 1994; Richmond, Stocker, & Rienks, 2005; Scholte, Engels, De Kemp, Harakeh, & Overbeek, 2007; Shanahan, McHale, Crouter, & Osgood, 2008), it is important to examine mechanisms that could explain why parents behave differently toward their children. The combination of parents' experiences with and their perceptions of the behaviors of both their children might offer important information on this matter. Second, most of the work on siblings has focused on how parenting influences sibling relationships, and less is known about the influence that siblings might have on parenting (Furman & Lanthier, 2002). The latter aspect was studied here. In addition, few studies have

examined how children influence systems in which they are not directly part of (Whiteman, McHale, & Crouter, 2007), such as parents' relationship with another child in the same family. In this study, we showed that parents' relationship with one child were associated with their senses of power when they encountered problematic behaviors in their other child, which is an important contribution to the existing literature. Finally, this study had a high participation rate among parents. In total, 75% of all parents who were asked to participate in the project did so. This gives us confidence that we have covered important individual variations in the samples that we have used.

This study showed that parents' experiences with their older children were important for the ways they dealt with HIA in their younger children. Parents' negative experiences with their older children were linked to their negative feelings when they encountered problematic behaviors in their younger children. These findings have implications for research as well as practice by highlighting the importance of parents' experiences of having raised a child before. Researchers should include this aspect in theoretical models when examining parents' reactions to problematic behaviors in their children and adolescents. Finally, parents who have had negative experiences with their older children may need help to retain their feelings of efficacy and turn their negative experiences into positive parenting of their younger children.

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PARENTS' EXPERIENCES AND THEIR REACTIONS

Table 1

Descriptions of the Sub-samples Used in the Study

		Sub-sample 1 ($n = 372$)		Sub-sample 2 ($n = 183$)	
		Mother	Father	Mother	Father
Parental education	Elementary	15%	13%	11%	13%
	High school	61%	70%	62%	74%
	University	24%	17%	27%	13%
Parental employment	Full-time	44%	73%	57%	88%
	Part-time	30%	1%	30%	2%
Household structure	Two-parent	57%		75%	
	One-parent	25%		16%	

PARENTS' EXPERIENCES AND THEIR REACTIONS

Table 3

Descriptive Information and Correlations for all Measures

Variable	1	2	3	4	5	6	7	8	<i>M (SD)</i>	<i>M (SD)</i>
									Girls	Boys
1. Powerless O	.								.02 (0.63)	-.02 (0.53)
2. Hyper O	.35***	.							1.59 (0.50)	1.73 (0.58)
3. Impulsive O	.36***	.71***	.						1.83 (0.68)	1.90 (0.64)
4. Attention O	.48***	.60***	.53***	.					1.70 (0.54)	2.00 (0.56)
5. Powerless Y	.40***	.26**	.27***	.32***	.				.00 (0.88)	.03 (0.89)
									.02 (0.87)	-.03 (0.86)
6. Hyper Y	.16*	.21**	.21**	.23**	.42***	.			1.79 (0.61)	1.87 (0.64)
					.36***				1.77 (0.60)	1.77 (0.61)
7. Impulsive Y	.05	.14	.21**	.16*	.34 ***	.70***	.		2.04 (0.67)	1.96 (0.63)
					.31***	.66***			1.99 (0.70)	1.95 (0.67)
8. Attention Y	.28***	.24**	.29***	.33***	.54***	.59***	.48***	.	1.94 (0.54)	1.96 (0.57)
					.46***	.63***	.56***		1.92 (0.60)	1.92 (0.57)

Note: Y = younger children; O = older children; values on second lines are for parents in Sub-sample 1 ($n = 183$).

* $p < .05$. ** $p < .01$. *** $p < .001$

Figure 1. Non-standardized estimates from the model testing the learning-from-experience hypotheses.

*** $p < .001$

Figure 2. Illustration of the two-way interaction variable showing the association between the younger children's HIA and parents' feelings of powerlessness of raising these children, moderated by the older children's HIA.

Figure 3. Non-standardized estimates from the model testing the spillover hypotheses. Broken lines represents parameters included in the model that did not reach significance.

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

Figure 3. Illustration of the two-way interaction variable showing the association between the younger children's HIA and parents' feelings of powerlessness of raising these children, moderated by parents' feelings of powerlessness of raising their older children.