
Perceiving concealment in relationships between parents and adolescents: Links with parental behavior

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Abstract

Although concealment in relationships is commonplace, little is known about its implications for the target of concealment. Two large-scale studies among adolescents and their parents tested the central hypothesis that parents' perception of child concealment predicts poorer parenting behaviors toward their child. Further, we investigated whether actual child concealment adds to the prediction of parenting behaviors through an interaction with parental perception of concealment. Study 1 yielded evidence for the hypothesized link, which was independent of actual concealment. Study 2 largely replicated these results for perceptions of both concealment and lying while controlling for perceptions of disclosure. Overall, these results suggest that parents' perception of child concealment coincides with poorer parenting behaviors, regardless of actual child concealment.

Concealment in relationships is a common phenomenon that occurs when one relationship partner intentionally withholds information from the other (Finkenauer & Hazam, 2000; Lane & Wegner, 1995). Almost everybody can remember an instant when he or she intentionally concealed information from a relationship partner, including a family member (Vangelisti, 1994), friends (DePaulo & Kashy, 1998), parents (Guerrero & Afifi, 1995), romantic partners (Baxter & Wilmot, 1985), and spouses (Finkenauer & Hazam). Research on concealment in relationships has focused mainly on the concealer, studying his or her reasons for concealment (e.g., Baxter & Wilmot), the underlying motivations to avoid

and conceal information from partners (e.g., Afifi & Guerrero, 2000), the physical and psychosocial correlates of concealing information (e.g., Finkenauer, Engels, & Meeus, 2002), and the link between concealment and relational satisfaction (e.g., Caughlin et al., 2000). In contrast, much less attention has been directed toward studying the implications of concealment for the target of the concealment. This neglect is unfortunate because investigation of the significance of concealment for the target of concealment may provide a fuller understanding of its relational implications.

The empirical evidence suggests a consistent association between individuals' concealment in relationships and their relational dissatisfaction (Caughlin et al., 2000; Golish, 2000; Vangelisti, 1994). Moreover, perceptions of one's partner's concealment are also related to dissatisfaction with the relationship (e.g., Caughlin & Golish, 2002; Finkenauer & Hazam, 2000). In fact, Caughlin and Golish found that individuals' perceptions of their partners' topic avoidance were more strongly

Rutger Engels was supported by a fellowship of the Netherlands Organization for Scientific Research (NWO) during the preparation of this manuscript. Tom Frijns was supported by Grant 42520701 from the NWO.

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related to dissatisfaction than were their own reports of topic avoidance. These findings underline the importance of studying concealment from the target's perspective. They show that being in the secret-target position coincides with relational dissatisfaction and seem to suggest that concealment is viewed negatively by targets and may elicit feelings of rejection. The purpose of the present research is to further investigate these implications of concealment for its targets. Specifically, it is aimed at examining the implications of (perceptions of) concealment for targets' behavior toward the concealer. Focusing on concealment in adolescent-parent relationships, we formulated two main research questions. First, we asked whether parental perceptions of their child's concealment predict poorer parenting behavior. Second, assuming that we would find such a negative association between parental perceptions of child concealment and parenting, we asked whether actual child concealment would add in any way to the prediction of parenting behavior.

Concealment From Parents in Adolescence

The questions raised bear particular importance in the realm of parent-child relationships in the developmental context of adolescence. This context is characterized by adolescents' struggle to free themselves from parental supervision and to become independent, autonomous agents in their own world (e.g., Blos, 1967; Ryan & Lynch, 1989; Steinberg, 1990). Adolescents' struggle for independence from parents is reflected in their conflicts with parents (Arnett, 1999; Laursen, 1995; Steinberg). Independence-related concerns (e.g., privacy, clothing, dating, going out) are at the top of the list of issues that provoke conflict between adolescents and parents (Laursen). Several authors have suggested that concealment is an important component in the development and maintenance of autonomy and independence (e.g., Margolis, 1966; Simmel, 1950; van Manen & Levering, 1996). For example, adolescents may use concealment to liberate themselves from parental supervision and to regulate their parents' access to what they consider their

personal domain (e.g., Bok, 1989; Petronio, 1994; cf. Petronio, 1991; Petronio, Ellemers, Giles, & Gallois, 1998). Research among adolescents suggests that they may commonly use concealment and topic avoidance with their parents to evade punishment, criticism, and embarrassment (Guerrero & Afifi, 1995), and that concealment from parents may help them to attain independence and autonomy (Finkenauer et al., 2002).

In short, adolescence is a period in which young people have to become independent from their parents. To establish their independence and protect their growing need for privacy from unwanted parental invasion, adolescents may use concealment from parents to "draw the line." How may parents react when they believe that their adolescent children conceal information from them? How may their perception of their children's concealment be related to their behavior toward their children? We will turn to this issue next.

Parental Perception of Child Concealment and its Link With Parenting Behavior

Concealment in relationships is a double-edged phenomenon. As a metaphor, the glass can be viewed as half full or half empty depending on which perspective one takes. Concealers usually have very good reasons, and mostly good intentions, when avoiding or concealing certain information from a relationship partner (e.g., Afifi & Guerrero, 2000). They commonly feel entitled to conceal the information from their partners and view their concealment as justified and important for the maintenance of the relationship (e.g., Finkenauer & Hazam, 2000; Vangelisti & Caughlin, 1997). Targets of concealment, on the contrary, appear to feel resentment when people they know well persist (or are believed to persist) on withholding certain information from them (e.g., Bochner & Krueger, 1979; Finkenauer, 1998). Being in the target position is associated with relational dissatisfaction (e.g., Caughlin & Golish, 2002; Finkenauer & Hazam). To illustrate, Finkenauer and Hazam showed that perceived secrecy by the partner (even without knowing what the

secrecy is about) was strongly negatively related to marital satisfaction.

This difference in perception of concealment between partners resembles variations found in the victim–perpetrator literature. Relative to victims, perpetrators tend to diminish the impact of their transgressions (e.g., lying, interpersonal conflict, cheating) and view them as less negative, more innocuous, and more rationally motivated (e.g., Baumeister, Stillwell, & Wotman, 1990; Gordon & Miller, 2000; Kowalski, Walker, Wilkinson, Queen, & Sharpe, 2003; Mikula, Athenstaedt, Heschgl, & Heimgartner, 1998). Thus, it appears that concealment is similar to several other (aversive) interpersonal behaviors in that it is viewed more negatively by targets than by actors (Caughlin & Golish, 2002; Finkenauer & Hazam, 2000; Kowalski et al., 2003; McCormack & Levine, 1990). These negative perceptions may not only be reflected in targets' evaluations of their relationship with the actor but may also translate into their behavior toward the actor. For example, McCormack and Levine found that one out of four relationships ended when a lie by one partner was discovered by the other. Although most terminations were due to the issue being lied about, one third of the terminations were due to the act of lying itself. Given these findings, it seems plausible that perceptions of concealment may be linked to negative behavior toward the concealer. This led us to hypothesize that parental perceptions of child concealment should predict poorer parenting behavior.

We have suggested that parents' perception of child concealment will be negatively related to parenting. Does it matter whether children actually conceal information? That is, does actual concealment add to the prediction of parenting, or does only parental perception of child concealment coincide with poorer parenting, regardless of actual concealment?

Does Actual Child Concealment Matter?

The literature does not provide many clues as to whether actual concealment matters because of a lack of studies that investigate concealment from the perspectives of both relationship partners. In one study that obtained reports from both parents and their children,

Caughlin and Golish (2002) found that parents' perceptions of their child's concealment were strongly related to parental dissatisfaction, even after controlling for the child's actual concealment. This argues for the importance of parents' perceptions of child concealment for their behavior toward their child. Little is known about the influence of actual child concealment on parents' perceptions. It is possible that actual child concealment and parental perceptions of concealment interact in predicting parenting behavior. That is, the degree to which parental perceptions of child concealment match or mismatch actual child concealment may be related to parenting behavior.

What would happen, for example, if there were no association between parental perceptions of child concealment and actual child concealment? It seems plausible that actual child concealment that parents do not perceive may nevertheless be associated with parenting. For example, if parents are unaware that their child conceals personal information from them, their understanding of their child should be lessened. This could subsequently reduce parents' ability to respond adequately to their child's needs. In other words, when parents are unsuspecting, actual child concealment may be linked to parenting. In this case, actual child concealment would matter, but only when parental perceptions of child concealment are low. That is, parental perceptions of child concealment would moderate the link between actual child concealment and parenting.

Alternatively, we might expect that parental perceptions of child concealment would be more strongly related to parenting the closer they match actual child concealment. In other words, when parents perceive high levels of concealment, actual child concealment may amplify the association of perceived concealment with parenting. In this case, parental perceptions of child concealment would matter more with increasing agreement (i.e., with increasing actual concealment). That is, actual child concealment would moderate the link between parental perceptions of child concealment and parenting. Some support for this suggestion comes from a study by Gable, Reis, and Downey (2003). These authors found that individuals' perceptions of their partners'

behavior affected their relationship well-being for both positive (e.g., displaying affection) and negative (e.g., being inattentive) behaviors. However, these effects were stronger when individuals' perception matched their partners' reports of the behavior, suggesting that partners' agreement that a certain behavior took place amplifies its effects.

In short, there are two gaps in our understanding of concealment in social relationships. The first involves the issue of whether targets' perception of concealment predicts their behavior toward the concealer. The second involves the issue of whether actual concealment adds to the prediction of targets' behavior, either directly or through an interaction with targets' perception of concealment. We have advanced two possible ways in which the interplay between actual and perceived concealment might add to the prediction of targets' behavior toward the concealer. Beginning to fill these gaps is important to understanding the role of concealment and its consequences in relationships. Patterns of adverse interaction in relationships depend on behavior from both partners, and this behavior depends on each partner's perception and interpretation of the other's behavior (e.g., Reis, Collins, & Berscheid, 2000; Sillars, 1998). Finding the predicted adverse associations of parental perception of concealment would be fundamental to our understanding of adverse adolescent–parent interactions. The importance of such a finding is suggested by research showing that children's everyday experiences in relationships with their parents are fundamental to their developing social skills (Russell, Pettit, & Mize, 1998). In particular, parental responsiveness and acceptance are considered to be key factors in the development of children's social competence (Maccoby & Martin, 1983). As such, a negative association between parental perception of child concealment and parenting would have important implications not only for our understanding of conflict in parent–child relationships but also for children's social development.

The Present Research

The present studies are among the first to investigate concealment in relationships from

the perspective of the target of concealment. They contribute to the existing literature by extending the scope of research on the implications of concealment for its targets, which has hitherto been limited to relational satisfaction, to include targets' behavior toward the concealer. Further, they involve both relationship partners to determine whether actual concealment matters. To investigate concealment in relationships, we chose to focus on adolescents' concealment in their relationships with their parents. We conducted two large-scale studies among adolescents and their parents. We hypothesized that parents' perceptions of child concealment will predict poorer parenting behavior toward their child. Further, we examined whether actual child concealment adds to the prediction of parenting behavior.

Study 1

The present study among adolescents and their mothers and fathers tested our central hypothesis. Specifically, we predicted that parental perceptions of child concealment should be negatively related to different indicators of parent-reported parenting, including parental knowledge, responsiveness, and acceptance. Additionally, the study examined whether adolescent-reported concealment adds to the prediction of these parenting behaviors.

Method

Procedure and sample characteristics

The data for analyses were derived from a cross-sectional study among Dutch families. All participants came from two-parent families with at least one adolescent child living at home. The Dutch research institute Veldkamp carried out the data collection in the summer of 2000. The sample was drawn from an existing national representative panel of 16,000 households. Each member of this panel had a personal computer at home. Families in the total sample were chosen to obtain variation on adolescents' age, gender, and educational level. Initially, 150 families were recruited. A total of 116 (77%) families responded by returning the self-report questionnaire of at least

one family member by electronic mail. Each participant received a personal code and was paid upon returning the questionnaire (\$7). As an additional incentive to stimulate participation, each family received an extra payment (\$7) when all family members returned the questionnaires.

A total of 105 families provided data for an adolescent child and at least one parent, and these families are considered in the present study. Of these families, 86 provided data from both parents, 13 provided data only from the mother, and 6 provided data only from the father. The adolescents were between 10 and 18 years of age, with an average age of 14.6 years ($SD = 2.94$). Fifty-one percent of the adolescents were male and 49% female. Adolescents followed three levels of education: primary education (26%), secondary education (44%), and higher education (27%).

Measures

Concealment. To assess *adolescent concealment from parents*, we adapted Larson and Chastain's (1990) Self-Concealment Scale (SCS). The original SCS scale consists of 10 items assessing (a) the tendency to keep things to oneself, (b) the possession of a secret or negative thought not shared with others, and (c) the apprehension of the revelation of concealed personal information. To assess concealment from parents, we adapted the original items by adding parents as the target of adolescents' concealment. The items "There are lots of things about me that I keep to myself," "I'm often afraid I'll reveal something I don't want to," and "I have a secret that is so private I would lie if anybody asked me about it," for example, became "There are lots of things about me that I conceal from *my parents*," "I'm often afraid I'll reveal something to *my parents* I don't want to," and "I have a secret that is so private I would lie if *my parents* asked me about it," respectively. Adolescents rated all items on a 5-point scale (1 = *not at all*; 5 = *extremely*). In our study, the scale had high internal consistency ($\alpha = .85$). For similar results on the validity and reliability of the scale, see Finkenauer et al. (2002). Adolescents' ratings were averaged to establish a *concealment*

from parents score; higher values indicated greater actual child concealment.

To assess *mother's and father's perception of adolescent concealment*, the above-described scale was adapted, by asking each parent to rate to what extent they thought their adolescent child concealed information from them. Thus, the scale for parents differed from that for adolescents only in the way the items were phrased. To illustrate, the item "I have an important secret that I haven't shared with my parents" from adolescents' concealment questionnaires became "My child has an important secret that (s)he hasn't shared with me." Each parent rated the 10 items on a 5-point scale (1 = *not at all*; 5 = *extremely*). In our study, the scale had adequate internal consistency ($\alpha = .77$ for mothers and $\alpha = .72$ for fathers). Ratings were averaged to establish a *perceived concealment* score; higher values indicated greater perceived concealment by parents.

Parenting. To assess parenting, we used different indicators whose combination has been shown to reflect a warm, accepting, supportive, and consistent way of parenting that is associated with good psychosocial adjustment among adolescents (e.g., Kerr & Stattin, 2000; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994). To assess *responsiveness*, we used the responsiveness subscale of the Nijmegen Rearing Questionnaire (Gerris et al., 1993; Gerrits, Dekovic, Groenendaal, & Noom, 1996). The scale comprises eight items, such as "I help my child with her/his problems and worries." Each parent rated the items on a 6-point scale, ranging from 1 = *not at all* to 6 = *very much* ($\alpha = .89$ for mothers and $\alpha = .90$ for fathers). Ratings were averaged to establish a *responsiveness* score; higher values indicated greater responsiveness.

We assessed *parental knowledge* by a 6-item scale developed by Brown, Mounts, Lamborn, and Steinberg (1993). Parents rated themselves on their knowledge about their children's whereabouts (e.g., what their children do during their free time), activities (e.g., how their children spend their money), and contacts (e.g., whom their children's friends are). Items were rated on a 4-point scale

(1 = *I know nothing about this issue*; 4 = *I know everything about this issue*), and were averaged to yield a parental knowledge score with higher values indicating greater knowledge. The alpha values of the scale in our study were .81 for mothers' and .79 for fathers' self-reports, which is comparable to the findings ($\alpha = .80$) of Brown et al. (1993).

To examine *parental acceptance*, a subscale of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was used. The scale consists of 12 items, and parents rated themselves on the scale. Example items are "I accept my child the way (s)he is" and "I respect my child's feelings." Response categories ranged from 1 = *never* to 4 = *almost always*. Empirical research on the psychometric properties showed high internal consistencies (e.g., Armsden & Greenberg; Nada Raja, McGee, & Stanton, 1992). Furthermore, a high 3-week test-retest reliability has been reported, and the scale appears to possess convergent validity (Armsden & Greenberg). In our study, alpha values were .76 (mothers) and .76 (fathers). Ratings were averaged to establish a parental acceptance score; higher values indicated greater acceptance.

Results and Discussion

Descriptive analyses

Before examining the questions that are the heart of this paper, we conducted a series of analyses to investigate gender differences. Both parenting and concealment are issues where gender differences have commonly been

reported (e.g., Buhrmester & Prager, 1995; Paulson, 1994; Paulson & Sputa, 1996). Adolescents in our sample generally reported concealing some information from their parents, and boys ($M = 2.22$; $SD = 0.74$) and girls ($M = 2.23$; $SD = 0.70$) did not differ in this respect, $F(1, 95) < 1$.

Mixed analyses of variance with parent gender as a within-subjects factor and adolescent gender as between-subjects factor were conducted to examine differences for all variables assessed from parents. We want to point out that because these analyses necessitated all family members' ratings, the degrees of freedom are slightly lower than those reported in the analyses concerning specific adolescent-parent pairs (i.e., adolescent-father, adolescent-mother). The general pattern of findings did not vary across two or three family member analyses.

Table 1 provides findings on the means and standard deviations for the variables in this study by parent and adolescent gender. Parents reported that they perceived some concealment from their child, and fathers perceived more concealment than mothers, $F(1, 84) = 5.92$, $p = .017$, $\epsilon^2 = .066$. Parents generally reported very high levels of responsiveness (mean score of 4.9 on a 6-point scale). Mothers reported more responsiveness, $F(1, 84) = 24.80$, $p = .000$, $\epsilon^2 = .228$, and more knowledge than fathers, $F(1, 84) = 38.52$, $p = .000$, $\epsilon^2 = .314$. Taken together, these findings indicate that parents perceive themselves as emotionally involved with their child and aware of her/his whereabouts and activities. Parents reported high levels of acceptance. Mothers

Table 1. Means and standard deviations of the parent-reported variables by parent and adolescent gender (total number of families = 105)

	Mothers ($N = 99$)						Fathers ($N = 92$)					
	Total sample		Girls		Boys		Total sample		Girls		Boys	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Perceived concealment	2.02	0.53	2.03	0.54	2.00	0.53	2.14	0.48	2.09	0.49	2.19	0.46
Responsiveness	5.14	0.64	5.25	0.68	5.02	0.58	4.77	0.70	4.89	0.70	4.64	0.69
Knowledge	3.39	0.42	3.43	0.42	3.34	0.42	3.11	0.43	3.08	0.45	3.13	0.41
Acceptance	3.32	0.38	3.43	0.36	3.22	0.38	3.14	0.37	3.19	0.39	3.08	0.35

perceived themselves as being more accepting of their child, $F(1, 84) = 21.44, p = .000, \epsilon^2 = .203$. Additionally, parents reported greater acceptance of their daughters than their sons, $F(1, 84) = 5.71, p = .019, \epsilon^2 = .064$.

Main analyses

Table 2 presents the correlation matrix for the variables assessed in this study. To test our hypothesis that parents' perception of child concealment predicts poorer parenting and to examine whether actual child concealment adds to the prediction of parenting, we conducted multiple hierarchical regression analyses on the parenting variables. In the first step, we entered adolescent sex and age, to control for possible confounding influences of these variables, and parents' perception of adolescent concealment as predictors of parenting. In the second step, we added adolescent-reported concealment from parents and its interaction with perceived concealment to the regression equation.

As can be seen in Table 3, adolescent age was negatively linked with maternal knowledge and responsiveness. Also, mothers reported more responsiveness and acceptance with daughters than with sons. As predicted, mothers' perception of concealment was strongly negatively linked with all indicators of parenting. Thus, when mothers perceived their adolescent child to conceal information from them, they reported being less knowledgeable about their child's activities and whereabouts ($\beta = -.46$), less responsive to their child's needs ($\beta = -.49$), and less accepting of their child ($\beta = -.58$). Taken together, these results provide support for our suggestion that parental perception of child concealment has adverse implications for their behavior toward their child.

Whether adolescent children actually concealed information from their parents or not did not seem to matter. None of the final regression equations yielded significant main or interaction effects for adolescent-reported concealment (see Table 3 for more details).

As can be seen in Table 3, findings for fathers' perception of concealment paralleled those for mothers. Adolescent age was nega-

Table 2. Pearson correlations between adolescent and parent reports (total number of families = 105)

	1	2	3	4	5	6	7	8	9
1. Adolescent concealment from parents									
2. Perceived concealment, mother	.20*								
3. Perceived concealment, father	.28**	.55**							
4. Responsiveness, mother	-.20*	-.50**	-.38**						
5. Responsiveness, father	-.34**	-.30**	-.48**	.44**					
6. Knowledge, mother	-.23*	-.47**	-.43**	.55**	.38**				
7. Knowledge, father	-.25*	-.37**	-.47**	.39**	.47**	.56**			
8. Acceptance, mother	-.15	-.56**	-.47**	.63**	.39**	.49**	.42**		
9. Acceptance, father	-.25*	-.33**	-.45**	.34**	.67**	.33**	.33**	.49**	
10. Adolescent age	.15	.08	.04	-.22*	-.24*	-.36**	-.31**	-.01	-.21*

Note. * $p < .05$. ** $p < .01$.

Table 3. Hierarchical multivariate regression analyses predicting mothers' and fathers' parenting behavior

	Mothers (N = 99)						Fathers (N = 92)					
	Knowledge		Responsiveness		Acceptance		Knowledge		Responsiveness		Acceptance	
	β	R^2	β	R^2	β	R^2	β	R^2	β	R^2	β	R^2
Step 1		.36**		.31**		.37**		.29**		.33**		.24**
Adolescent gender	.12		.19*		.24**		-.08		.10*		.12	
Adolescent age	-.35**		-.21*		-.00		-.28**		-.24**		-.21*	
Perceived concealment from parent	-.46**		-.49**		-.58**		-.44**		-.50**		-.41**	
Step 2		.37**		.32**		.38**		.31**		.37†		.25**
Adolescent gender	.11		.18*		.23**		.10		.08		.10	
Adolescent age	-.33**		-.20*		-.00		-.27**		-.21*		-.19*	
Perception of concealment	-.45**		-.47**		-.57**		-.40**		-.44**		-.37**	
Adolescent-reported concealment	-.09		-.09		-.05		-.08		-.16†		-.10	
Perceived × Reported concealment	-.07		-.07		.08		.12		-.11		.06	

Note. Adolescent gender is coded such that greater values indicate female.

† $p < .10$. * $p < .05$. ** $p < .01$.

tively linked with paternal knowledge, responsiveness, and acceptance. Also, fathers reported more responsiveness with daughters than with sons. When fathers perceived concealment from their adolescent children, they reported being less knowledgeable about their children's activities and whereabouts ($\beta = -.44$), less responsive to their children's needs ($\beta = -.50$), and less accepting of their children ($\beta = -.41$). Again, these results provide support for our suggestion that parental perception of child concealment has adverse implications on their behavior toward their children.

Replicating the pattern of results found for mothers, adolescents' actual concealment did not emerge as a significant predictor of fathers' parenting behavior, although a trend emerged for paternal responsiveness ($\beta = -.16$, $p = .078$). This trend suggests that fathers tend to be less responsive when their children actually conceal information from them. No interaction effects were obtained.

The findings reveal a consistent pattern. Both mothers' and fathers' perception of their child's concealment was negatively linked to their parenting. Specifically, the more parents perceived child concealment, the less they reported being responsive to their child's needs, the less they knew about their child's whereabouts and activities, and the less accepting they were of their child. The results did not reveal evidence that children's actual concealment adds to the prediction of parenting behavior. Thus, parents' perceptions of their child's concealment coincide with poorer parenting, regardless of the child's actual concealment.

Although this pattern of results is consistent with our hypothesis, a number of shortcomings and considerations call for additional investigation. Study 2 addressed some of the limitations of Study 1.

Study 2

First, recent studies by Kerr and Stattin (Kerr & Stattin, 2000; Stattin & Kerr, 2000) revealed that, contrary to the widespread assumption that children react to their parents, parents' knowledge about their children is largely dependent on their children's disclosure to them. If this were true, one could argue that

the observed effects regarding concealment are mere by-products of parents' perceived disclosure from their children. In this sense, parents' perception of concealment may reflect parents' perception of (the lack of) disclosure. To disentangle concealment and disclosure, we should control for parents' perceived disclosure from their child when examining the associations between parents' perception of concealment and their parenting behavior.

Second, concealment requires people to engage in active strategies that protect the to-be-concealed information from being uncovered, such as falsification, lying, omissions, half-truths, distortions, or distraction (DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996; Peterson, 1996). All of these strategies may provide targets with clues that point to the existence of concealment. If it is the perception that one's child is actively *concealing* information that matters, rather than a perceived lack of disclosure as suggested above, we should be able to replicate our results not only for concealment but also for other indicators of concealment, such as lying. We examined this question in Study 2 by including a measure of parents' perception of their child's lying as an independent variable.

Third, our measures of parenting did not assess parents' probing behavior. Parental knowledge, responsiveness, and acceptance are widely recognized as good indicators of parental behavior (e.g., Brown et al., 1993; Kerr & Stattin, 2000; Lamborn et al., 1991; Steinberg et al., 1994). However, they do not tap active efforts to elicit information from children (for a discussion, see Kerr & Stattin, 2000). It is possible that upon perceiving concealment, parents try to counteract concealment by actively soliciting information from their children. To examine this question, Study 2 included a measure assessing parents' active efforts to solicit information from their children as a dependent variable.

Study 2 was designed to circumvent the shortcomings of Study 1 and provide a more complete picture of the implications of parental perception of child concealment for their behavior toward their child. It complements Study 1 by assessing parents' perception of lying and disclosure and their active solicitation of information from their children. Further, it

involved a large sample of young adolescents and their parents, using a traditional questionnaire approach. Contrary to Study 1, Study 2 did not involve both parents of each participating adolescent. Rather, one parent, either mother or father, filled in the questionnaire.

Method

Procedure and sample characteristics

The data for this study were derived from a large project designed to investigate the development of psychosocial problems among young adolescents. All students were in the first grade of secondary education in the Netherlands. Students completed the questionnaires at school in the presence of a teacher. Before administration of the questionnaires, parents were informed about the aims of the study and could return a form stating that they did not want their child to participate (although some parents called the institute for additional information, none of the parents returned this form). No explicit refusals were recorded; nonresponse was exclusively due to the adolescent's absence on the day of assessment. Parents received the questionnaires by mail and returned the completed questionnaires by means of a stamped envelope. We explicitly stated that only one parent should fill out the form. In 77% of the cases ($N = 427$), the mother filled out the questionnaire and in 23% ($N = 134$) the father. Attention was drawn to the confidentiality of responses (see Botvin & Botvin, 1992). The letters of introduction and the questionnaires emphasized privacy aspects and clearly stated that no information about the specific responses of participants would be passed on to others.

In order to motivate respondents to participate, adolescents and parents were included in a lottery, in which CD certificates could be won. In addition, parents could indicate whether they wanted to receive a summary of the outcomes of our project.

In total, we obtained questionnaires from 561 adolescent-parent pairs. The adolescents were between 10 and 14 years of age, with an average age of 12.3 years ($SD = 0.51$). The sample of adolescents consisted of 284 boys (51%) and 277 girls (49%). The large majority of adoles-

cents (96.6%) were of Dutch origin. Ninety percent of the adolescents lived with both parents, 6% lived with their mother, and 3% lived in other living arrangements (e.g., other family members, institutions, adoptive parent). Mothers' mean age was 41.31 years, $SD = 4.04$, and fathers' mean age was 44.18 years, $SD = 4.64$.

Parent-reported measures

To assess parents' perception of adolescent concealment, we used the same scale as in Study 1. Parents rated the 10 items on a 5-point scale (1 = *not at all*; 5 = *extremely*) ($\alpha = .77$ for mothers and $\alpha = .88$ for fathers).

To assess parents' perception of adolescents' lying toward them, we developed a new instrument because to our knowledge, no scales for adolescents are currently available (Engels, van Kooten, & Finkenauer, 2003). The scale showed acceptable reliability ($\alpha = .90$) and validity (for details, see Engels et al., 2003). It consists of 12 items assessing the frequency with which parents perceive their child (a) to explicitly lie about activities and actions to them (e.g., "How often does your child lie to you about what he or she does with her friends?"), (b) to tell white lies (e.g., "How often does your child not tell the truth because he or she does not want to hurt somebody else's feelings?"), and (c) to make stories more interesting or lively by adding incorrect information (e.g., "How often does your child exaggerate the things he or she experiences?"). DePaulo et al. (1996) identified these three aspects as the most relevant ones concerning the assessment of lying in everyday life. Response categories ranged from 1 = *never* to 5 = *very often* ($\alpha = .89$ for mothers and $\alpha = .87$ for fathers). Ratings were averaged to establish a perceived lying score; higher values indicated greater perceived lying.

To assess perceived disclosure toward parents, we adapted the Self-Disclosure Index (L. C. Miller, Berg, & Archer, 1983). The original scale consists of 10 items assessing general self-disclosure in same-sex relationships, and the necessary adjustments were two-fold. First, parents rated the frequency with which they thought their child disclosed to them. Second, the topics of disclosure were adapted to fit

parent–child relationships. To illustrate, sex may be a commonly discussed topic among married partners, but it certainly is not high on the priority list in conversations between parents and children (see Dolgin & Berndt, 1997). Parents rated the frequency with which they perceived their child to disclose information to them on a 5-point scale (1 = *never*; 5 = *almost always*). Example items are “My child talks to me about his/her friends,” “My child tells me about his/her fears,” and “My child shares his/her feelings with me.” A pilot study confirmed that all identified topics were relevant topics of disclosure in parent–child relationships (Finkenauer et al., 2002). In the present study, items showed satisfactory internal consistency ($\alpha = .90$ for mothers and $\alpha = .91$ for fathers). Parents’ ratings were averaged to establish a perceived disclosure score; higher values indicated greater perceived disclosure.

Parenting. Similar to Study 1, we used different indicators whose combination has been shown to reflect a warm, accepting, supportive, and consistent way of parenting which is associated with good psychosocial adjustment among adolescents (e.g., Kerr & Stattin, 2000; Lamborn et al., 1991; Steinberg et al., 1994).

To assess *parental involvement*, we used the involvement subscale of the parenting style index of Steinberg and colleagues (Lamborn et al., 1991; Steinberg et al., 1994). Research on the psychometric properties of this scale provides evidence for its internal consistency, external validity, and test–retest reliability (Lamborn et al.; Gray & Steinberg, 1999). In the present study, we used a Dutch translation of the index (Beyers & Goossens, 1999). The *involvement scale* comprises of 11 items assessing the extent to which parents perceive themselves as supportive, stimulating, and encouraging. Example items are “I encourage my child to do better when he or she experiences set-backs at school” and “I express my admiration for my child’s achievements at school.” Responses on the items ranged from 1 = *not true at all* to 5 = *absolutely true*. The internal consistency was $\alpha = .70$ for mothers and $\alpha = .75$ for fathers. Ratings were averaged to establish an involvement score; higher values indicated greater involvement.

As in Study 1, *parental knowledge* was assessed by the 6-item scale developed by Brown et al. (1993) ($\alpha = .83$ for mothers and $\alpha = .80$ for fathers), and *parental acceptance* was assessed by the attachment subscale of the IPPA (Armsden & Greenberg, 1987) ($\alpha = .77$ for mothers and $\alpha = .83$ for fathers).

To assess *parental solicitation*, we used a scale consisting of five items developed by Kerr and Stattin (2000). The scale measures the extent to which parents actively solicit information about and are interested in their children’s activities. Example items are “How often do you talk to your child’s friends when they come to your home?” and “How often do you usually ask your child to talk about things that happened during his or her free time?” Parents rated the items on a 5-point scale, ranging from 1 = *never* to 5 = *always*. The scale showed adequate internal consistency for all participants ($\alpha = .80$ for mothers and $.81$ for fathers), which is comparable to what Kerr and Stattin found in their study ($\alpha = .69$). Additionally, these authors showed that the scale has a good test–retest reliability ($r = .84$).

Adolescent-reported measures

As in Study 1, adolescents reported their *actual concealment from parents* on the adapted version of the SCS (Larson & Chastain, 1990). Internal consistency was satisfactory ($\alpha = .85$).

Results and Discussion

Descriptive analyses

As in Study 1, parents perceived some concealment from their child, and fathers perceived more concealment than mothers, $F(1, 557) = 6.87, p = .009, \epsilon^2 = .012$ (see Table 4 for more details). Parents also perceived some lying, and fathers reported perceiving more lying in their children than mothers, $F(1, 556) = 11.86, p = .001, \epsilon^2 = .021$. Additionally, both fathers and mothers reported perceiving more lying among their sons than among their daughters, $F(1, 556) = 4.32, p = .038, \epsilon^2 = .008$. Further, parents perceived their children to moderately disclose to them (mean score of 3.8 on a 5-point scale). Consistent with an abundant

Table 4. Means and standard deviations of the parent-reported variables by parent and adolescent gender

	Mothers (N = 427)						Fathers (N = 134)					
	Total sample		Girls		Boys		Total sample		Girls		Boys	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Perceived concealment	1.82	0.43	1.82	0.43	1.83	0.42	1.93	0.48	1.89	0.52	1.99	0.43
Perceived lying	1.94	0.51	1.87	0.52	2.00	0.49	2.03	0.46	1.35	0.45	2.14	0.45
Perceived disclosure	3.86	0.59	3.93	0.60	3.80	0.58	3.68	0.58	3.70	0.62	3.67	0.54
Knowledge	3.39	0.38	3.45	0.38	3.34	0.36	3.25	0.33	3.24	0.35	3.27	0.31
Involvement	4.20	0.40	4.25	0.39	4.27	0.39	4.23	0.40	4.08	0.41	4.06	0.41
Solicitation	3.93	0.49	3.96	0.51	3.91	0.46	3.56	0.49	3.47	0.45	3.65	0.52
Acceptance	3.72	0.34	3.76	0.33	3.68	0.35	3.53	0.36	3.51	0.37	3.55	0.34

literature (for a review, see Buhrmester & Prager, 1995), mothers reported greater perceived disclosure than fathers, $F(1, 556) = 9.44, p = .002, \varepsilon^2 = .017$.

Parents generally reported very high levels of parental involvement (mean score of 4.2 on a 5-point scale). Mothers reported more involvement, $F(1, 556) = 24.46, p = .000, \varepsilon^2 = .042$, and more knowledge than fathers, $F(1, 554) = 15.76, p = .000, \varepsilon^2 = .028$, again indicating that parents perceive themselves as emotionally involved with their children and aware of their whereabouts and activities. Both mothers and fathers reported actively soliciting information from their children. Mothers reported more solicitation than fathers, $F(1, 556) = 14.09, p = .000, \varepsilon^2 = .096$. This main effect was qualified by an interaction with child gender, $F(1, 556) = 5.77, p = .017, \varepsilon^2 = .010$. As can be seen in Table 4, mothers solicited as much information from their daughters as from their sons, while fathers solicited more information from their sons than from their daughters. Parents reported high levels of acceptance. Mothers perceived themselves as being more accepting of their child than fathers, $F(1, 557) = 31.21, p = .000, \varepsilon^2 = .053$. Contrary to Study 1, no effect for adolescent gender occurred.

Consistent with Study 1, adolescents reported concealing some information from their parents ($M = 2.05$ and $M = 2.11$, for boys and

girls, respectively). Boys and girls did not differ in this respect, $F(1, 559) < 1$.

Preliminary analyses

Table 5 presents the correlation matrix for the variables assessed in this study.¹ Perceived concealment was correlated with perceived disclosure, $r(560) = -.57, p < .001$, confirming the possibility that perceived disclosure may confound the perceived concealment–parenting link. Furthermore, in line with our suggestion that parents' perceptions of lying provide clues to suggest that their child conceals information from them, perceived lying and concealment were correlated, $r(560) = .57, p < .001$. Finally, all parental perceptions were correlated with the parenting behaviors.

Main analyses

To examine whether parents' perceptions of child concealment are linked with poorer parenting behavior toward their child, we conducted

1. The correlations presented in Table 5 and the analyses presented in Tables 6 and 7 are not reported separately for mothers and fathers. We initially conducted separate analyses for mothers and fathers and compared the patterns of associations. Because none of these analyses revealed any differences between the results for fathers and those for mothers, we chose to present the results of the analyses on their collapsed data.

Table 5. Pearson correlations between adolescent and parent reports (N = 561)

	1	2	3	4	5	6	7	8
1. Adolescent concealment from parents								
2. Perceived concealment from parent	.23**							
3. Perceived lying	.23**	.57**						
4. Perceived disclosure	-.15**	-.57**	-.45**					
5. Knowledge	-.17**	-.42**	-.42**	.43**				
6. Acceptance	-.18**	-.54**	-.51**	.62**	.42**			
7. Involvement	-.13**	-.43**	-.33**	.52**	.47**	.50**		
8. Solicitation	-.05	-.30**	-.23**	.47**	.39**	.40**	.52**	
9. Adolescent age	.01	.02	.05	-.03	-.04	-.02	.01	-.01

Note. **p* < .05. ***p* < .01.

hierarchical multiple regression analyses for both parents’ perception of concealment and parents’ perception of lying. To control for adolescent age, adolescent gender, and parents’ perception of adolescent disclosure, we entered these variables into the equation in the first step (see Tables 6 and 7). As in Study 1, adolescent-reported concealment from parents and its inter-

action with parental perceptions were added to the regression equation in the second step to examine whether actual child concealment adds to the prediction of the parenting behaviors.

As can be seen in Table 6, neither adolescent gender nor adolescent age emerged as strong first-order predictors of parenting behavior. Again, as predicted, parents’ perception of

Table 6. Multivariate regression analyses predicting parents’ parenting behavior (N = 551)

	Knowledge		Involvement		Acceptance		Solicitation	
	β	R ²	β	R ²	β	R ²	β	R ²
Step 1		.23**		.29**		.43**		.22**
Adolescent gender	.06		-.07 [†]		-.03		-.05	
Adolescent age	-.01		-.01		-.00		-.01	
Perception of disclosure	.30**		.44**		.48**		.47**	
Perceived concealment from parent	-.23**		-.16**		-.25**		-.01	
Step 2		.24**		.29		.43		.22**
Adolescent gender	.06		-.07 [†]		-.03		-.05	
Adolescent age	-.01		-.01		.00		-.01	
Perception of disclosure	.29**		.44**		.48**		.47**	
Perceived concealment from parent	-.21**		-.15**		-.24**		-.02	
Adolescent concealment from parents	-.07 [†]		-.02		-.05		.02	
Perceived × Adolescent Concealment	.07 [†]		.01		.01		.01	

Note. Adolescent gender is coded such that greater values indicate female.

[†]*p* < .10. **p* < .05. ***p* < .01.

concealment was strongly negatively linked with all indicators of parenting, except parental solicitation. Thus, when parents perceived their adolescent child to conceal information from them, they reported being less knowledgeable about their child's activities and whereabouts ($\beta = -.23$), less involved with their child ($\beta = -.16$), and less accepting of their child ($\beta = -.25$). Importantly, these links were found when controlling for parents' perception of disclosure, which positively contributed to the prediction of all parenting behaviors. So, their perception of concealment negatively contributed to their parenting behavior. This was not the case for solicitation, however. Rather, for solicitation, the only first-order predictor that emerged was perceived disclosure ($\beta = .47$). That is, the more parents perceived their child to disclose information to them, the more they actively solicited information from their child.

The results for parents' perception of lying parallel those for perception of concealment (see Table 7). Neither adolescent gender nor adolescent age emerged as strong first-order predictors of parenting behavior, while perceived disclosure emerged as a first-order predictor of all parenting behaviors, showing strong positive relations with them. Conversely, perceived

lying emerged as a first-order predictor but showed negative relations with parenting behavior, except with solicitation where it did not contribute to explaining any variance.

Again, these results provide support for our suggestion that parental perception of child concealment is linked to their behavior toward their child. As we predicted, parents' perception of lying yielded results that closely match those for concealment. Parents reported, above and beyond their perception of disclosure, that they were less knowledgeable of their child's activities, less involved, and less accepting of their child when they perceived that their child lied to them.

As in Study 1, whether adolescents actually concealed information from their parents or not did not seem to make a big difference (see Tables 6 and 7). Of the final regression equations, only the ones for parental knowledge yielded interaction effects between parental perceptions and actual child concealment. For perceptions of concealment, the regression yielded a marginally significant interaction ($\beta = .071, p = .062$). For perceptions of lying, this interaction effect was significant ($\beta = .076, p = .042$). To further investigate the nature of these interactions, we plotted each

Table 7. Multivariate regression analyses predicting parents' parenting behavior (N = 550)

	Knowledge		Involvement		Acceptance		Solicitation	
	β	R^2	β	R^2	β	R^2	β	R^2
Step 1		.25**		.29**		.45**		.22**
Adolescent gender	.02		-.08*		-.07*		-.05	
Adolescent age	-.01		-.01		-.01		-.00	
Perception of disclosure	.31**		.48**		.50**		.47**	
Perception of lying	-.24**		-.12**		-.29**		-.01	
Step 2		.26*		.29		.46		.22
Adolescent gender	.03		-.08		-.07*		-.05	
Adolescent age	-.01		-.01		-.01		-.01	
Perception of disclosure	.30**		.47**		.49**		.46**	
Perception of lying	-.25**		-.11**		-.29**		-.02	
Adolescent concealment from parents	-.06		-.03		-.04		.02	
Perceived Lying \times Adolescent Concealment	.08*		.02		.05		.06	

Note. Adolescent gender is coded such that greater values indicate female.

[†] $p < .10$. * $p < .05$. ** $p < .01$.

interaction by generating simple regression equations of parental knowledge on actual child concealment at low (i.e., 1 standard deviation below the mean) versus high (i.e., 1 standard deviation above the mean) levels of perceived concealment and perceived lying (cf. Aiken & West, 1991). As can be seen in Figures 1 and 2, the interactions seem to suggest that actual child concealment is associated with parental knowledge only at low levels of perceived concealment or perceived lying. To test this suggestion, we conducted simple slope analyses to assess whether the simple slopes of actual child concealment at each level of parental perception are significantly different from zero. The slope of actual child concealment was significant at the low level of parental perception of concealment, $t(548) = 2.58, p = .01$, whereas it was not significant at the high level of perceived concealment, $t(548) < 0.01, p > .99$. Likewise, the slope of actual child concealment was significant at the low level of parental perception of lying, $t(548) = 2.54, p = .01$, whereas it was not significant at the high level of perceived lying, $t(548) = 0.39, p = .70$. Thus, the interaction patterns show that actual child concealment is only related to less parental knowledge when parents are unsuspecting. In other words, concealment that parents do not perceive may nevertheless reduce their knowledge about their children.

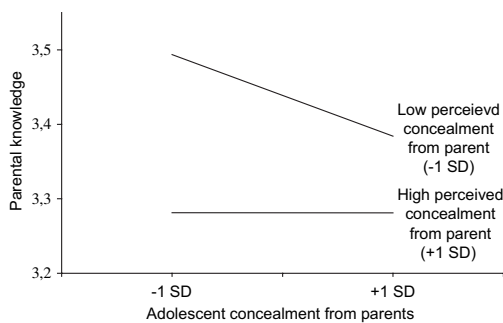


Figure 1. Interaction between adolescent concealment from parents and perceived concealment from parents in predicting parental knowledge.

Note. Upper line depicts prediction of knowledge from actual child concealment at parental perception of concealment 1 standard deviation below the mean; lower line depicts this prediction at 1 standard deviation above the mean.

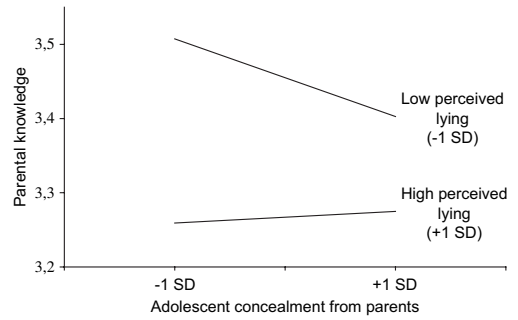


Figure 2. Interaction between adolescent concealment from parents and parental perception of lying in predicting parental knowledge.

Note. Upper line depicts prediction of knowledge from actual child concealment at parental perception of lying 1 standard deviation below the mean; lower line depicts this prediction at 1 standard deviation above the mean.

General Discussion

Confirming our hypothesis, the results of both studies demonstrate that parents’ perception of child concealment is associated with poorer parenting behavior toward their child. The results can be summarized as follows. High levels of parental perception of child concealment predicted poorer parenting on several indicators of parenting behavior for both fathers and mothers. Perceiving one’s child as concealing information from oneself was associated with less responsiveness to one’s child’s needs, less acceptance of one’s child, less involvement in the relationship with one’s child, and lesser knowledge of one’s child’s activities and whereabouts. In contrast, we found no association between perceived concealment and parental efforts to actively solicit information from their child. Paralleling their perception of child concealment, parents’ perception of their child’s lying was negatively linked with their behavior toward their child. The observed links emerged above and beyond parents’ perception of disclosure from their child, suggesting that the observed associations were not mere by-products of a perceived lack of disclosure.

Further, we found little support for the suggestion that actual child concealment may interact with parental perceptions in the prediction of parenting behaviors. Thus, actual child concealment did not seem to matter, and high perception

of concealment and lying was associated with poorer parenting, regardless of whether children actually concealed information from their parents or not. One exception to this general pattern occurred in the prediction of parental knowledge in Study 2. Here, actual child concealment was associated with less parental knowledge but only when parental perceptions of child concealment or lying were low. Thus, parental perceptions of child concealment moderated the association between actual child concealment and parental knowledge.

Before discussing the results further, a general issue warrants consideration. Given that both our studies were cross-sectional in design, they do not allow for causal interpretations of the findings. We will offer several different explanations of our findings and discuss the implications of each possible explanation. Which explanation most accurately captures the actual causal relations between concealment and parenting is an issue that will have to be borne out in future research.

Parental perception of child concealment and its link with parenting behavior

The present research yielded consistent evidence of a negative association between parents' perceptions of their child's concealment from them and their parenting behavior toward their child. How may this finding be explained? One possibility would be, as we have suggested, that parents' perceptions of child concealment and lying lead to worse parenting behaviors. To the extent that parental perceptions do cause changes in parenting behavior, it would imply that parents resent their child's concealment and reflexively react by withdrawing their support and encouragement of their child. This possibility is consistent with the suggestion that perceived concealment conveys a relational message of social distance (cf. Bochner & Krueger, 1979) and an indication of a lack of trust or even betrayal (Kowalski et al., 2003). Thus, parents could be reacting to the perception of concealment in ways similar to partners' responses in adult relationships (Finkenauer & Hazam, 2000; Kowalski et al.).

A second possibility would be that worse parenting practices lead to increased perceptions of child concealment. This would imply

that parents who are not very responsive, supporting, and accepting of their children expect (and may often be right to expect) that their children will conceal information from them. Their preconceptions would then cause parents to perceive more concealment. This possibility is consistent with research showing that expectancies affect interpersonal perception and interaction (e.g., Guland & Grolnick, 2003; Jussim & Eccles, 1995; D. T. Miller & Turnbull, 1986).

A third possibility would be that a third variable may cause changes in both parents' perception of child concealment and their parenting behavior. That is, some other parental characteristic may be influencing their perceptions and behaviors. The literature on personality and individual differences offers a number of prime candidates for this possibility. For example, rejection sensitivity (RS) is the disposition to anxiously expect, readily perceive, and intensely react to rejection (Downey & Feldman, 1996). Downey and colleagues present empirical support for a model in which people high on RS, as compared to those who are not, are likely to (a) perceive intentional rejection in their partner's insensitive or ambiguous behaviors, (b) feel insecure and unsatisfied in their relationship, and (c) respond to perceived rejection by their partner with hostility, diminished support, or jealous, controlling behavior (e.g., Downey & Feldman; Downey, Feldman, & Ayduk, 2000; Downey, Freitas, Michaelis, & Khouri, 1998). Because concealment can be interpreted as a sign of rejection (e.g., you don't love me anymore, you don't trust me enough to tell me), parents who are high on RS may be especially likely to perceive concealment and to respond to this perception with poor parenting behavior.

Finally, the actual situation may be a combination of all three possibilities. That is, parents' perception of child concealment may set off a process that results in increased concealment, distrust, and suspicion between them and their child. In a first step, (perceived) child concealment may result in resentment and hurt by parents. The associated pattern of emotional withdrawal and decreased parental supportiveness may then cause the child to be even more secretive and match their parents' emotional withdrawal. These steps may

continue in cyclic repetition, as each occurs in response to the other, resulting in poor relationship quality and increased potential for conflict. Certain personality characteristics of the parents, such as the aforementioned RS, may add to this negative cycle by increasing both parents' perception of child concealment and their negative reactions toward their child.

Does actual concealment matter?

Our results yielded little evidence of any interplay between actual and perceived child concealment in predicting parents' behavior toward their child. Only the analyses concerning parental knowledge yielded an interaction between actual concealment and parental perceptions, indicating that concealment that parents do not perceive may nevertheless reduce their knowledge about their child. We found very little evidence to suggest that actual child concealment amplifies the perception–parenting link. This suggests that the degree to which parental perceptions of child concealment match actual child concealment is not related to parenting behavior, that is, agreement does not seem to matter.

Although our findings yielded no evidence that actual child concealment amplifies the perception–parenting link, this does not necessarily mean that actual child concealment could not make a difference. It is possible that in the case of concealment, matches simply do not occur often enough to make a difference. Social interaction is often ambiguous. The same expression or behavior may be interpreted as helpful or hurtful, caring or indifferent, or insulting or reassuring. As a consequence, there will always remain some amount of uncertainty in the interpretation of social cues. In the case of concealment, interference from two sources increases the potential for mismatches. The first source is the concealer, who will in most cases do everything he or she can to prevent targets from discovering the concealment. The second source is the target, whose dispositional and personal characteristics may bias their perception of concealment. For example, targets' own tendency to conceal information from others may lead them to project their own concealment

onto others (e.g., Sillars, Pike, Jones, & Murphy, 1984; see also Van Boven & Loewenstein, 2003). Other characteristics, such as RS, may give rise to similar biases. Some support for the suggestion that matches between actual and perceived concealment may not occur all too often is provided by the moderate correlations we found between adolescent-reported concealment and parental perception of concealment (between .20 and .28). These correlations are similar to the association between children's reports of topic avoidance and parents' perception thereof ($\beta = .28$) reported by Caughlin and Golish (2002).

Implications of the findings

Across two large-scale studies, we found evidence for the hypothesis that parental perceptions of child concealment predict poorer parenting behavior. Further, we found little evidence that actual child concealment matters, suggesting that perceived concealment carries relational messages that go beyond what the concealment is about. Whichever causal pathway(s) gave rise to the present findings, these findings have important implications for understanding patterns of adverse interaction and conflict in interpersonal relationships. They are consistent with previous research on concealment and topic avoidance in relationships that shows a connection between individuals' perception of their partners' concealment and their own relational dissatisfaction (Caughlin & Golish, 2002; Finkenauer & Hazam, 2000). Our findings are also consistent with a large variety of studies that show that victims and perpetrators have different reactions to adverse interpersonal behavior (e.g., Baumeister et al., 1990; Gordon & Miller, 2000; Mikula et al., 1998). Specifically, the links between parents' perception of concealment and their parenting behavior seem to resemble the reactions of victims. As such, the present findings open the possibility that perceived concealment may be toxic for relationships (Imber-Black, 1993; cf. Kerr, Stattin, & Trost, 1999). More research is needed to investigate the mechanisms underlying the observed links between parental perceptions of child concealment and their parenting behavior toward their child.

Limitations and directions for future research

Although our research focused on parental perceptions of child concealment, we would suggest that our findings may be relevant to interpersonal relationships in general. However, parent–child relationships differ in important ways from other relationships like those between friends or dating partners. They are involuntary and asymmetrical, and parents possess more knowledge and social power than their children. Children turn to their parents for help, support, and guidance. Parents usually provide help, support, and guidance to their children but do not (and perhaps should not), in return, require help, support, and guidance from their children. Caughlin and Golish (2002) found that parents' perception of their children's topic avoidance was associated with relationship dissatisfaction. Importantly, they found the same links in young romantic partner relationships but not in children's relationships with their parents. Conversely, Finkenauer, Engels, Branje, and Meeus (2004) found that frequency of disclosure was linked with satisfaction in relationships in parental relationships, sibling relationships, and relationships where disclosure went from children to parents (i.e., parents were more satisfied when children disclosed to them). When disclosure went from parents to children, however, no such link was found. It seems then that our findings on the associations of perceived concealment in parent–child relationships may extend to other types of relationships between peers where partners interact on an egalitarian and reciprocal basis. The extent to which our findings generalize to more asymmetrical relationships may depend on the degree of asymmetry and on the position of the target. Future research should therefore examine the robustness of our findings across different types of relationships.

We have already mentioned that the cross-sectional nature of the present studies does not allow causal inference from our findings. We should point out a number of additional methodological considerations. The data in the present studies consisted of both adolescents' and parents' self-reports. We assume that there is some resemblance between the adolescents' and par-

ents' perceptions and their actual behavior, but undoubtedly there are some discrepancies, and the extent of these is unknown. Additionally, our "snapshot measurement" (Duck, 1994) of concealment and parenting behavior does not elucidate the dynamic, relational processes of how partners use and react to concealment in a relationship. Longitudinal and observational studies should monitor ongoing changes of concealment in relationships over time and examine to what extent parents' behavior varies as a function of these changes (cf. Dindia, 1994).

Concluding remarks

One cannot fully understand concealment in relationships without considering the target of concealment. Our investigation of concealment in the relationship context between parents and their adolescent children illustrates that while parents' perceptions of child concealment may be different from their child's actual concealment, they are strongly linked to their parenting behavior toward their child. Although the present research should be considered only a first step toward understanding the implications of concealment in relationships for targets' behavior toward the (presumed) concealer, its results underline the importance of studying this issue. To the extent that there is some truth to our suggestion that concealment conveys relational messages of separation and rejection, our findings imply that targets "get the message" and react with behavioral withdrawal. Further investigation of this issue may provide a better understanding of patterns of adverse interaction and conflict in close relationships.

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