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Living Together Apart: Perceived Concealment as a Signal of Exclusion in Marital Relationships

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This article examines how perceiving concealment in close relationships influences marital well-being. It suggests that the perception of concealment from a partner signals separateness from one's partner and contributes to feelings of perceived partner exclusion. These feelings of exclusion, in turn, should negatively affect relational quality. These predictions are tested in a prospective study among 199 newlywed couples. Results suggest that perceiving concealment reduced marital adjustment and trust and increased conflict over time. Importantly, change in perceived partner exclusion mediated these effects. This article demonstrates that the perception of concealment (a) has deleterious effects on relational well-being in the long run and (b) is harmful in part because it elicits feelings of exclusion.

Keywords: *concealment; social exclusion; close relationships; marital quality*

People have mixed feelings about secrecy and concealment. When people conceal information from others, they feel that they have a "right to secrecy" (Bok, 1989). They cherish their secrets, protect them from discovery, and are offended when others fail to respect their secrecy. When people perceive others to conceal information from them, however, they resent the secrecy and believe that it violates their right to know, especially when these others are close and intimate relationship partners, such as friends, romantic partners, or children (Finkenauer, Frijns, Engels, & Kerkhof, 2005; Smetana, Metzger, Gettman, & Campione-Barr, 2006). Not surprisingly, research consistently finds that perceiving concealment in close relationships is

associated with relational dissatisfaction (e.g., Caughlin & Golish, 2002). Although the perception of concealment plays a powerful role in the maintenance of harmonious, close relationships, its consequences for relationship partners are not well understood.

How does the perception of concealment affect relational satisfaction? Why do people resent concealment from others so forcefully? Drawing from a social view on secrecy and concealment, the present research explores the effects of the perception of concealment in marital relationships, examining the impact of perceiving concealment from one's spouse on relationship quality over time. Specifically, we contend that concealment operates between people. It separates those who know from those who do not know. It thereby signifies to people who perceive concealment that they are excluded and rejected (e.g., Bok, 1989; Finkenauer et al., 2005). The perception of concealment thereby represents a threat to belongingness and social inclusion (e.g., Kerr & Levine, 2008; Pickett & Gardner, 2005; Williams, 2007). This threat is incompatible with a satisfied, harmonious, and trusting relationship. Especially in close relationships in which partners live together, the perception of concealment from a partner should be detrimental

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to the quality of the relationship. Consequently, we predicted that the perception of concealment should be associated with feelings of perceived exclusion by one's partner. And importantly, we predicted that these feelings of *perceived partner exclusion* would mediate the effect of perceiving concealment on relationship quality.

Perceiving Concealment in Close Relationships

All secrets protect something that a person considers as intimate or private from unwanted access by others (Bok, 1989; Petronio, 2002). Secret keepers sift apart those who are allowed to access what secret keepers consider their intimate possession, their secret, from those who are not allowed access. In this sense, even though secrets may lie "within" the person, they operate between persons and between groups. They concern information that (at least) one person conceals, withholds, or hides from (at least) one other person (Finkenauer, Engels, & Meeus, 2002). They draw a line between those who know the information and those who do not know the information (Petronio, 2002). Secrets are thus inherently social phenomena, happening between people rather than within them (e.g., Bok, 1989; Finkenauer et al., 2002).

Although theories suggest that secrecy may be beneficial for relationship partners because it allows for satisfying the need to feel autonomous, independent, and novel (in the sense of being unknown to the other; e.g., Altman, Vinsel, & Brown, 1981; Petronio, 2002), this view has been hard to substantiate. With few exceptions suggesting that specific types of secrets may be beneficial (Baxter & Wilmoth, 1985; Caughlin & Afifi, 2004; Finkenauer & Hazam, 2000), research converges to suggest that in general, concealment of information from close relationship partners is related to lower relational quality (e.g., Caughlin et al., 2000; Caughlin & Golish, 2002; Dailey & Palomares, 2004; Vangelisti, 1994). To illustrate, topic avoidance is consistently and negatively related to relationship satisfaction and closeness across three types of relationships: significant others, mother and young adult, and father and young adult (Dailey & Palomares, 2004). Marital partners and families who kept secrets from each other report lower levels of relationship satisfaction (Finkenauer & Hazam, 2000; Vangelisti, 1994). Early and late adolescents who report concealing information from their parents also have poorer relationships with them (Finkenauer et al., 2002). Finally, adolescents who kept specific issues secret from their parents also had more conflicts with their parents (Smetana et al., 2006). Thus, research repeatedly showed that concealing information from one's partner is negatively associated with the quality of interpersonal relationships.

Nevertheless, the link between the perception of concealment from one's partner and relational quality has received little attention. This is all the more surprising because the literature suggests that perceived concealment has stronger negative effects for the relationship than one's own concealment. To illustrate, Caughlin and Golish (2002) found that when close relationship partners (i.e., dating partners and parents and children) avoid talking about certain topics with each other, both their own and their partner's avoidance negatively affect their relationship. Specifically, when people perceive their partner to avoid topics with them, they are less satisfied with their relationship. Importantly, this perception of partner avoidance emerged as a much more powerful predictor of people's own dissatisfaction than their own avoidance. Also, the perception of topic avoidance from one's partner outweighed social reality in that the perception that partners avoided topics showed stronger links with relational (dis)satisfaction than partners' own, self-reported topic avoidance. Relatedly, research on demand-withdraw patterns in relationships demonstrates that when people perceive their partner to withdraw from them when they want to confront and talk about an issue, they become more dissatisfied with the relationship (e.g., Caughlin & Huston, 2002). Thus, research on topic avoidance and demand-withdraw patterns indirectly supports the suggestion that the perception of partner concealment is harmful for relationships.

More direct support is provided by two studies by Finkenauer et al. (2005). They found that both mothers and fathers who perceived their child to conceal information from them were less satisfied with their relationship with their child and less responsive to their child's needs. These associations held even when controlling for perceived disclosure, suggesting that secrecy and disclosure can be simultaneously present in a relationship (Finkenauer et al., 2002; Frijns, Finkenauer, Vermulst, & Engels, 2005; Smetana et al., 2006). To illustrate, when telling Mary about his new colleague, John may disclose her qualifications, what she said, and what her background is. At the same time, he may conceal his attraction to her. Secrecy and disclosure may thus occur simultaneously in relationships except when both concern a specific piece of information (e.g., John keeps his attraction secret, hence does not disclose it). Because perceived concealment showed ill effects beyond perceived disclosure, these results underline the importance of the perception of concealment for relationship quality. Additionally, the results again showed that social reality had only weak effects. Adolescents' self-reported concealment from their parents did not have significant effects on parenting quality. Rather, it was parents' perception of concealment from their children that was most strongly and negatively related to parenting and relationship quality.

Thus, for the most part, empirical research converges to suggest that perceiving concealment in a partner is deleterious for close relationships. It shows a negative link with relationship quality and this link is not a mere by-product of a (lack of) disclosure. Moreover, this link emerges independent of whether partners actually conceal information from each other, emphasizing the role of the perception of concealment for how partners feel about their relationship. Taking a social perspective on secrecy and concealment allows us to shed light on why the perception of concealment may have such a deleterious impact on relationships.

The Perception of Concealment as a Signal of Exclusion

Why does the perception of concealment from one's relationship partner exert such reliable effects on relationship well-being? We suggest that this association rests at least in part on the experience of *perceived partner exclusion*, or the perception that one is separated from and excluded by one's partner. Because concealment is a social process, we propose that it signals avoidance, separation, and rejection; that is, a partner who is perceived to conceal information is assumed to distance himself or herself from the person and to exclude the person, whereas a partner who is perceived to be open and not conceal information is assumed to be close and intimate and to like the person (e.g., Collins & Miller, 1994; Finkenauer, Engels, Branje, & Meeus, 2004). The perception of concealment conveys separation, distance, and exclusion, whereas the perception of disclosure conveys closeness, intimacy, and sharing. We suggest that perceived partner exclusion at least partially mediates the impact of perception of concealment on relationship well-being.

Research on social exclusion provides indirect evidence for our suggestion that concealment signals exclusion (for a review, see Williams, 2007). This research strongly demonstrates that people are sensitive to any signs that they are being ignored and excluded (for similar suggestions, see also Kerr & Levine, 2008; Pickett & Gardner, 2005). In fact, people are more sensitive to signs of exclusion than inclusion (Baumeister & Leary, 1995). When social exclusion is detected, even the most subtle cue of exclusion, it activates the neural circuitry of physical pain (e.g., Eisenberger, Lieberman, & Williams, 2003) and elicits emotional distress (e.g., Williams, Cheung, & Choi, 2000). Immediate social exclusion is extremely aversive (Williams, 2007) and longer lasting exclusion may have serious ill effects, including feelings of helplessness, alienation, and despair, and often leads to antisocial behavior such as direct and indirect aggression toward and derogation of the person doing the

exclusion (e.g., Twenge, Baumeister, Tice, & Stucke, 2001). Recently, Kerr and Levine (2008) suggested that even signs of anticipated exclusion and avoidance (e.g., not approaching, moving or turning away, not saying hello) are reliably associated with feelings of rejection and exclusion.

In the same way, perceiving concealment should lead to perceived exclusion. Concealing information from others disrupts social bonds and disturbs relationships. Inherent in secrecy is the fact that it separates those who know from those who do not know (e.g., Simmel, 1950). Perceiving secrecy in close relationships should create a feeling of "I versus you" because it separates "me, the outsider, who does not know about your secret" from "you who knows but does not want to share your secret with me." Thereby, the perception of concealment conveys a powerful signal of social distance and separation (e.g., Petronio, 1991; Simmel, 1950) and lack of acceptance and even rejection (cf. Finkenauer et al., 2005; Kowalski, Walker, Wilkinson, Queen, & Sharpe, 2003).

This experience of being separated from and excluded by one's intimate partner questions the very foundation of trusting and loving relationships (Perlman & Peplau, 1981; Reis, Clark, & Holmes, 2004) and should thus be harmful to the relationship. Some evidence provides indirect support for this suggestion. Participants who are led to believe that others rejected them subsequently rate those others less positively than do participants who are led to believe that others accepted them (Buckley, Winkel, & Leary, 2004; Leary, Tambor, Terdal, & Downs, 1995). Excluded people rate others as less friendly and they like them less (Williams et al., 2002). Experiences of rejection motivate people to avoid potentially hurtful situations (MacDonald & Leary, 2005), including getting too close to others or investing trust (cf. Mikulincer, 1998). Lonely individuals, who chronically desire greater social connection and are particularly sensitive to exclusion cues (Gardner, Pickett, Jefferis, & Knowles, 2005), are less satisfied with their relationships than nonlonely individuals (Prisbell, 1989; Yum, 2003). Furthermore, lonely individuals compared to nonlonely individuals rate their friends more negatively (Wittenberg & Reis, 1986) and show lower trust in close others (Rotenberg, 1994), indicating that exclusion may lead to feelings of loneliness that in turn decrease trust in and liking for relationship partners. Overall, research strongly suggests that partner perceived exclusion should negatively affect the relationship quality of the person who feels excluded by his or her partner.

In short, one answer to the question why people feel negatively about their relationship when they perceive concealment from their partners is that they may experience the perception of concealment as a signal of exclusion from their partner. Accordingly, we predict

that (a) the perception of concealment from one's partner promotes feelings of perceived partner exclusion and (b) such changes in perceived partner exclusion cause corresponding changes in relationship well-being (i.e., lower relationship adjustment, more conflict, and less trust in the partner).

Overview of the Present Study

The overarching premise guiding the present work is the claim that perceiving concealment from one's partner has consequences for the manner in which people think and feel about their relationships. We advanced several a priori hypotheses about the impact of perceiving concealment from one's close partner. First, replicating previous research, we predicted that the perception of concealment reduces relationship quality (i.e., lower relationship adjustment, more conflict, and less trust). Moreover, we predicted that these effects of perceiving concealment are unique and should emerge even when controlling for (a) perceived disclosure from partner, (b) own concealment from partner, and (c) own concealment by partner. Additionally, to examine whether the perception of concealment may be particularly harmful when it is anchored in reality, we included the interaction between perceived concealment and own concealment by partner. Second, we predicted that perceived partner exclusion mediates the relation between perceived concealment from partner and relationship quality. Specifically, we theorize that the perception of concealment should increase feelings of perceived partner exclusion. These feelings of exclusion should significantly mediate the impact of perceiving concealing on indicators of relationship quality.

We tested these predictions in a prospective study among newlywed couples. These couples completed questionnaires 1 to 2 months after they got married and again about 9 months after the first data collection. The present work thus extends the extant literature in four important respects: First, the suggestion that concealment is threatening to relationships because it signals exclusion has not been tested. Our study is the first to investigate this suggestion. Second, the scarce literature on perceived concealment has not established the effects of perceived concealment above and beyond perceived disclosure (e.g., Caughlin & Golish, 2002) or above and beyond own concealment (Finkenauer et al., 2005). Hence, it remains unclear whether the perception of concealment per se has the predicted harmful effects on relationship quality. Third, Finkenauer et al.'s (2005) studies established that parents react negatively to the perception that their child conceals information from them. It remains unclear whether these findings extend to close relationships between equals. Fourth, by involving

couples, our study was uniquely positioned to investigate the proposed mediational role of perceived partner exclusion in the link between perception of concealment and relational well-being. Thus, we argue that this study will help illuminate when and why the perception of concealment may have such deleterious effects on relationships.

METHOD

Participants

The sample included 199 newlywed couples. The mean age of husbands was 32.07 years ($SD = 4.86$) and the mean age of wives was 29.20 years ($SD = 4.28$). Couples had been romantically involved on average for 5.71 years ($SD = 3.03$) and had been living together for an average of 3.81 years ($SD = 2.31$). Nearly all couples were Dutch (98.5% of the husbands and 96.4% of the wives). About 29% of the husbands and 25% of the wives had lower level education that prepares for blue-collar work, 10% of the husbands and 9% of the wives had middle education that prepares for higher professional work, and 54% of the husbands and 62% of the wives had higher education that prepares for university. Seven percent of the husbands and 4% of the wives reported having other types of education, including obtaining a university degree. At the time of the study, 2% of the husbands and 7% of the wives were not doing paid work. The modal level of working hours was 33 to 40 hr a week (69% of the husbands and 50% of the wives). At the second data collection, which took part about 9 months after the first, of the 199 couples, 195 (99%) still participated in the study. Analyses on Time 2 data are therefore based on the remaining 195 couples.

Procedure

Participants were recruited via the municipalities in which they got married. Each month eight Dutch municipalities of moderate to large cities in the Netherlands provided the names and addresses of all couples who had gotten married in the previous month. The municipalities were in average-sized Dutch cities mostly in the south of the country. We started the study in September 2006 and continued until January 2007. Two of the municipalities provided addresses for 2 months, four municipalities did so for 3 months, and two municipalities did so for 4 months.

On average 1 month after their marriage, each couple was sent a letter that described the study as a longitudinal examination of the factors that contribute to marital and individual well-being. Additionally, the letter specified that only couples who were married for the first time could participate. If both partners were interested

in participating in the study, they provided their names and telephone number on a prepaid return postcard. Upon receipt of the postcard, each couple received a phone call in which additional inclusion criteria were checked. Specifically, we verified that this was the couple's first marriage, that couples had no children in this marriage or from previous relationship partners, and that partners were between 25 and 40 years old. Of all couples, 19% agreed to participate in the study. This response rate is similar to that in other studies recruiting participants from public records in the United States (e.g., Kurdek, 1991).

At both data collections, both members of the couple separately filled out an extensive questionnaire at home in the presence of a trained interviewer. The presence of the interviewer ensured that partners independently completed the questionnaires without consulting each other. The questionnaire took about 90 min to complete. Partners were instructed not to discuss the questions or answers with each other. At each data collection, couples received 15 euro and a book after they completed the questionnaire. To increase participants' commitment to the study, we also sent birthday cards to each participant. Also, participants were able to get updates about the progress of the study via the study Web site.

Measures

Concealment. To assess *own and perceived concealment*, we adapted Larson and Chastain's (1990) Self-Concealment Scale. To assess *own concealment*, we adapted six of the original items by adding the partner as the target of concealment. Example items are "There are lots of things about me that I conceal from my partner"; "I'm often afraid I'll reveal something to my partner I don't want to"; and "I have a secret that is so private I would lie if my partner asked me about it." Partners rated all items on a 5-point scale (1 = *not at all*, 5 = *extremely*). For results on the validity and reliability of the scale, see Finkenauer and colleagues (Finkenauer et al., 2002; Finkenauer et al., 2005). Each partner's ratings were averaged to establish an *own concealment* score; higher values indicated greater own concealment from partner ($\alpha = .79$).

To assess *perceived concealment*, the previously described items were adapted by asking each partner to rate to what extent he or she thought the partner concealed information from him or her. Thus, the scale for perception of concealment differed from that for own concealment only in the way the items were phrased. To illustrate, the item "I have an important secret that I haven't shared with my partner" became "My partner has an important secret that (s)he hasn't shared with me." Each partner rated the six items on a 5-point scale

(1 = *not at all*, 5 = *extremely*). Ratings were averaged to establish a perceived concealment score; higher values indicated greater perceived concealment ($\alpha = .81$).

To assess *perceived disclosure*, we adapted the Self-Disclosure Index (Miller, Berg, & Archer, 1983). Partners rated the frequency with which they perceived their partner to disclose information to them on 5-point scales (1 = *not at all*, 5 = *extremely*). The scale included seven items: "My partner tells me what moves him/her"; "My partner discloses his/her most intimate thoughts and feelings to me"; "My partner tells me about things he/she is proud of"; "My partner tells me about his/her close relationships and friends"; "My partner tells me about his/her fears"; "My partner shares information with me that he/she would not share with others"; and "My partner tells me what he/she likes and dislikes about him/herself." Ratings were averaged to establish a perceived disclosure score; higher values indicated greater perceived disclosure ($\alpha = .86$).

Relationship quality. We assessed relationship quality with three indicators. We measured *marital adjustment* using the Dyadic Adjustment Scale that taps components of couple functioning such as agreement regarding important values (religion, decision making), conflict management, and expressions of love and affection (Spanier, 1976). The scale includes four subscales: Dyadic Satisfaction, Consensus, Cohesion, and Affectional Expression. Kurdek (1992) confirmed the reliability and validity of the overall scale and each of the four subscales with both heterosexual and homosexual couples. Because the two items regarding "handling financial matters" and "household chores" on the disagreement scale overlapped with the frequency of conflict measure (see the following), these items were omitted. As a result, the values in our study may differ slightly from other studies (but see Prouty, Markowski, & Barnes, 2000) but do not threaten the validity of our results (Sabourain, Valois, & Lussier, 2005). Husbands' mean marital adjustment score was 111.75 ($SD = 11.05$), ranging from 52 to 131. Wives' mean score was 110.21 ($SD = 11.44$), ranging from 41 to 133 ($\alpha = .86$).

To assess *frequency of conflict*, participants indicated for each of 15 issues how frequently they and their partner fought or argued about each issue (1 = *never*, 5 = *frequently*). The issues were adapted from Kurdek (1994) and included, for example, financial matters, expartners, alcohol use or smoking behavior, distribution of household chores, and appearance. Responses were averaged to yield a conflict score; higher values indicated more frequent conflict ($\alpha = .83$).

To assess *trust in partner*, we used 12 items from the Trust Scale (Rempel, Holmes, & Zanna, 1985). The scale taps three aspects of trust. Predictability assesses

the consistency and stability of a partner's specific behavior based on past experience (e.g., "My partner behaves in a very consistent manner"). Dependability assesses dispositional qualities of the partner that warrant confidence in the face of risk and potential hurt (e.g., "I have found that my partner is unusually dependable, especially when it comes to things that are important to me"). Finally, faith assesses feelings of confidence in the relationship and the responsiveness and caring expected from the partner in the face of an uncertain future (e.g., "When I share my problems with my partner, I know he/she will respond in a loving way even before I say anything"). Partners' responses on 5-point scales (1 = *not at all*, 5 = *very much*) were averaged to yield a trust score, with higher values indicating greater trust in partner ($\alpha = .83$).

Perceived partner exclusion. To assess perceived partner exclusion, we used three items: "How often do you experience a lack of companionship in the relationship with your partner?" "How often do you feel excluded from your relationship?" and "How often do you feel separated from your partner?" These items tap the extent to which partners experience exclusion in the marital relationship. Partners rated themselves on a 5-point scale (1 = *never*, 5 = *very often*) and their responses were averaged to yield an *exclusion score* with higher values indicating greater feelings of perceived partner exclusion ($\alpha = .77$).

RESULTS

Strategy of Analysis

To deal with the fact that we had multiple predictors in a dependent structure, we analyzed the data with multilevel regression analysis (Hox, 2002). This type of analysis is designed for nested data. In our study, the data provided by a given individual at Times 1 and 2 are not independent (i.e., data from Times 1 and 2 are nested within individuals), and the data provided by the two partners in a given relationship are not independent (i.e., data from the partners in a relationship are nested within couple; Kenny, Kashy, & Bolger, 1998; Olsen & Kenny, 2006). To analyze our data we used the actor-partner interdependence model (APIM; Cook & Kenny, 2005; Kenny, 1996). The APIM was tested within a multilevel regression analysis using the SPSS mixed procedure. This procedure is comparable to the SAS mixed procedure (Campbell & Kashy, 2002; Singer, 1998) and provides the same parameter estimates and tests of significance (Peugh & Enders, 2005).

The APIM is a model that deals with interdependence in dyadic data by investigating the influence of a predictor

variable for each person in the dyad on their own and their partner's outcomes using a standard multivariate regression model. It includes both the effects of a person's own characteristics on his or her own outcomes (i.e., actor effects) and the effects of a partner's characteristics on a person's outcome (i.e., partner effects). These effects are estimated while controlling for the correlations between the independent variables and correlations between residual variables. Thus, actor effects are estimated controlling for partner effects, and partner effects are estimated controlling for actor effects (Cook & Kenny, 2005). All variables were standardized before analysis.

Before investigating our hypotheses cross-sectionally, we present descriptive statistics and correlations. Finally, we test the mediation of perceived partner exclusion between the perception of concealment at Time 1 and change in relational well-being at Time 2 with residualized lagged analyses (Kenny, Kashy, & Cook, 2006).

Descriptive Statistics and Correlations

Before examining the questions that are at the heart of the present article, we conducted a series of descriptive ANOVAs. To deal with the interdependence in our data, the ANOVAs considered couples as a unit of analysis.

We examined whether own and perceived concealment varied as a function of sex. To this end, we conducted a 2 (sex: husbands vs. wives) \times 2 (target: self vs. other) repeated measure of analysis with both factors being within-couple factors (all means and standard deviations are displayed in Table 1). The analysis revealed a main effect for sex, $F(1, 194) = 10.70, p < .01, \eta^2 = .052$, indicating that husbands, as compared to wives, reported greater own concealment and perceived less concealment from their partner. Moreover, in line with what the victim-perpetrator literature would predict (e.g., Kowalski et al., 2003), the analysis revealed a main effect for target, $F(1, 194) = 110.55, p < .01, \eta^2 = .363$, indicating that partners reported lower own concealment than perceived concealment. No interaction effects emerged.

For disclosure, the analysis of variance with Sex (husbands vs. wives) as within-subjects factor yielded a main effect for Sex, $F(1, 195) = 21.40, p < .01, \eta^2 = .099$. Not surprisingly, husbands perceived more disclosure from their wives than vice versa.

We conducted 2 (sex: husbands vs. wives) \times 2 (time: Time 1 vs. Time 2) ANOVAs with both factors being within-couple factors for indicators of relationship quality. For all three indicators, no significant main or interaction effects emerged, indicating that husbands and wives were equally satisfied with their marriage and reported equal levels of conflict with and trust in each other; all indicators remained constant over time.

Table 2 summarizes the correlations between all assessed variables. As can be seen, the pattern of correlations is

TABLE 1: Means of Husbands and Wives on All Assessed Variables

	Husbands		Wives		Range
	M	SD	M	SD	
Own concealment (T1)	1.70	0.63	1.54	0.59	1.00-4.33
Perceived concealment (T1)	2.03	0.57	1.89	0.56	1.00-4.00
Perceived disclosure (T1)	4.29	0.47	4.09	0.51	2.00-5.00
Adjustment (T1)	111.67	10.99	110.19	11.54	41-133
Adjustment (T2)	111.74	9.08	110.34	11.00	27-135
Conflict (T1)	1.70	0.38	1.71	0.43	1.00-2.73
Conflict (T2)	1.67	0.38	1.66	0.43	1.00-3.00
Trust (T1)	4.24	0.45	4.20	0.47	2.08-5.00
Trust (T2)	4.21	0.44	4.18	0.44	2.58-5.00
Perceived partner exclusion (T1)	1.43	0.51	1.49	0.58	1.00-4.33
Perceived partner exclusion (T2)	1.48	0.50	1.55	0.54	1.00-3.67

NOTE: T1 = Time 1; T2 = Time 2.

TABLE 2: Intercorrelations Between All Assessed Variables at Time 1 and Time 2

	1	2	3	4	5	6	7	8
1. Perceived concealment	.60**	.44**	.16**	-.33**	-.26**	.23**	-.41**	.28**
2. Own concealment	.49**	.71**	.13**	-.29**	-.27**	.14**	-.35**	.26**
3. Partner-reported concealment	.13**	.11*	.71**	-.25**	-.10*	.04	-.14**	.17**
4. Perceived disclosure	-.43**	-.28**	-.21**	.60**	.29**	-.14**	.41**	-.33**
5. Adjustment	-.36**	-.30**	-.08	.35**	.57**	-.40**	.44**	-.42**
6. Conflict	.30**	.15**	.07	-.16**	-.52**	.70**	-.40**	.40**
7. Trust	-.51**	-.37**	-.13**	.46**	.47**	-.43**	.68**	-.42**
8. Perceived partner exclusion	.34**	.37**	.16**	-.40**	-.46**	.42**	-.50**	.60**

NOTE: Correlations under the diagonal represent correlations at Time 1, correlations above the diagonal represent correlations with the Time 2 dependent variables, and correlations on the diagonal represent correlations between Time 1 and Time 2.

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

compatible with the suggestion that both own concealment and perceived concealment are negatively associated with relationship quality (i.e., marital adjustment, frequency of conflict, and trust in partner). They are also related to perceived partner exclusion. Because perceived partner exclusion is proposed to act as a mediator in the proposed link between perceived concealment and indicators of relational well-being, these correlations allow us to establish several criteria for mediation (Baron & Kenny, 1986). Specifically, the correlations show that the independent variable, perceived concealment, significantly accounts for variability in the proposed mediator, perceived partner exclusion assessed at Time 1 and Time 2 (see Table 2). Additionally, the correlations indicate that the independent variable, perceived concealment, and the mediator, perceived partner exclusion, significantly account for variability in the proposed dependent variables, marital adjustment, conflict, and trust as assessed at Time 1 and Time 2.

As can be seen in Table 2, reports of perceived concealment were correlated with partners' own concealment at Time 1, $r(385) = .13$, $p < .01$, and at Time 2,

$r(385) = .16$, $p < .01$, indicating that partners' perceptions of concealment are partly anchored in reality.

Cross-Sectional Analyses

In testing a given hypothesis, we calculated *multiple-predictor models*, regressing a criterion (i.e., adjustment, conflict, and trust) simultaneously onto two or more predictors. For these regression models, using Time 1 data, we tested the general model that the perception of concealment is negatively related to indicators of relationship quality. The APIM allows us to investigate both actor effects (e.g., Mary perceives that John conceals information from her, which decreases *her* relationship quality) and partner effects (e.g., Mary perceives that John conceals information, which decreases *his* relationship quality).

We performed ancillary analyses for all of the analyses with relationship quality as the dependent variable to examine possible main effects or interactions involving sex. Significant effects or interactions with sex were observed in 9% of the analyses (7 of 74 effects). Given that these effects were scattered and inconsistent, we dropped sex from the final models.

TABLE 3: Summary of Actor–Partner Interdependence Model Cross-Sectional Analyses for Relationship Quality

	<i>Adjustment</i>			<i>Conflict</i>			<i>Trust</i>		
	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>	β	<i>t</i>	<i>p</i>
Intercept	.001	0.02	.998	.000	0.01	.994	-.002	-0.06	.953
Perceived concealment by partner	-.179	-3.36	.001	.194	3.48	.001	-.316	-6.36	.000
Own concealment by self	-.149	-2.93	.004	.044	0.81	.415	-.131	-2.80	.005
Perceived disclosure	.224	4.54	.000	-.098	-1.89	.060	.278	6.04	.000
Own concealment by partner	.009	0.18	.853	-.018	-0.36	.716	-.030	-0.71	.479
Perceived Concealment by Partner \times Own Concealment by Partner	.004	0.11	.915	.055	1.25	.210	.028	0.75	.455

To examine whether the perception of concealment contributes to explaining variance in relationship quality above and beyond known confounds, we also included the variables (a) own concealment by self, (b) own concealment by partner, (c) perceived partner disclosure, and (d) the interaction between own concealment by partner and perceived concealment. All tables report the standardized estimates of the regression model. The results of these analyses are summarized in Table 3.

Perceived concealment, own concealment, and perceived disclosure contributed to explaining variance in marital adjustment ($R^2 = 20\%$) and trust ($R^2 = 35\%$), indicating that the perception of concealment from one's partner is negatively associated with these two indicators of relationship quality independent of perceived disclosure and own concealment. Perceived concealment also reliably explained variance in frequency of conflict ($R^2 = 9\%$). No main or interaction effects emerged for own concealment as reported by the partner. No partner effects emerged for perceived concealment. That is, the data revealed no evidence that the perception of concealment in one partner is associated with the relationship quality of the other partner. This absence of results for partner effects suggests that what happens within one person, in this case perceiving concealment, is more important to relational quality than social reality, that is, the actual partner behavior, in this case, his or her self-reported concealment.

We also performed mediation analyses to evaluate the plausibility of our claim that perceived concealment is bad for couples at least in part because it signals exclusion in the marital relationship. Again we used the APIM to estimate the associations for the dyadic couples, thereby controlling for interdependence in the data. We compared coefficients from a no-mediation model (with perceived concealment as predictor) with those in mediation models (with perceived partner exclusion and perceived concealment as predictors). The z scores are based on Sobel's test (Kenny et al., 1998). The pattern of findings clearly supports our predictions for all indicators of relationship quality (see Table 4). When compared with a no-mediation model, perceived

TABLE 4: Testing the Mediation Role of Perceived Partner Exclusion at Time 1

	<i>No-Mediation Model</i>		<i>Partial-Mediation Model</i>	
	β	β	<i>t</i>	<i>p</i>
Perceived partner exclusion on:				
Perceived concealment		.323	6.86	< .01
Adjustment on:				
Perceived concealment	-.343**	-.229	-5.01	< .01
Perceived partner exclusion		-.355	-7.29	< .01
Mediation z			4.19	< .01
Conflict on:				
Perceived concealment	.261**	.143	3.15	< .01
Perceived partner exclusion		.379	8.17	< .01
Mediation z			2.74	< .01
Trust on:				
Perceived concealment	-.498**	-.381	8.97	< .01
Perceived partner exclusion		-.355	8.33	< .01
Mediation z			7.08	< .01

NOTE: Analyses are based on data from 199 couples.

** $p < .01$.

partner exclusion mediated—albeit partially—the association of perceived concealment with marital adjustment, frequency of conflict, and trust (see Table 4).

Longitudinal Analyses

To investigate the predictive power of perceived concealment on relationship quality, we performed residualized lagged analyses (Kenny et al., 2006). We used the same models as described previously but predicted each indicator of relationship well-being at Time 2, controlling for each indicator of relationship well-being at Time 1. Given that these analyses examined effects on Time 2 criteria controlling for Time 1 levels of the criteria, they assess change over time in a given variable. These analyses are particularly challenging because perceived concealment needs to explain variance in relationship quality above and beyond stability across time, which was high ($r_s = .60$ to $.70$; see Table 2 in the diagonal).

TABLE 5: Testing the Mediation Role of Perceived Partner Exclusion With Residualized Lagged Analyses

	<i>No-Mediation Model</i>		<i>Partial-Mediation Model</i>		
	β		β	t	p
Perceived partner exclusion T2 on:					
Perceived partner exclusion T1			.571	12.89	< .01
Perceived concealment T1			.099	2.23	= .03
Adjustment T2 on:					
Adjustment T1	.493**		.368	8.20	< .01
Perceived concealment T1	-.173**		-.113	-2.63	< .01
Perceived partner exclusion T1			.044	0.88	= .38
Perceived partner exclusion T2			-.407	-8.49	< .01
Mediation z				2.16	= .03
Conflict on:					
Conflict T1	.653**		.589	14.26	< .01
Perceived concealment T1	.065 [†]		.015	0.38	= .70
Perceived partner exclusion T1			-.043	-0.88	= .38
Perceived partner exclusion T2			.282	6.27	< .01
Mediation z				2.10	= .04
Trust on:					
Trust T1	.598**		.504	10.96	< .01
Perceived concealment T1	-.158**		-.145	3.40	< .01
Perceived partner exclusion T1			.065	1.37	= .17
Perceived partner exclusion T2			-.283	-6.28	< .01
Mediation z				2.10	= .03

NOTE: Analyses are based on data from 195 couples. T1 = Time 1; T2 = Time 2.

[†] $p < .10$. ** $p < .01$.

In these residualized lagged analyses, the key effects for assessing mediation are the estimates of perceived concealment and change in perceived partner exclusion. The prerequisites for assessing mediation were met: (a) an analysis regressing Time 2 perceived partner exclusion onto perceived concealment—controlling for Time 1 perceived partner exclusion revealed a significant effect of perceived concealment ($\beta = .099$, $p = .03$); (b) an analysis regressing Time 2 indicators of relationship quality onto perceived concealment—controlling for Time 1 indicators of relationship quality revealed a significant effect of perceived concealment for adjustment and trust ($\beta = -.173$, $p < .01$ and $\beta = -.158$, $p < .01$, respectively) and marginal for frequency of conflict ($\beta = .065$, $p = .08$); and (c) an analysis regressing Time 2 relationship quality onto Time 2 perceived partner exclusion—controlling for Time 1 perceived partner exclusion revealed a significant effect of change in perceived partner exclusion (i.e., Time 2 exclusion, controlling for Time 1 exclusion: adjustment, $\beta = -.417$, $p < .01$; conflict, $\beta = .185$, $p < .01$; and trust, $\beta = -.286$, $p < .01$).

When we regressed Time 2 relationship quality onto perception of concealment and Time 1 and 2 perceived partner exclusion, controlling for Time 1 relationship quality, we found that the effect of perception of concealment was reduced for adjustment and trust, and it became nonsignificant for frequency of conflict

(see Table 5 for more details). Sobel's test revealed that change in perceived partner exclusion significantly—albeit partially—mediated the impact of perceived concealment on change in all three indicators of relational well-being (Baron & Kenny, 1986).

DISCUSSION

The present work extended our understanding of the link between perception of concealment and relationship quality by investigating how perception of concealment affects changes in relationship quality and perceived partner exclusion. Importantly, we tested one possible mechanism by which perception of concealment affects relational well-being: via its impact on perceived partner exclusion. This work thereby extends our knowledge of the role that the perception of concealment plays in shaping ongoing relationships.

Perceived concealment, perceived disclosure, and own concealment independently predicted relationship quality in a sample of newlywed couples. Higher levels of perceived concealment from the partner were consistently predictive of poorer relationship adjustment, more conflict, and less trust. Similarly, partners who reported high perceived partner exclusion showed lower adjustment, had more conflict, and trusted their partner less. Furthermore, our results suggest that the link between

perceived concealment and relationship quality is partly mediated by feeling excluded in one's relationship, although perceived concealment contributes independently and directly to relationship quality above and beyond this mediation. These results held both cross-sectionally and longitudinally, further underlining the powerful influence perceiving concealment may have on close relationships.

Perceiving Concealment in Close Relationships

We undertook this research to understand the relation between the perception of concealment and relationship quality. Replicating earlier findings (e.g., Caughlin & Golish, 2002; Finkenauer et al., 2005), our work demonstrated that marital partners who perceive their partner to conceal information from them had poor relationships with little trust and frequent conflict. And in an important extension of earlier findings, our work revealed that perceiving concealment from one's partner decreases relationship quality over time.

These findings are particularly striking in that we controlled for a number of confounds. First, they emerged when controlling for perceived disclosure (Finkenauer et al., 2002; Finkenauer & Hazam, 2000; Larson & Chastain, 1990; Smetana et al., 2006). In the present study, we assessed secrecy and concealment by asking marital partners to rate the extent to which they thought their partner concealed information from them. It remains yet to be shown whether the perception that the partner keeps a specific secret has ill effects for relationships comparable to those for perceiving concealment. To illustrate, the degree to which a specific secret is perceived to be relevant to the relationship may moderate the impact of perceiving concealment in one's partner (e.g., Mary conceals her dislike of John's music vs. her attraction to another man). Another challenge for future research remains the question of how perceived concealment and disclosure uniquely affect relationship quality. Which effects are unique to concealment and which effects are unique to disclosure? Our research suggests that part of the uniqueness of the effects of concealment may be due to the relational message of exclusion it signals to partners, as we discuss later.

Second, perceiving concealment also decreased relational quality when controlling for own concealment. Own concealment and the perception of concealment showed substantial relations, however. This finding is consistent with extant studies suggesting that partners project their own thoughts, feelings, and behavior onto others (cf. Krueger & Clement, 1997; Lemay, Clark, & Feeney, 2007) and, more specifically, with studies showing that partners who conceal information from their partner also tend to perceive concealment in their partner

(Caughlin & Golish, 2002). Extending these findings on social projection, our results suggest that the perception of concealment shows an independent link with relationship quality. They thereby converge with the literature showing that partners' unique perceptions shape, at least in part, how they see others and the world surrounding them (e.g., Baldwin, 1992; Berscheid, 1994). Also, the fact that perceived concealment explained variance above and beyond own concealment by the partner underlines the importance of subjective perceptions in interpersonal relationships. Thus, it is not so much the own concealment in a relationship that matters but rather what partners make of the perception of concealment. Our study is the first to offer an answer as to what it is that partners make of this perception, as we discuss later.

Finally, perceiving concealment also decreased relational quality above and beyond partners' own concealment. This raises the question as to how people judge partner concealment. An obvious answer would be that they base their judgments on their partner's own concealment. Although significant, the link between perceived concealment and partner-reported concealment is weak ($r = .13$). And our dyadic study found no evidence of this accuracy effect. This result is not surprising given that people who keep secrets generally do their best to prevent others from finding out about the information they try to conceal. In this sense, concealment is not what Funder (1995) calls a *good behavior*. Concealment is a behavior that people avoid displaying overtly, that they try to disguise and actively prevent others from discovering. As a result, concealment may be rated less accurately and yield lower self-other agreement than more obvious behaviors. Nevertheless, our results are clearly compatible with the suggestion that perceiving concealment represents a powerful cue that people use to infer that others exclude them (Kerr & Levine, 2008).

The Perception of Concealment as a Signal of Exclusion

Our work is unique in demonstrating that perceiving concealment increases perceived partner exclusion. Extending research on social exclusion to close relationships, our research indicates that exclusion from a close relationship partner is highly threatening. Perceiving concealment from one's partner may communicate that one is not a desirable, trusted confidant, and it elicits the feeling that one is excluded from the intimate thoughts and feelings of one's partner, which is incompatible with a trusting and loving relationship.

Our work also highlights the importance of exclusion in reducing relational quality. As compared to partners who are perceived to conceal little information, partners who are perceived to conceal information elicit feelings of

exclusion, which in turn decreases relationship quality. The exclusion that is communicated by concealment can be assumed to violate almost all features and values commonly associated with close relationships, including trust, caring, honesty, friendship, companionship, unconditional acceptance, and respect (Fehr, 1993; Fehr & Broughton, 2001). Perceived partner exclusion is incompatible with the core features of relationships, including closeness and intimacy (Reis et al., 2004), embodying the perception that a partner is distant and separate and excludes the other from his or her thoughts and feelings. This feeling not only decreases general adjustment but is detrimental to partner trust and increases conflict between partners. Consistent with this finding, perceived exclusion and rejection decrease people's willingness to engage in social situations in which they might be vulnerable to others (e.g., Murray, Derrick, Leder, & Holmes, 2008). They are less willing to make sacrifices to benefit others (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007) and are more willing to aggress against others (Twenge et al., 2001).

Why is it that the perceived concealment–relationship quality association is not completely mediated by perceived partner exclusion? Our findings are consistent with the claim that perceiving concealment may promote perceived partner exclusion because it triggers feelings of separation and estrangement. Presumably, other mechanisms shape this association. For example, perceiving concealment from one's partner may convey that one does not match one's partner's standards (Overall, Fletcher, & Simpson, 2006) and may communicate a lack of partner acceptance of the self, which may increase the risks associated with increased dependence (Murray, Holmes, & Collins, 2006). Also, perceiving concealment may reduce relational quality in part because it thwarts the need for belongingness (Baumeister & Leary, 1995). Future work should continue to explore precisely why perceiving concealment exerts such robust effects on relationship quality, extending our knowledge of the theoretical mechanisms underlying this association.

Strengths and Limitations

Before closing, we should comment on some of the most important strengths of this work. One strength is that we examine our hypotheses in a prospective design among a large sample of newlywed couples. The findings are consistent with the prediction that perceiving concealment signals exclusion for the perceiver. Our confidence in the impact of the meaning of perceived concealment on changes in relational quality is enhanced by the fact that our results not only emerged cross-sectionally but also longitudinally. Further underlining the validity of our findings, we examined possible sex effects. We replicated

key analyses including main effects and interactions for sex and observed very few significant interactions. Thus, our results do not differ for women and men in substantively meaningful ways. Finally, this work extends our understanding of the effects of perceived concealment on relationship quality by identifying an important underlying mechanism for such an association, perceived partner exclusion.

Several limitations should also be identified. First, we examined concealment in a sample of newlywed couples. The effects observed in the present sample may be mitigated by relationship duration. To illustrate, especially in the beginning of a romantic relationship, when uncertainty about the future of the relationship is still high, concealment may be frequent. Partners may fear that an open discussion of certain topics (e.g., difference in opinions, prior relationships, extrarerelationship activities) would be harmful to the relationship or destroy it. Talking about these topics would elicit negative emotions (e.g., anger, jealousy, embarrassment), increase vulnerabilities for both partners, or give rise to conflict and arguments (Baxter & Wilmot, 1985). Alternatively, concealment may emerge gradually and increase over time. The most common reason for marital distress and separation is a breakdown in communication (Safran, 1979; see also Noller & Fitzpatrick, 1990). Couples increasingly avoid talking to each other about matters that are crucial to the continuation of the relationship (e.g., feelings, thoughts, perception of the relationship).

Given the longitudinal correlational design of our study, we can be certain that relationship quality at Time 2 did not influence perceived concealment at Time 1. We cannot exclude that a third variable attenuated our effects and caused changes in both perceived concealment and relational well-being, however. In our study, we may have omitted such a variable. Nevertheless, two reasons lead us to believe that our interpretation of the results is more compelling. First, it is consistent with the existing literature (e.g., Caughlin & Golish, 2002). Second, we controlled for perceived disclosure and own concealment, which represent the most potent alternative predictors.

More research is needed to examine whether certain types of concealment are more harmful than others. To illustrate, concealing the receipt of a traffic ticket may have little implications, whereas concealing one's attraction to another person may be much more relevant to the satisfaction and trust of a spouse. Although the content of a secret may indeed mitigate the impact of concealment on the relationship, a study by Frijns and Finkenauer (2008) suggests that it may be less important than the perception of concealment by a partner as such. In their study, ill effects of secrecy for the secret keeper emerged even when controlling for the importance, personal relevance, or seriousness of the secret.

More research is necessary to tease apart the content and the secrecy. Not only do we need more research to examine what is being concealed from partners, but given the low associations between actual and perceived concealment, perhaps more importantly, we need to examine what partners suspect is being concealed from them. Both relational and individual factors should have powerful moderating effects on the way in which partner concealment reduces relationship quality. To illustrate, when people experience doubts about their relationship, they appraise irritations and conflict as more threatening (e.g., Solomon & Knobloch, 2004). We might suspect that relational uncertainty increases perceptions of partner concealment for topics associated with greater relationship threat (e.g., state of the relationship, extrarelationship activities, conflict-inducing topics; cf. Baxter & Wilmot, 1985). Moreover, people are likely to incorrectly assume that their partner's feelings and thoughts mirror their own (e.g., Thomas & Fletcher, 2003). Hence, it is possible that people project their own secrets onto their partner.

Concluding Remarks

Existing research suggests that the perception of concealment is inconsistent with close, caring, satisfied, and intimate relationships (e.g., Finkenauer et al., 2005). Our findings are compatible with these studies and support the suggestion that the perception of concealment signals social exclusion. Simply being married and living together is not equivalent to being in a close, intimate relationship. People who perceive their partner to keep secrets from them experience the concealment as a powerful signal that the partner excludes them from the relationship. The relational message of the perception of concealment from one's marital partner literally seems to signal that partners are living together apart. This message seems to question the sine qua non of trusting and loving relationships, as it is incompatible with the idea that these relationships are based on companionship, acceptance, and trust (Reis et al., 2004).

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