JOURNAL OF
RESEARCH on ADOLESCENCE
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JOURNAL OF RESEARCH ON ADOLESCENCE, 20(1), 88–113

DOI: 10.1111/j.1532-7795.2009.00631.x

Reciprocal Effects Between Parental Solicitation, Parental Control, Adolescent Disclosure, and Adolescent Delinquency

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This two-wave multi-informant study examined the bidirectional associations of parental control and solicitation with adolescent disclosure and delinquency. Participants were 289 adolescents (150 females and 139 males, modal age 14) and both parents. Parental solicitation and control did not predict adolescent delinquency, but adolescents' self-reported disclosure was a negative predictor of delinquency. In addition, delinquency predicted less disclosure. Furthermore, maternal solicitation predicted disclosure and adolescent disclosure predicted parental solicitation. All relations held after controlling for leisure time spent with parents and with peers. These longitudinal findings show an overlap in the development of parental solicitation and the development of adolescent disclosure, but also show that only adolescent disclosure is negatively related to delinquency over time.

During adolescence, rapid changes take place within the family system, both for children and for parents. Adolescents become more autonomous and spend an increasing amount of time outside the family context (Larson, Richards, Moneta, Holmbeck, & Duckett, 1996). As a result, parents become largely dependent on adolescents' voluntary disclosure to gain knowledge of adolescents' leisure time activities and whereabouts (Stattin & Kerr, 2000). Recent cross-sectional research has shown that lack of disclosure toward parents may be a risk factor for delinquency (e.g., Soenens, Vansteenkiste, Luyckx, & Goossens, 2006; Stattin & Kerr, 2000). The negative association between disclosure and delinquency can, however, also be interpreted in terms of delinquent children refraining from disclosure. In prior research, this alternative explanation for the association between disclosure and delinquency could not be empirically ruled out due to the cross-sectional nature of the designs. Furthermore, much remains unknown about parents' role in this process. For instance, it is still unclear whether parents can

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successfully elicit disclosure by demanding or soliciting for information, as is how a lack of disclosure and engagement in delinquency affect subsequent parenting. Recent research on parental monitoring suggests that there is a mutual dependency and influence between behavior of parents and children. To quote Stattin and Kerr (2000, p. 1083): ''a bidirectional model of parent–child interactions is needed.'' The current longitudinal study will therefore examine whether adolescent disclosure and delinquency are predictive of each other and whether there is indeed a reciprocal influence between parental solicitation and control on the one hand and adolescent disclosure and delinquency on the other hand.

Adolescent Disclosure and Delinquency

Because adolescents have an increasing need for autonomy and independence from their parents (Steinberg, 1990) and spend less leisure time under direct supervision, voluntary disclosure toward parents becomes an increasingly important facet in parent–adolescent relationships. That is, parents can become dependent on these disclosures to find out what their children do during unsupervised leisure time, and cross-sectional studies have suggested that adolescents are indeed active agents in informing their parents about their activities, whereabouts, and associates (e.g., Kerr & Stattin, 2000; Soenens et al., 2006).

The importance of children's disclosure to parents during adolescence is further underscored by findings showing that adolescent disclosure is negatively linked to adolescents' delinquency (Kerr & Stattin, 2000; Stattin & Kerr, 2000). However, due to the cross-sectional nature of previous work, the direction of effects could not be elucidated. Not disclosing may indeed be a risk factor for delinquency (Stattin & Kerr, 2000), because adolescents who do not disclose information on their unsupervised leisure time may miss out on opportunities to obtain parental support and advice, which can help adolescents' staying or getting on track. Moreover, if adolescents do not disclose, they might reinforce their own beliefs that delinquency goes unpunished (Buhrmester & Prager, 1995; Marshall, Tilton-Weaver, & Bosdet, 2005; Tilton-Weaver & Galambos, 2003). However, the linkage between disclosure and delinquency could also be interpreted as an effect of problem behavior to less disclosure. That is, adolescents who are involved in deviant behavior are more likely to withhold information to avoid negative parental reactions to their deviance, such as low trust, sarcasm or criticism, and reprimands (Buhrmester & Prager, 1995; Darling, Cumsille, Caldwell, & Dowdy, 2006; Engels, Finkenauer, & van Kooten, 2006; Kerr, Stattin, & Trost, 1999; Marshall et al., 2005; Tilton-Weaver & Galambos, 2003). Taken together, previous cross-sectional studies have suggested that disclosure is a risk factor for the development of adolescent delinquency, yet it remains unclear whether more delinquent adolescents will disclose less, whether adolescents who disclose less are at higher risk of delinquency, or whether both influences are at work simultaneously.

Parenting and Adolescent Delinquency

Considering that parents are largely dependent on adolescent disclosure to be knowledgeable about adolescent leisure time activities, there is some dispute as to whether parental monitoring has a direct influence on adolescent delinquency, as well. As adolescents spend less time under direct parental supervision and gain emotional and behavioral autonomy, it may be that there is limited direct parental influence at this developmental stage. Supporting this idea, recent research failed to find concurrent relations between parenting practices (such as solicitation and control) and adolescent deviance (Soenens et al., 2006; Stattin & Kerr, 2000; Waizenhofer, Buchanan, & Jackson-Newsom, 2004). In addition, some longitudinal research has shown that parenting practices do not predict externalizing problems (Kandel & Wu, 1995; Stice & Barrera, 1995). However, Fletcher, Steinberg, and Williams-Wheeler (2004) found a small negative effect of parental control on delinquency and substance use in early adolescence. The findings on longitudinal effects of parental control on delinquency and other externalizing problems are thus somewhat inconsistent, but largely suggest that parental influences are limited when it comes to the development of moderate forms of adolescent delinquency.

Conceivably, adolescents' antisocial behavior may have a stronger effect on parents than parenting has on the antisocial behavior of adolescents. Parents might reduce investments in their child and decrease the level of parental control, because adolescents' prior delinquency has raised parents' tolerance levels for this behavior (Bell & Chapman, 1986) or because parents are disappointed in the misbehavior of adolescents. Indeed, longitudinal findings show that parents tend to react to adolescents' problem behavior by withdrawing control and support (Huh, Tristan, Wade, & Stice, 2006; Kerr & Stattin, 2003; Stice & Barrera, 1995).

From previous studies it thus seems that parents do not play an active role in preventing adolescent delinquency, but respond to delinquency by reducing their control efforts over time. However, concluding that parents have no effect at all may be premature (Fletcher et al., 2004; Soenens et al., 2006), as there are more means through which parents can help a child to refrain from delinquency. There are reasons to believe that parents can elicit disclosure, for instance by asking questions, and that they can help adolescents to refrain from delinquency by spending time together.

Can Parents Elicit Disclosure?

Parents of adolescents may have some influence on the level of child disclosure. It has, for instance, been shown that adolescent disclosure is strongly linked to parental solicitation (Stattin & Kerr, 2000) and observations in childhood have shown that disclosure can be successfully elicited by parental soliciting behavior (Fagot, Luks, & Poe, 1995). In contrast, parents who

perceive high levels of child disclosure may also respond with more solicitation (Finkenauer, Frijns, Engels, & Kerkhof, 2005) and, conversely, respond with a withdrawal of interest if they find out that their child is lying or hiding information (Kerr & Stattin, 2003; Kerr et al., 1999). Alternatively, and more likely, a bidirectional process between the level of adolescent disclosure and parental interest is at work, for instance through the quality of the parent–child relationship. When levels of child disclosure are high, parents are generally more satisfied with the relationship (Collins & Miller, 1994; Finkenauer, Engels, Branje, & Meeus, 2004). This relationship satisfaction may increase levels of parental interest and solicitation, resulting in higher levels of adolescent disclosure. Empirical findings have shown, for example, that both acceptance by parents and parental solicitation are related to more divulgence by children (Finkenauer et al., 2005). In these previous cross-sectional studies pointing out a strong linkage between solicitation and disclosure, the questions remain as to whether parental solicitation can elicit disclosure, whether lack of adolescent disclosure can impact subsequent parenting practices, or whether both influences are at work simultaneously.

Leisure Time with Parents and Peers

A factor proposed to be important in the linkage between adolescent disclosure and delinquency is the leisure time that adolescents spend with their parents and with their peers. That is, parents who spend time with adolescents may prevent delinquency by facilitating adolescent disclosure, and by being physically present they may keep adolescents away from potential deviant activities within peer groups. Although it is part of normative development, and related to increasing autonomy, to spend an increasing amount of time outside the family context and more time in a more egalitarian peer context (Larson et al., 1996), for some adolescents this change may be more pronounced than for others (Fuligni & Eccles, 1993). Kerr and Stattin proposed that adolescents who refrain from disclosure, because they are not in a warm relationship with their parents, tend to spend relatively less leisure time in parental company and are relatively more attracted by unsupervised peer settings (Kerr, Stattin, Biesecker, & Ferrer-Wreder, 2003). In these unsupervised settings, such as street corners and cafeterias, the risk of becoming involved in problem behavior is higher (Kerr et al., 2003; Mahoney & Stattin, 2000). One untested implication of this theoretical model is that the linkage between adolescent disclosure and delinquency can be explained by leisure time contexts.

Parental and Adolescent Gender Differences

It has been suggested that parental and adolescent gender affect adolescent disclosure, parental control, parental solicitation, and delinquency. The ways in which fathers and mothers gain knowledge of their adolescents' leisure

time activities might differ. Mothers are generally more engaged in child-rearing than fathers (Crouter & Head, 2002; Harris & Morgan, 1991). Further, adolescents interact more with mothers, and their relationships are typically closer than are the relationship with fathers (Furman & Buhrmester, 1985; Larson et al., 1996). In line with these notions, mothers are more knowledgeable about their children than are fathers, and adolescents talk about personal issues more frequently with their mothers than with their fathers. Fathers tend to rely heavily on their spouses for information (Crouter, Bumpus, Davis, & McHale, 2005; Crouter & Head, 2002; Crouter, Helms-Erikson, Updegraff, & McHale, 1999; Finkenauer et al., 2005; Smetana, Campione-Barr, & Metzger, 2006; Waizenhofer et al., 2004). Moreover, the relations between adolescent disclosure, parenting practices, and adolescent delinquency may differ for fathers and mothers. Whereas Waizenhofer and colleagues did not find that parental gender moderates the relation between methods of obtaining parental knowledge and adolescent deviance, others have reported that parental gender moderates effects of a related parenting practice, namely, psychological control (Rogers, Buchanan, & Winchel, 2003; Soenens et al., 2006). For instance, whereas paternal psychological control was found to be directly related to affiliation with substance-using friends, maternal psychological control was not (Soenens et al., 2006).

Likewise, girls and boys differ in the amount of disclosure and the ways they are treated, or perceive themselves to be treated, by parents. Traditional gender roles prescribe that men are assertive and independent and that women are expressive but compliant. That is, girls are assumed to be more skillful communicators and to have more intimate relationships with their parents than boys (e.g., Noller, 1978; Noller & Bagi, 1985), and boys compared with girls are more independent and are thus granted more autonomy (Bumpus, Crouter, & McHale, 2001). Supporting these gender roles, many studies have shown that girls disclose more to their parents (Kerr & Stattin, 2000; Smetana, Metzger, Gettman, & Campione-Barr, 2006; Soenens et al., 2006; Stattin & Kerr, 2000; Waizenhofer et al., 2004) and report more parental solicitation and control than do boys (Kerr & Stattin, 2000; Stattin & Kerr, 2000). Moreover, girls reported lower delinquency than boys (Baerveldt, Van Rossem, & Vermande, 2003; Kerr & Stattin, 2000; Meeus, Branje, & Overbeek, 2004). Despite these clear sex differences, it has been suggested that the associations between parenting practices, adolescent disclosure, and delinquency are similar for adolescent boys and girls (Kerr & Stattin, 2000; Soenens et al., 2006; Waizenhofer et al., 2004).

The Present Study

The current multi-informant study will examine how parents influence children during adolescence and how children influence parenting. First, we will try to replicate the findings of Stattin and Kerr (2000) in a Dutch sample by

investigating how adolescent disclosure, parental solicitation, and parental control are cross-sectionally related to parental knowledge and adolescent delinquency. In line with their findings, we hypothesize that adolescent disclosure is the strongest predictor of parental knowledge and the only behavior to be negatively related to delinquency. We will explore whether these relations can be consistently found using reports from fathers, mothers, and adolescents, and we will test for adolescent gender differences. Second, we will test a longitudinal cross-lagged model with a 1-year interval to examine the linkage between disclosure and parenting on the one hand and delinquency on the other hand. We hypothesize that adolescent delinquency and adolescent disclosure are longitudinally linked in that they mutually influence one another over time in a negative fashion (Stattin & Kerr, 2000). Furthermore, we do not expect a longitudinal effect of parenting on delinquency, but we hypothesize that adolescent delinquency has a negative effect on the amount of parental control (Kerr & Stattin, 2003). In addition, we will examine whether parental control and solicitation influence adolescent disclosure and vice versa. We expect to find bidirectional effects between parenting and disclosure (Bell, 1968). That is, we expect that parental behavior predicts adolescent disclosure, but also the reverse, that adolescent disclosure predicts parental solicitation and control. Finally, we will test whether the hypothesized relations between adolescent disclosure and delinquency hold when we control for the leisure time that adolescents spend in the presence of parents and peers (as this was suggested to be an exploratory factor for the disclosure–delinquency link; Kerr et al., 2003). We will test this longitudinal cross-lagged panel model separately for reports of fathers, mothers, and adolescents, and we will explore adolescent gender differences in all models.

METHOD

Participants

Two hundred and eighty-nine Dutch two-parent families with an adolescent participated twice, with a 1-year interval, designated as Time 1 and Time 2. At Time 1, adolescents were between 13 and 16 years old (modal age was 14; 2.8% of the participants were 13; 72.0% were 14; 24.6% were 15; and 0.7% were 16 years old). The 139 boys and 150 girls came from 12 high schools located in municipalities in urban areas of the Netherlands. The majority lived with both biological parents (99.0%). Different educational tracks were represented, with approximately 54% of the adolescents at schools preparing for university, 32% of the adolescents at schools preparing for higher professional education, and 14% of the adolescents at schools preparing for blue-collar work. Of the fathers, 1.7% did not finish high school, 16.6% graduated from high school, 38.1% graduated from middle or higher level vocational/technical training, and 35.6% had a university degree. Of the mothers, 0.7%

did not finish high school, 36.0% graduated from high school, 41.9% graduated from middle or higher vocational/technical training, and 21.1% had a university degree.

We used a subsample from an ongoing longitudinal study on relationships of adolescents with parents and peers, named CONflict And Management Of RElationships (Meeus et al., 2004), in which 938 early adolescents participated. Out of 401 Dutch two-parent families who accepted our invitation to participate in annual home visits, 323 families were randomly selected for financial reasons. The families ($n = 289$) in the current study were selected for filling out all questionnaires at both measurements. Thirteen families became single-parent families during the research project and were therefore excluded.

Adolescents and parents of this family sample ($n = 289$) were compared on background variables at Time 1 with the larger sample of early adolescents ($n = 641$), after exclusion of families with non-Dutch ethnicity and single-parent families (family sample $n = 287$ vs. other early adolescents $n = 401$). A two-tailed t-test showed no age differences, $t(678) = -1.36$, $p = .18$. Chi-square tests revealed no differences in gender composition, χ^2 (1, $N = 688$) = 0.00, $p = .97$, or educational level of fathers, χ^2 (6, $N = 677$) = 10.53, $p = .10$. However, mothers and adolescents in the family sample were somewhat more highly educated than the early adolescents in the larger sample, mothers: χ^2 (6, $N = 676$) = 21.44, $p < .01$; adolescents: χ^2 (8, $N = 688$) = 22.78, $p < .01$. No differences were found in the level of adolescent delinquency, $t(642) = -1.30$, $p = .19$, time with parents, $t(608) = -1.60$, $p = .11$, or time with peers, $t(613) = -1.12$, $p = .27$. Parental knowledge, parental solicitation, parental control, and adolescent disclosure were not assessed in the larger sample.

Procedure

Adolescents were first approached when they were in first year of high school. Adolescents and their parents received written information on the study and they provided written informed consent. Trained research assistants conducted yearly home visits, in which both parents and the target adolescent completed questionnaires. The assistants gave verbal instructions, and written instructions were added to the questionnaires. The family annually received the equivalent of $35 for their participation. Measures of parental knowledge, parental solicitation, parental control, and adolescent disclosure were included in this family assessment.

In addition, during annual school visits after school hours, participants completed a series of questionnaires in their classrooms, for which they received $13 per measurement. In addition to written instructions included in the questionnaires, research assistants gave verbal instructions. Adolescent delinquency and leisure time that adolescents spent with parents and with peers were assessed during this school assessment.

Measures

Parental solicitation, parental control, adolescent disclosure, and parental knowledge. Items considering parental solicitation, parental control, adolescent disclosure, and parental knowledge were Dutch translations of scales developed by Kerr and Stattin (2000) and Stattin and Kerr (2000). *Parental solicitation* assessed how often the parents ask the adolescent or (parents of) friends about unsupervised time, for instance "During the past month, how often have your parents initiated a conversation with you about your free time?" The *parental control* scale measured the way in which parents control the adolescent's activities and friendships. An example of an item is "Must you have your parents' permission before you go out during the weeknights?" *Adolescent disclosure* measured adolescents' voluntary and spontaneous revelations to their parents about friends, activities, and whereabouts, for instance "Do you spontaneously tell your parents about your friends (which friends you hang out with and how they think and feel about various things)?" *Parental knowledge* concerns the knowledge that parents have on the adolescents' activities, friends, and whereabouts. One of the items is "Do your parents know what you do during your free time?" Fathers and mothers reported on their child, and adolescents reported on both parents; questions were adjusted for each reporter.

The scales on parental solicitation, parental control, and adolescent disclosure were comprised of six items, and the scale on parental knowledge consisted of nine items. The 5-point Likert scales ranged from 1 = *never* to 5 = *often*. Reliability was moderate to high and comparable across raters and measurements. Reliabilities ranged from $\alpha = .53$ to .69 for parental solicitation, $\alpha = .77$ to .85 for parental control, $\alpha = .74$ to .80 for adolescent disclosure, and $\alpha = .71$ to .81 for parental knowledge. One-year stability ranged between $r = .57$ and $r = .67$ across scales and respondents.

Delinquency. Adolescent delinquency was assessed using 16 self-reported items dealing with minor delinquency (adjusted from Baerveldt et al., 2003). Respondents indicated on a 4-point scale (1 = *never*, 2 = *once*, 3 = *two or three times*, and 4 = *four times or more*) how many times they had committed minor offences, such as shoplifting, petty theft, vandalism, and substance use in the previous year. Reliabilities of this scale were $\alpha = .86$ (Time 1) and $\alpha = .79$ (Time 2). The 1-year stability was high ($r = .72$).

Leisure time with parents and peers. Adolescents indicated for the previous day how many leisure hours they had spent with their fathers, mothers, and peers. In the instructions it was made clear that "leisure time" activities included hobbies, going out, watching television, and so forth and were different from obligatory activities, such as doing homework and cleaning. The leisure time with fathers and mothers was summed. The 1-year

stability was $r = .37$ for leisure time with peers and $r = .32$ for leisure time with parents.

Strategy of Analysis

Descriptive statistics and correlations were calculated using SPSS 14.0.2, and structural equation analyses were performed with Mplus 4.0 (Muthen & Muthen, 2006). Separate models were specified for mother, father, and adolescent reports. We used maximum likelihood estimation and adjusted parameter estimates for nonnormality (Satorra & Bentler, 1994). For all statistics an α level of .05 was used.

The first set of structural equation models examined the Time 1 associations of parental solicitation, parental control, and adolescent disclosure with parental knowledge and with delinquency, in order to replicate Stattin and Kerr (2000) findings in a Dutch sample. In these two models, parental solicitation, parental control, and adolescent disclosure were intercorrelated independent variables, and parental knowledge or adolescent delinquency was the dependent variable. Adolescent gender differences were tested with multigroup analyses (Satorra & Bentler, 2001).

Second, to investigate hypothesized bidirectional effects of parental behavior, adolescent disclosure, and delinquency, data were analyzed longitudinally using path analyses with cross-lagged effects (Lytton, 1990). In this model, we were mainly interested in the longitudinal effects between variables and we corrected for 1-year stabilities and Time 1 correlations. To examine whether the time that parents and adolescents spent together might be a third variable that accounts for relations between parenting, disclosure, and delinquency, we controlled for effects of Time 1 and Time 2 leisure time with parents and peers upon Time 1 and Time 2 disclosure, solicitation, and delinquency, respectively. That is, leisure time with parents and peers at Time 1 was correlated with disclosure, solicitation, and delinquency at Time 1, and leisure time with parents and peers at Time 2 was correlated with disclosure, solicitation, and delinquency at Time 2. We added stability paths of leisure time with parents and peers. Again, we used multigroup modeling to test for adolescent gender differences (Satorra & Bentler, 2001).

RESULTS

Preliminary Analyses

Table 1 shows mean levels of parenting practices, adolescent disclosure, and delinquency for the total sample, for boys, and for girls. As a further description of the data, reporter-, time-, and adolescent gender effects were tested using a 3 (reporter) $\times$ 2 (time) $\times$ 2 (adolescent gender) multivariate analysis of variance for parental knowledge, parental solicitation, parental

control, and adolescent disclosure. Adolescent gender was a between-subjects factor, and reporter effects and time effects were within-subjects factors. Multivariate tests yielded a significant effect of Gender, $F(4, 284) = 19{,}550.29$, $p < .01$, Time, $F(4, 284) = 36.26$, $p < .01$, and Reporter, $F(8, 280) = 39.59$, $p < .001$, and an interaction effect of Reporter × Gender, $F(8, 280) = 4.507$, $p < .01$, and Time × Reporter, $F(8, 280) = 3.36$, $p < .01$. The Gender × Time interaction and the three-way interaction had no significant effect, $F(4, 284) = 2.07$, $p = .09$ and $F(8, 280) = 1.61$, $p = .12$, respectively. Univariate tests were used to determine which family variables comprised the main and interaction. Gender differences existed for parental knowledge, adolescent

TABLE 1
Mean Scores and Standard Deviations of the Variables in the Structural Models for the Total Sample, Boys, and Girls

			Total		*Boys*		*Girls*	
Variable	*Time*	*Respondent*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Parental knowledge	1	Mother	4.22	.34	4.19	.32	4.26	.35
		Father	4.03	.37	4.03	.37	4.02	.37
		Adolescent	3.95	.41	3.90	.40	3.99	.41
	2	Mother	4.10	.35	4.02	.34	4.18	.34
		Father	3.94	.42	3.95	.41	3.93	.43
		Adolescent	3.89	.44	3.80	.44	3.97	.43
Parental solicitation	1	Mother	3.53	.44	3.56	.42	3.51	.45
		Father	3.19	.47	3.20	.48	3.18	.46
		Adolescent	3.10	.54	2.99	.52	3.20	.53
	2	Mother	3.45	.46	3.43	.46	3.47	.47
		Father	3.16	.49	3.19	.48	3.13	.51
		Adolescent	3.17	.56	3.08	.54	3.24	.57
Parental control	1	Mother	3.96	.87	3.95	.84	3.97	.90
		Father	3.79	.75	3.78	.74	3.80	.77
		Adolescent	3.37	.77	3.18	.80	3.56	.69
	2	Mother	3.70	.86	3.63	.88	3.76	.83
		Father	3.40	.85	3.35	.82	3.45	.87
		Adolescent	3.19	.84	2.91	.88	3.45	.72
Adolescent disclosure	1	Mother	4.05	.51	3.96	.51	4.13	.50
		Father	3.84	.52	3.76	.53	3.90	.52
		Adolescent	3.76	.55	3.67	.50	3.85	.59
	2	Mother	3.92	.58	3.80	.61	4.03	.53
		Father	3.74	.58	3.68	.58	3.80	.56
		Adolescent	3.71	.58	3.58	.57	3.83	.56
Adolescent delinquency	1	Adolescent	1.11	.24	1.18	.25	1.05	.20
	2	Adolescent	1.13	.26	1.18	.30	1.08	.20

disclosure, and parental control. Boys scored significantly lower than girls on these variables. Time effects were present for parental knowledge, adolescent disclosure, and parental control, with significantly lower values at Time 2. Reporter effects were found for parental knowledge, adolescent disclosure, parental solicitation, and parental control. Mothers scored significantly higher than fathers and adolescents on all variables. For parental solicitation and parental control, fathers scored also significantly higher than adolescents. A Gender × Reporter interaction was found for parental knowledge, parental solicitation, and parental control, showing that the gender difference in parental knowledge appeared for mother and adolescent reports and not for father reports. The gender difference in parental solicitation and control was found for adolescent reports only. A Gender × Time interaction and a Time × Reporter interaction were found for parental control. The decrease in parental control between the two measurements was stronger for girls than for boys. Although mother- and father-reported parental control differed at Time 1, they did not significantly differ at Time 2. A 2 (gender) × 2 (time) analysis of variance showed that boys reported more delinquency than girls, $F = 726.06$, $p < .01$. There were, however, no effects of time or of the Gender × Time interaction, $F(1, 287) = 1.53$, $p = .22$ and $F(1, 287) = 1.17$, $p = .28$, respectively.

Table 2 shows correlations between parental control, parental solicitation, parental knowledge, adolescent disclosure, and delinquency for mother and father reports, and Table 3 shows these correlations for adolescent reports. We will discuss correlations within measurements and within respondents. For all reporters, parental knowledge was positively correlated with adolescent disclosure, parental solicitation, and parental control. Effect sizes of the correlations of parental knowledge with adolescent disclosure were large ($r = .49$–$.76$), those with parental solicitation were medium ($r = .34$–$.44$), and those with parental control were small to medium ($r = .13$–$.30$; Cohen, 1992). Parental knowledge was negatively correlated with adolescent delinquency, except for father-reported paternal knowledge and adolescent delinquency at Time 1 ($r = -.10$, $p = .09$). Effect sizes were small to medium ($r = -.15$ to $-.36$). Adolescent delinquency was significantly and negatively correlated with adolescent disclosure, with small to medium effect sizes ($r = -.12$ to $-.35$). Adolescent delinquency was not correlated with parent-reported solicitation or control. Only for adolescent-reported data at Time 2 were parental solicitation and parental control negatively correlated with adolescent delinquency ($r = -.14$, $p = .01$ and $r = -.23$, $p < .01$ for parental solicitation and parental control, respectively). Furthermore, as shown on the diagonals of Tables 2 and 3, reports of fathers, mothers, and adolescents on parental knowledge, adolescent disclosure, parental solicitation, and parental control were significantly and positively correlated within measurements. Only father- and adolescent-reported parental solicitation at Time 1 was not significantly correlated ($r = .08$, $p = .19$). The effect sizes of the other correlations varied ($r = .18$–$.50$ for parental knowledge, $r = .31$–$.50$ for adolescent

TABLE 2
Correlations Between Parental Knowledge, Parenting Practices, Disclosure, and Delinquency at T1 and T2, as Reported by Parents

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1. T1 Parental knowledge	**.34****	.49**	.38**	.13*	.62**	.36**	.30**	.12*	−.10	−.15*
2. T1 Adolescent disclosure	.59**	**.39****	.28**	.15*	.42**	.59**	.29**	.09	−.12*	−.15**
3. T1 Parental solicitation	.40**	.41**	**.13***	.11	.35**	.22**	.60**	.22**	−.06	−.09
4. T1 Parental control	.13*	.10	.27**	**.27****	.16**	.11	.19**	.57**	.01	−.01
5. T2 Parental knowledge	.63**	.53**	.34**	.05	**.33****	.59**	.42**	.15*	−.10	−.19**
6. T2 Adolescent disclosure	.44**	.67**	.37**	.10	.65**	**.48****	.35**	.06	−.10	−.23**
7. T2 Parental solicitation	.29**	.34**	.60**	.17**	.34**	.39**	**.17****	.22**	−.04	−.10
8. T2 Parental control	.19**	.09	.22**	.66**	.14**	.11*	.23**	**.24****	.03	−.03
9. T1 Delinquency	−.15*	−.14*	−.05	.03	−.29**	−.24**	−.01	.00	—	.73**
10. T2 Delinquency	−.19**	−.16**	−.08	.04	−.35**	−.29**	−.08	−.05	.73**	—

Note. Father reports are above the diagonal and mother reports below the diagonal. Correlations between father and mother reports are on the diagonal.
*$p < .05$; **$p < .01$.

disclosure, $r = .13$–$.24$ for parental solicitation, and $r = .18$–$.33$ for parental control).

Structural Models of Concurrent Associations

We used structural models to examine the concurrent relation of parental solicitation, parental control, and adolescent disclosure with parental knowledge and with adolescent delinquency. Time 1 adolescent disclosure, parental solicitation, and parental control were independent variables, and the dependent variables were Time 1 parental knowledge and Time 1 adolescent delinquency, respectively. Correlations between parental and adolescent activities were estimated. To test for gender differences, models in which direct effects were constrained to be equal across genders were compared with unconstrained models (Kline, 2005). Significantly better fit of the unconstrained models (indicated by significant $\Delta\chi^2$ statistics) would indicate gender differences. Structural equation models for father-, mother-, and adolescent-reported data were analyzed separately.

Sources of parental knowledge. Figure 1 shows that Time 1 parental knowledge held a strong, positive relation to adolescent disclosure for all reporters. Additionally, a small positive relation between parental solicitation and parental knowledge emerged (see Table 4). The relation

TABLE 3
Correlations Between Parental Knowledge, Parenting Practices, Disclosure, and Delinquency at T1 and T2, as Reported by Adolescents

	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
1. T1 Parental knowledge	**.24**** **.18****	.70**	.38**	.20**	.62**	.51**	.37**	.25**	−.36**	−.36**
2. T1 Adolescent disclosure		**.33**** **.31****	.40**	.20**	.56**	.67**	.43**	.20**	−.32**	−.34**
3. T1 Parental solicitation			**.20**** **.08**	.18**	.27**	.26**	.59**	.18**	−.07	−.05
4. T1 Parental control				**.24**** **.18****	.14**	.10	.07	.65**	−.08	−.09
5. T2 Parental knowledge					**.45**** **.32****	.76**	.44**	.30**	−.29**	−.40**
6. T2 Adolescent disclosure						**.50**** **.36****	.51**	.27**	−.32**	−.35**
7. T2 Parental solicitation							**.24**** **.18****	.24**	−.17**	−.14*
8. T2 Parental control								**.33**** **.33****	−.18**	−.23**
9. T1 Delinquency									—	.73**
10. T2 Delinquency										—

Note. Correlations with father reports (under) and mother reports (above) are on the diagonal.
*$p < .05$; **$p < .01$.

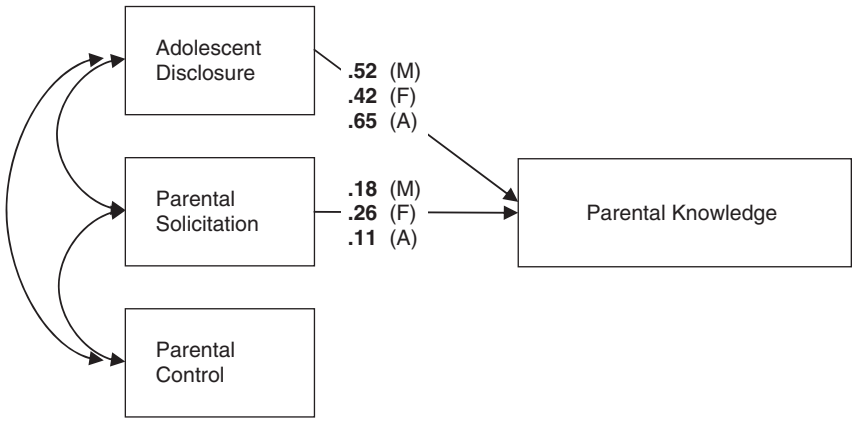

FIGURE 1 Significant standardized associations in cross-sectional path models predicting parental knowledge for mother-, father-, and adolescent-reported data (informant is indicated between parentheses).

between adolescent disclosure and parental knowledge was significantly stronger than the relation between parental solicitation and parental knowledge, albeit only for the mother and adolescent model (based on comparison of confidence intervals of unstandardized parameter estimates). Multigroup analyses showed no adolescent gender differences in the direct effects (adolescent: $\Delta\chi^2 = 4.99$, $df = 3$, $p = .17$; mother: $\Delta\chi^2 = 1.10$, $df = 3$, $p = .78$; father: $\Delta\chi^2 = 0.45$, $df = 3$, $p = .93$). Good model fit is indicated by nonsignificant χ^2, comparative fit indices (CFI), and Tucker and Lewis's index (TLI) $> .95$, and root mean square error of approximation (RMSEA) $< .05$ (Hox & Bechger, 1998; Hoyle & Panter, 1995). Removing nonsignificant paths from parental control to knowledge did not change the model fit (adolescent: $\Delta\chi^2 = 1.31$, $df = 1$, $p = .25$; mother: $\Delta\chi^2 = 0.51$, $df = 1$, $p = .47$; father: $\Delta\chi^2 = 0.49$, $df = 1$, $p = .48$) and yielded excellent fit statistics (CFIs and TLIs $> .99$ and RMSEAs $< .04$). Thus, for boys and girls, adolescent disclosure seems to be the main source of parental knowledge, and parental control did not relate to parental knowledge.

Relations between parenting, disclosure, and delinquency. As can be seen in Figure 2, adolescent-reported delinquency at Time 1 was significantly related to adolescent disclosure, but not to parental solicitation and control (Table 4). This was consistently found for father, mother, and adolescent reports of parental solicitation, parental control, and adolescent disclosure. Comparing confidence intervals of the unstandardized parameter estimates showed that the effect of adolescent disclosure on delinquency was significantly stronger than the effect of parental solicitation for self-reported data and that the effect of adolescent disclosure on delinquency was stronger

TABLE 4
Associations of Adolescent Disclosure, Parental Solicitation, and Parental Control With Parental Knowledge and Adolescent Delinquency

	Mother			*Father*			*Adolescent*		
Model and variable	*B*	*SE*	β	*B*	*SE*	β	*B*	*SE*	β
Parental knowledge									
Adolescent disclosure	.34	.04	.52***	.29	.04	.42***	.47	.04	.65***
Parental solicitation	.13	.04	.18***	.21	.04	.26***	.08	.04	.11*
Parental control	.01	.02	.03	.02	.03	.04	.03	.02	.05
Adolescent delinquency									
Adolescent disclosure	−.07	.03	−.15*	−.05	.03	−.12*	−.15	.04	−.34***
Parental solicitation	−.00	.03	−.00	−.01	.03	−.03	.03	.02	.07
Parental control	.01	.01	.05	.01	.02	.03	−.01	.01	−.03

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

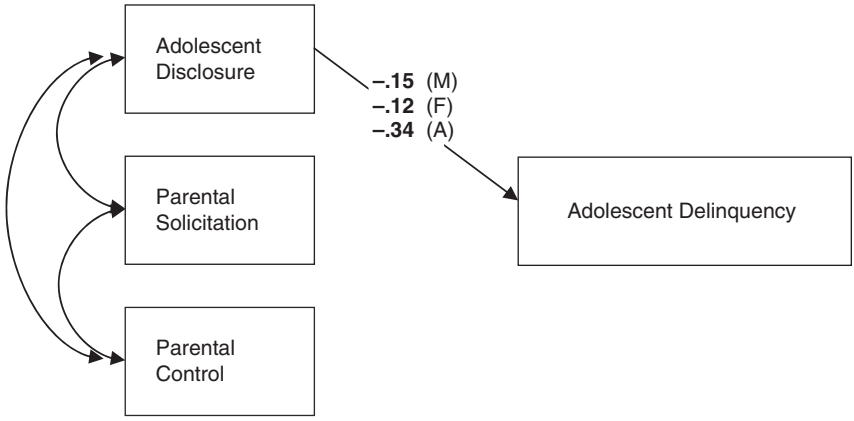

FIGURE 2 Significant standardized associations in cross-sectional path models predicting adolescent delinquency for mother-, father-, and adolescent-reported data (informant is indicated between parentheses).

than the effect of parental control for mother- and adolescent-reported data. Multigroup analyses revealed no adolescent gender differences (adolescent: $\Delta\chi^2 = 2.82, df = 3, p = .42$; mother: $\Delta\chi^2 = 5.71, df = 3, p = .13$; father: $\Delta\chi^2 = 2.10, df = 3, p = .55$) in the paths from solicitation, control, and disclosure to delinquency. The fit of the models did not change after eliminating the nonsignificant paths from solicitation and control to delinquency (adolescent: $\Delta\chi^2 = 2.03, df = 2, p = .36$; mother: $\Delta\chi^2 = 0.93, df = 2, p = .63$; father: $\Delta\chi^2 = 0.43, df = 2, p = .81$), and these modifications resulted in excellent model fit (CFIs and TLIs $> .99$ and RMSEAs $< .01$). Thus, when simultaneously assessing the concurrent relations of parental control, parental solicitation, and adolescent disclosure with delinquency, only adolescent disclosure was significantly related to delinquency for both boys and girls.

Structural Models of Longitudinal Associations

To gain more insight into direction of effects between parental solicitation, adolescent disclosure, and delinquency, we used a longitudinal cross-lagged panel design. Parental control was excluded from these analyses because previous cross-sectional analyses showed no relation of parental control with parental knowledge or delinquency. In each model, correlations were estimated between parental solicitation, adolescent disclosure, and delinquency at Time 1, as were correlations between adolescent disclosure and delinquency and between adolescent disclosure and parental solicitation at Time 2 (i.e., correlated change). The correlated change between parental solicitation and adolescent delinquency was omitted to avoid a fully saturated model. Correlations at Time 1, correlated change, stability effects, and

cross-lagged effects are displayed in Table 5. For all reporters, stability effects of parental solicitation, adolescent disclosure, and delinquency were moderately high (βs between .50 and .72). Figure 3 shows significant concurrent associations, cross-lagged associations, and correlated changes.

We consistently found a positive link between parental solicitation efforts and adolescent disclosure. A Time 1 correlation between parental solicitation and adolescent disclosure was found, as was correlated change (i.e., relative change in disclosure accompanied relative change in solicitation in the same direction). Adolescent disclosure consistently and positively predicted parental solicitation in the mother model (β = .12, $p < .05$), father model (β = .14,

TABLE 5
Longitudinal Associations Between Parental Solicitation, Adolescent Disclosure, and Delinquency

	Mother			*Father*			*Adolescent*		
Parameter	*B*	*SE*	β	*B*	*SE*	β	*B*	*SE*	β
T1 correlations									
A disclosure T1—P solicitation T1	.09	.01	.41***	.07	.02	.28***	.12	.02	.40***
A disclosure T1—A delinquency T1	−.02	.01	−.14**	−.02	.01	−.12*	−.04	.01	−.32***
P solicitation T1—A delinquency T1	−.01	.01	−.05	−.01	.01	−.06	−.01	.01	−.07
T2 correlations									
A disclosure T2—P solicitation T2	.03	.01	.11**	.04	.01	.14**	.07	.01	.22***
A disclosure T2—A delinquency T2	−.01	.01	−.07*	−.02	.01	−.11*	−.01	.00	−.06
Stability paths									
Adolescent disclosure	.68	.06	.60***	.62	.07	.57***	.67	.05	.64***
Parental solicitation	.58	.06	.55***	.59	.05	.56***	.52	.06	.50***
Adolescent delinquency	.80	.08	.72***	.80	.08	.72***	.76	.08	.69***
Cross-lagged paths									
A disclosure T1 → P solicitation T2	.11	.05	.12*	.13	.05	.14**	.22	.06	.21***
A disclosure T1 → A delinquency T2	−.02	.02	−.04	−.03	.03	−.06	−.06	.03	−.14*
P solicitation T1 → A disclosure T2	.15	.07	.11*	.08	.06	.06	−.00	.05	−.00
P solicitation T1 → A delinquency T2	−.02	.02	−.03	−.02	.03	−.03	.02	.02	.05
A delinquency T1 → A disclosure T2	−.37	.14	−.15**	−.07	.14	−.03	−.28	.10	−.11**
A delinquency T1 → P solicitation T2	.06	.09	.03	.01	.08	.01	−.15	.13	−.06
Model fit									
χ^2	0.98			0.99			<0.01		
df	1			1			1		
TLI	1.00			1.00			1.04		
CFI	1.00			1.00			1.00		
RMSEA	<0.01			<0.01			<0.01		

Note. A = adolescent; P = parental; CFI = comparative fit indices; RMSEA = root mean square error of approximation; TLI = Tucker and Lewis's index.

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

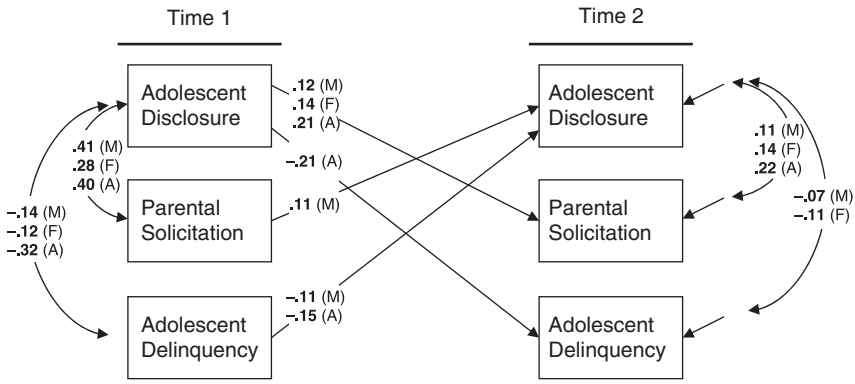

FIGURE 3 Significant standardized Time 1 associations, cross-lagged paths, and correlated change in longitudinal models for mother-, father-, and adolescent-reported data (informant is indicated between parentheses).

$p < .01$), and adolescent model ($\beta = .21$, $p < .01$). Moreover, parental solicitation positively predicted adolescent disclosure in the mother-reported model ($\beta = .11$, $p < .05$), and for mother-reported data a bidirectional effect between disclosure and solicitation was thus found.

Regarding the relations of parental solicitation and adolescent disclosure with delinquency, negative Time 1 associations were found in all models, and for father- and mother-reported data negative correlated changes were found. This implies that a relative decline in disclosure goes together with a relative increase in delinquency. Moreover, cross-lagged paths showed that adolescent disclosure negatively predicted delinquency over time in self-reported data ($\beta = -.14$, $p < .05$). Thus, adolescents who reported relatively high levels of disclosure reported relatively low levels of delinquency 1 year later. Adolescent-reported delinquency was also negatively predictive of adolescent disclosure as reported by mothers ($\beta = -.15$, $p < .01$) and by adolescents ($\beta = -.11$, $p < .01$). Thus, adolescents who had higher scores on delinquency were less willing to disclose 1 year later. Adolescent-reported data suggest that both processes are at work simultaneously. Conversely, we found no support that parental solicitation predicted adolescent delinquent behavior or that adolescent delinquency predicted parental solicitation.

Leisure Time with Parents and Peers

To gain more insight into the mechanism behind these longitudinal associations, we included in the panel analyses the hours of leisure time that adolescents spent daily with their peers and with their parents. At Time 1, adolescents spent an average of 3.68 ($SD = 3.87$) hours with their parents and 1.88 ($SD = 2.64$) hours with peers. At Time 2 they spent an average of 3.46 ($SD = 3.92$) hours with their parents and 2.08 ($SD = 2.64$) hours with peers.

There was a significant correlation, of modest effect size, between the hours that adolescents spent with their parents and with their peers (Time 1: $r = .25$, $p < .01$, Time 2: $r = .33$, $p < .01$). Table 6 shows that children who spent more time with their parents reported more disclosure and parental solicitation, both at Time 1 and Time 2. Time 1 mother-reported disclosure and Time 2 father- and mother-reported disclosure were also positively correlated with leisure time with parents. Among adolescents who spent more time with their peers at Time 2, both youths and fathers reported less adolescent disclosure, and adolescents reported higher delinquency. All correlations were of small magnitude.

When we controlled for the hours that adolescents spent with their friends and with their parents at Time 1 and at Time 2 in the cross-lagged panel analyses, the longitudinal associations between adolescent disclosure, parental solicitation, and adolescent delinquency remained the same. That is, standardized regression weights changed $< .02$ in magnitude, and the associations that were significant in the initial analyses remained significant after controlling for leisure time with parents and with peers.

Gender Differences

Finally, we ran multigroup analyses on the cross-lagged panel model to test for adolescent gender differences in the relations between adolescent disclosure, parental solicitation, and adolescent delinquency. Again, father-, mother-, and self-reported data were analyzed separately. We compared a fully unconstrained model against a model in which the cross-lagged paths were constrained. Adolescent gender differences in the cross-lagged effects

TABLE 6
Bivariate Correlations With Time With Parents and With Peers at Time 1 and Time 2

	Time 1		*Time 2*	
	Time With Parents	*Time With Peers*	*Time With Parents*	*Time With Peers*
Adolescent disclosure (A)	.17**	−.07	.21**	−.12*
Parental solicitation (A)	.14*	.04	.21**	.01
Adolescent disclosure (M)	.12*	−.03	.23**	−.07
Parental solicitation (M)	−.00	−.00	.07	.07
Adolescent disclosure (F)	.01	−.07	.15*	−.12*
Parental solicitation (F)	−.09	.06	.07	.09
Adolescent delinquency (A)	−.11	.08	−.06	.20**

Note. A = adolescent-reported; F = father-reported; M = mother-reported.
*$p < .05$; **$p < .01$.

were found in the mother model only (mother: $\Delta\chi^2 = 12.67$, $df = 6$, $p < .05$; father: $\Delta\chi^2 = 3.46$, $df = 6$, $p = .75$, adolescent: $\Delta\chi^2 = 13.17$, $df = 6$, $p = .06$). For mother-reported data, the model with unconstrained cross-lagged effects had a significantly better fit, which indicates adolescent gender differences. To find out which parameter estimates differed across genders, we ran a second set of multigroup analyses on the mother-reported data, and we compared a model in which one cross-path was constrained to be equal against the fully unconstrained model. Gender differences existed on the path from Time 1 adolescent delinquency to Time 2 parental solicitation, but this path was not significant either for boys ($\beta = -.11$, $p > .05$) or for girls ($\beta = .04$, $p > .05$). Thus, we did not find much evidence for gender differences in the associations.

DISCUSSION

This multi-informant longitudinal study aimed to disentangle the influences between the behavior of parents and adolescents toward each other and their linkages to delinquency. We showed negative linkages between adolescent disclosure and delinquency, but after controlling for the former, no linkages were found between parental solicitation and delinquency. Adolescent disclosure was found to be highly intertwined with parental solicitation. That is, in all longitudinal models, relative change over time in adolescent disclosure correlated with relative change in solicitation and adolescent disclosure predicted parental solicitation 1 year later. Mother-reported data suggested that parents can use solicitations to elicit disclosure to some extent. Furthermore, despite the fact that more leisure time with parents was associated with more adolescent disclosure, leisure time with parents could not explain the longitudinal associations between adolescent disclosure and lower delinquency. The implications of these findings are discussed below.

The Power of Adolescent Disclosure

Adolescence is characterized by an increasing autonomy on the side of the adolescent (Beyers & Goossens, 1999), a more egalitarian nature of the parent–child relationship (Laursen & Bukowski, 1997), and an increasing dependency of parents on the willingness of their adolescent children to disclose information on their whereabouts and activities. These changes in the parent–child relationship suggest that parents not only have an effect on adolescents, but also that adolescents can increasingly affect their parents. In line with studies of Stattin and Kerr (2000), we found adolescent disclosure to be the major source of parental knowledge. Moreover, adolescent disclosure was the only source of parental knowledge related to delinquency over time.

In contrast, parenting seems to play a role as a potential facilitator of adolescent disclosure, rather than as a direct protection against delinquency.

Youths' disclosure thus seems to become an important facet of the parent–child relationship in adolescence. By regulating the information their parents receive, adolescents can also regulate the extent to which their parents have a say in their lives and they can claim a certain level of autonomy (Finkenauer, Engels, & Meeus, 2002). By not disclosing to their parents, adolescents have the power to undermine parental control and create a more egalitarian distribution of power in the relationship. However, lack of adolescent disclosure can also have the negative side effect that parents lose the chance to talk to their child and to shape and control the behavior of their child (Buhrmester & Prager, 1995). Such discussions with parents, and associated parental advice, might have a preventive function and dissuade adolescents from norm-breaking behavior.

In addition, adolescents who are more involved in deviance have additional reasons to refrain from disclosure, for instance, to avoid punishment or other negative parental reactions (Darling et al., 2006) such as low trust, sarcasm, and critique (Kerr et al., 1999). In particular, adolescents who commit delinquent acts might develop negative norms toward disclosure to parents within the peer group and might feel pressure from the peer group to hide information from parents (Stattin & Kerr, 2000). The current longitudinal findings suggest that adolescents who commit delinquent acts hide more information from their parents (see also Marshall et al., 2005). Lack of disclosure might thus be indicative of a negative downward spiral of increasing adolescent delinquency and decreasing family communication and opportunities for parents to give advice, control, and influence the child's behavior. Which factors are able to break this negative spiral, and contribute to desistance from delinquency, are unknown. In future studies, it may be interesting to examine additional relationship variables, such as the affective quality of the parent–adolescent relationship.

Parental Influence on Disclosure?

Our findings gave some support to the idea that parents' asking questions or spending leisure time with adolescents is related to the levels of disclosure. Whether parents can actually elicit disclosure through these behaviors remains unclear. Parental solicitation and adolescent disclosure were strongly intertwined aspects of the parent–child relationship. It was consistently found that changes in disclosure and solicitation go together, that further questions are elicited by adolescent disclosure (i.e., that parents adjust their behavior in response to disclosure), but only mother-reported data suggest that adolescents disclose toward parents who ask questions (cf. Fagot et al., 1995). These findings thus suggest that disclosure and solicitation are part of a reciprocal causational chain, for instance, in which adolescent disclosure

leads to an improved relationship quality and mutual trust, which in turn is related to parental solicitation (Collins & Miller, 1994; Finkenauer et al., 2004). Parents might increase their interest, number of questions, and willingness to listen when children are willing to disclose, and thus parents remain invested in the adolescent–parent relationship. On the other hand, when parents find out that their child was lying or hiding information from them and has been violating their trust, parents might respond with bitterness, sarcasm, or ridicule, and thus withdraw interest (Kerr & Stattin, 2003; Kerr et al., 1999). Adolescent disclosure (or nondisclosure and hiding information from parents) might thus be a powerful tool for adolescents to influence behavior of their parents. By regulating the information their parents receive, adolescents can damage or keep intact the trustful relationship. At the same time, they are able to regulate parents' control over their lives, thereby creating a more egalitarian distribution of power in the relationship.

More generally, these findings suggest that parental solicitation and adolescent disclosure cannot easily be distinguished, for instance, because parent–child communication is a dyadic process that encompasses both disclosure and solicitation. In previous work on parental monitoring, soliciting information and controlling children's freedom were conceptually distinguished from adolescent disclosure. However, both the current study and other studies (e.g., Stattin & Kerr, 2000) show that parental control and parental solicitation are only modestly related with one another during adolescence, whereas parental solicitation and adolescent disclosure are highly related. This suggests that, instead of conceptualizing parental control and parental solicitation together as parental monitoring, parental solicitation, and adolescent disclosure are, in fact, related aspects of parent–child communication.

In addition to a strong association between solicitation and disclosure, we found that adolescents who spent more time with their parents disclosed more, which suggests that physical presence is a prerequisite for adolescent disclosure. Stattin and Kerr proposed that spending leisure time with parents might account for the link between adolescent disclosure and delinquency, because children who enjoy their family climate and disclose more will spend less unsupervised leisure time with their peers, which protects them from going astray (Kerr & Stattin, 2000, 2003; Kerr et al., 2003; Stattin & Kerr, 2000). However, this idea was not supported by our findings. Our results suggest that disclosure affects delinquency above and beyond leisure time with parents or with peers and that an alternative explanation is needed. It may be that children who want to involve their parents in decision making (for instance, because they have previously built up a relationship of trust and communication) choose to disclose to their parents and allow their parents to express opinions on their behavior.

Taken together, the current longitudinal results suggest that the influence of adolescents on parents is more pronounced than the influence of parents

on adolescents. This provides additional support for the idea that there is no strong, direct influence of parental solicitation and control on adolescents' delinquency. Adolescent disclosure might be a way to invite parents to exert influence on their choices, for instance, by enabling parents to give advice. Parental solicitation and also leisure that parents and children spend together were found to be related to adolescent disclosure, however, suggesting that both are an indicator of (or a prerequisite for) high-quality parent–child communication.

Adolescent and Parental Gender Differences

When looking at adolescent gender differences, the most striking finding was that almost all associations between parents' and adolescents' behavior were the same for boys and girls. In the longitudinal mother-reported model, we found gender differences in the influence of adolescent delinquency on parental solicitation, but for both boys and girls this effect did not reach significance. It thus seems that, in spite of mean level differences in parenting, disclosure, and delinquency, the underlying process is similar for boys and girls.

Differences between reports of fathers and mothers were more pronounced. Mothers reported higher values than fathers on parenting and adolescent disclosure, and longitudinal associations were mainly found for mother- and adolescent-reported data. This might reflect the fact that fathers are less involved in parenting than mothers (Harris & Morgan, 1991), but also that mothers tend to communicate more frequently with their children across a range of topic than fathers. In line with this, several studies have shown that adolescents disclose more frequently and deeply to their mothers and that mothers recognize and accept adolescents' ideas and opinions more than fathers do (Noller & Bagi, 1985). In future longitudinal research on parenting practices and adolescent disclosure, it would thus be worthwhile to take the view of multiple family members into account.

Strengths and Limitations

The present study was the first to longitudinally examine how parents and adolescents may influence each other in terms of parental control, parental solicitation, and adolescent disclosure. We used a multi-informant cross-lagged panel design in which we controlled for concurrent relations, stability over time, and correlated change in order to examine whether parents affected children, children affected parents, or whether both processes occurred simultaneously. Moreover, we controlled for the context in which children spend their leisure time. By considering reports of fathers, mothers, and adolescents separately, we examined the generalizability of the process across family members. In addition, we examined adolescent gender differences.

Despite these strengths, some limitations of this study should be mentioned. First, the longitudinal relations were of relatively small magnitude, which may raise questions about their meaningfulness. Within this study associations between disclosure, solicitation, and control were replicated with different informants, but associations may be inflated because of mono-reporter bias. However, findings on the relation between monitoring activities, disclosure, and delinquency were in line with other studies (Kerr & Stattin, 2003; Stattin & Kerr, 2000), and negative associations between disclosure and delinquency were also found when parents reported on their children's disclosure and when adolescents reported on delinquency. Thus, it is more likely that the associations can be meaningfully interpreted, but have a limited effect size due to the use of cross-lagged designs (see, for a discussion, Raaijmakers, Engels, & Van Hoof, 2005). Third, because the average level of delinquency in this sample was low, these findings need to be replicated in a more delinquent sample to examine whether the processes also hold for more severe forms of delinquent behavior. In such samples, more than in ours, there may, for instance, also be influences of parents' own delinquency or drug use that induce deviance in adolescents. Fourth, some caution is warranted on the interpretation of longitudinal findings. That is, our research findings should not be interpreted as causal relations, because to establish causality it is necessary to exclude other possible underlying variables (Hoyle & Smith, 1994). In the current study, we did not examine potentially influential factors, such as child temperament or parent–child relationship quality (Bosmans, Braet, Van Leeuwen, & Beyers, 2006; Brody, 2003).

To conclude, parents are largely dependent on voluntary disclosure of adolescents to know how their children spend their unsupervised leisure time. Moreover, only adolescent disclosure was found to be negatively associated with delinquency over time. Thus, children who disclosed less had higher delinquency scores over time, and adolescents with higher delinquency disclosed less over time. These findings could not be explained by common leisure time of parents and children. Even though the development of parental solicitation and adolescent disclosure were related, no associations between parental solicitation and delinquency were found. Taken together, our findings suggest that lack of parental solicitation and common leisure time may reflect poor parent–child communication, rather than being a protective factor against delinquency. Contradicting the vast amount of research on parental monitoring, adolescents' own voluntary disclosure was the only source of parental knowledge to be longitudinally linked to lower levels of adolescent delinquency.

ACKNOWLEDGMENTS

This study was funded by grants from the Netherlands Organisation for Scientific Research (NWO).

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