# Mind Your Own Business! Longitudinal Relations Between Perceived Privacy Invasion and Adolescent-Parent Conflict

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Privacy coordination between adolescents and their parents is difficult, as adolescents' changing roles require adjustments to expectations about family boundaries. Adolescents' perceptions of privacy invasion likely provoke conflicts with parents, but higher levels of conflict may also foster invasion perceptions. This longitudinal study assessed relations between privacy invasion and conflict frequency among adolescents, mothers, and fathers ($N = 309$). Bidirectional relations were present; all reports showed that invasion provoked conflict in later adolescence, but the timing and direction of conflict-to-invasion relations differed between respondents and measurement waves. The findings suggest a functional role for conflict in adolescent-parent privacy negotiations, in that it both draws attention to discrepant expectations and provides youths with a means of directly managing perceived boundary violations.

*Keywords:* privacy invasion, adolescent-parent conflict, Communication Privacy Management, Expectancy Violation-Realignment, family communication

Coordinating privacy boundaries is essential for healthy family interactions (Caughlin & Petronio, 2004; Pedersen, 1997; Petronio, 1994; Petronio, Jones, & Morr, 2004). Negotiating privacy rules in families can be complicated; people must manage both individual boundaries that delineate what each person shares with others, as well as collective boundaries in which information and space are co-owned (Petronio et al., 2004; Vangelisti & Caughlin, 1997). Although satisfactory boundary rules promote healthy sharing of information, conflicts may arise if individuals cannot coordinate discrepant privacy ideals (Burgoon et al., 1989; Caughlin & Petronio, 2004; Petronio, 1994, 2002). The present research examines longitudinal relations between adolescent perceptions of privacy invasion and the occurrence of conflicts with parents.

Privacy boundary coordination in families is important, because it affords adolescents the enhanced relationship closeness and social validation that can accompany the sharing of personal information, while also avoiding the negativity stemming from incongruent intimacy expectations. From a Communication Privacy Management perspective (CPM; Petronio, 2002), these competing goals create a dialectical tension between openness and closedness in personal relationships. Boundary coordination can be particularly complex between parents and adolescents, because family members must negotiate satisfactory rules in the context of adolescents' physiological, cognitive, and social role development (Caughlin & Petronio, 2004; Collins, Laursen, Mortensen, Luebker, & Ferreira, 1997; Parke & Sawin, 1979; Petronio, 1994).

Parents and adolescents clearly can clash over different expectations for youths' privacy boundary ownership (Collins et al., 1997; Laursen & Collins, 2004; Laursen, Coy, & Collins, 1998; Petronio, 1994; Smetna, 1989; Smetana & Asquith, 1994). As adolescents acquire more independence, possessions, and information to which only they have access, they construct and enforce privacy rules that may be discordant with parents' ideals (Petronio, 1994; Wolfe & Laufer, 1974; Youniss & Smollar, 1985). Privacy invasion experiences can occur when parents claim ownership over information or spaces that adolescents view as their own to control. Though adolescents may perceive such ownership, they usually do not have complete power to regulate parents' access (Petronio, 2002; Smetana, Metzger, Gettman, & Campione-Barr, 2006). Further, parents may not recognize that some behaviors are intrusive, because they more frequently operate under assumptions of parent-owned or (parent-adolescent) co-owned privacy boundaries. The consequences of perceived parental privacy invasion include adolescent reports of anxiety and depression (e.g., Hale, Raaijmakers, Gerlsma, & Meeus, 2007) and lower satisfaction with the child-parent relationship (Petronio, 1994). Such perceptions may also play a role in more specific disorders, such as bulimia nervosa, that stem in part from parental repudiations of offsprings' autonomy strivings (e.g., Rorty, Yager, Rossotto, & Buckwalter, 2000).

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Throughout adolescents' social development, privacy boundaries often become unclear and existing rules may cease to function effectively (Parke & Sawin, 1979; Petronio, 2002; Petronio et al., 2004). CPM theory posits that this can result in coordination asynchronies, or "boundary turbulence" (Petronio, 2002; Petronio et al., 2004), characterized by disagreements over whether and how boundaries should be modified. When such dilemmas occur, youths must sometimes take retroactive, corrective actions to retain boundary control (Caughlin & Petronio, 2004; Petronio et al., 2004). Direct confrontation appears to be one prominent means of restoring this sense of ownership (Burgoon et al., 1989; Mazur & Hubbard, 2004; Petronio, 1994). An Expectancy Violation-Realignment perspective (EV-R; Collins et al., 1997) also suggests that conflict can be a way of recognizing and renegotiating these discrepant ideals. Boundary violation and realignment likely occur in a cyclical fashion, as the rapid changes occurring during this time make predictions based on past behavior unreliable (Collins et al., 1997). Thus, privacy rules likely develop through repeated interactions, where individuals learn the limits of boundary co-ownership partly through trial and error (e.g., Mazur & Hubbard, 2004). In this sense, both parents and adolescents must adjust their expectations.

Earlier research has primarily focused on the potential for perceived invasion to provoke conflict (e.g., Burgoon et al., 1989; Mazur & Hubbard, 2004; Petronio, 1994). The reverse association may also be present, however, in that adolescent-parent conflict may also foster perceptions of privacy invasion over time. Control over privacy boundaries is strongly tied to issues of autonomy (Newell, 1995; Pedersen, 1997; Petronio et al., 2004), and conflicts with parents often are over "who controls what" in adolescents' lives (e.g., Smetana, 1989; Smetana & Asquith, 1994; Smetana et al., 2006). As adolescents mature, they tend to construct autonomy rules discordant with those of parents. Reports of conflict can be viewed as a marker of this autonomy battle, and therefore also a longitudinal predictor of privacy invasion perceptions. Laufer and Wolfe (1977) implied such a reciprocal relationship, in that "there is a perception of the loss of control or an attempt to gain control over what is retrospectively experienced as a privacy situation. At the same time, there is a potential desire for or need to exercise choice in the future" (p. 38). Further, parent-adolescent conflict can both precede and follow negative attributions about parental behavior (e.g., Grace, Kelley, & McCain, 1993; MacKinnon-Lewis, Castellino, Brody, & Fincham, 2001; MacKinnon-Lewis, Lamb, Belsky, & Baum, 1990; MacKinnon-Lewis, Lamb, Hattie, & Baradaran, 2001). Thus, there appears to be a "reciprocal relationship between incongruent perception and conflict escalation/deescalation" (Silars, Canary, & Tofoya, 2004, p. 427). Directly confronting parents over invasive behavior may also be advantageous, in some respects. For example, Petronio (1994) reported that both direct and evasive privacy management behaviors decreased adolescents' relationship satisfaction with parents, but only direct tactics appeared also to promote open communication

between parents and offspring. This suggests that, rather than conflict being a completely negative experience, it may actually be an important part of the process by which individuals realign their privacy expectations with one another (Collins et al., 1997; Petronio, 1994). In light of this prior evidence, we expected adolescents' perceptions of invasion and the frequency of conflicts with parents to predict one another, reciprocally, over time (Hypothesis 1).

Several criteria guide the construction of privacy rules between individuals, including gender-based expectations (Petronio, 2002). In this sense, traditional roles for mothers and father may result in different linkages between privacy invasion and conflict. Adolescents and mothers often have closer relationships, compared to fathers, and share more joint activities and expressions of emotion (Steinberg & Silk, 2002). Mothers also engage in more monitoring of children (Crouter, Bumpus, Davis, & McHale, 2005; Waizenhofer, Buchanan, & Jackson-Newsom, 2004). As earlier studies have linked active monitoring behaviors to adolescents' perceptions of privacy invasion (Hawk, Hale, Raaijmakers, & Meeus, 2008; Petronio, 1994), we expected stronger longitudinal associations from perceived invasion to adolescent-mother conflicts, compared to adolescent-father conflicts (Hypothesis 2a). In contrast, fathers may be less involved and more often take the role of an authority figure in interactions with children, setting and enforcing guidelines for behavior (Harris & Morgan, 1991; Steinberg & Silk, 2002). Because fathers may tend to step in when rules have been broken or need to be renegotiated (i.e., conflict situations), we predicted that associations from adolescent-father conflict to later invasion perceptions would be stronger than for mothers (Hypothesis 2b).

Finally, it seems necessary to examine family conflicts in terms of adolescents' gender, or youth-parent gender combinations (e.g., Fincham, Beach, Arias, & Brody, 1998; Laursen & Collins, 2004). Although adolescent males and females may somewhat differently perceive parental monitoring as invasive (Hawk et al., 2008), previous research does not paint a clear picture of whether youths' gender moderates the predicted associations between perceived invasion and conflict. Thus, we explored this issue with no a priori hypotheses.

In addition to advancing theories on adolescent-parent privacy negotiations, the present research holds several methodological advantages. Although most prior studies have posited linkages between privacy invasion and the occurrence of adolescent-parent conflict, they have typically utilized retrospective self-reports, cross-sectional analyses, and/or hypothetical vignettes (e.g., Burgoon et al., 1989; Mazur & Hubbard, 2004; Parke & Sawin, 1979; Petronio, 1994). Thus, it is still unclear whether these associations are artifacts of response biases in single-reporter data. It is additionally unknown whether mothers and fathers play different roles in these processes. The current investigation addressed these gaps in the literature, by using longitudinal reports from multiple informants and studying these effects within different adolescent-parent gender pairings.

## Method

### Participants

The sample was drawn from the CONflict And Management Of RElationships (CONAMORE) project, an ongoing longitudinal study on relationships of adolescents with parents and peers, in which 1,331 early-to-middle adolescents in their first year of junior high school participated (Grade 7, modal age = 12). Out of the 656 Dutch two-parent families that were invited in 2001, 401 agreed to participate in annual home-visits, and 323 of these families were randomly selected. At the first measurement point of this study (1 year after the initial selection), 309 families were still two-parent families.

Thus, 149 males and 160 females participated in the study, along their parents. Adolescents' average age at Time 1 (2002) was 13.22 years ($SD$ = .51); the modal age was 13 years (72%, $n$ = 221), with most other adolescents being 14 years old (24.6%, $n$ = 76). The age range was 11 to 15 years ($n_{Age\ 11}$ = 1, $n_{Age\ 12}$ = 9, $n_{Age\ 15}$ = 2), which can be explained by the fact that a few students either skipped a grade or were held back. Adolescents mostly identified as native Dutch (96%), with three indicating another ethnicity (e.g., Moroccan) and nine providing no information. Families were recruited from 12 high schools in urban areas of the Netherlands. Different educational tracks were represented amongst the adolescents, with approximately 37% preparing for university, 51% preparing for higher professional education, and 12% preparing for blue-collar work. Mothers' average age at initial measurement was 44.21 years ($SD$ = 4.13). Of the mothers, 53% graduated from high school, 29% graduated from middle or higher vocational/technical training, and 18% had a university degree. Average age of fathers at first measurement was 46.84 years ($SD$ = 5.15). With regard to fathers' education, 1% did not finish high school, 42% graduated from high school, 31% graduated from middle or higher level vocational/technical training, and 27% had a university degree.

Adolescents and parents of this family sample utilized for the current study ($n$ = 309) were compared to Dutch middle adolescents from two parent families who were not included in the family sample (and thus were not included in the research; $n$ = 347). There were no differences between the groups in adolescent age, $t(645)$ = −1.88, $p$ = .06 or gender ($\chi^2$ (1, $N$ = 656) = 0.74, $p$ = .39). Educational levels of fathers did not differ ($\chi^2$ (6, $N$ = 625) = 11.90, $p$ = .11), but the educational level of mothers and adolescents was higher in the family sample (mothers: $\chi^2$ (6, $N$ = 629) = 20.78, $p$ = .02; adolescents: $\chi^2$ (7, $N$ = 647) = 31.20, $p$ = .00).

### Data Collection Procedures

Trained research assistants administered the adolescent-reported demographic questionnaire and the scale measuring adolescent-parent conflict during participants' homeroom study periods. Adolescents absent on the day of school testing were not assessed. All other measures were administered and completed at participants' homes on a separate day. Informed consent was obtained from all schools, parents, and adolescents. Less than 1% of individuals refused participation. Verbal and written instructions were given before testing in both locations. For the current study, we made use of three assessments in which both the privacy invasion and conflict scales were administered (Time 1: 2002; Time 2: 2004; Time 3: 2005). Adolescents' perceptions of parental privacy invasion were not assessed in 2003.

### Measures

*Perceived privacy invasion.* A Dutch translation of the Intrusiveness subscale of the Level of Expressed Emotion (LEE) questionnaire (Hale et al., 2007), measured perceptions of parental privacy invasion. This is a 7-item adolescent-reported measure, arranged on a 4-point Likert scale (1 = *untrue*, 4 = *true*). The items are: My parents . . . Are always nosing into my business; Have to know everything about me; Are always interfering; Butt into my private matters; Often check up on me to see what I'm doing; Insist on knowing where I'm going; Don't pry into my life (*reversed*). The scale showed acceptable alpha reliability in all measurement waves (Time 1 $\alpha$ = .84; Time 2 $\alpha$ = .86; Time 3 $\alpha$ = .74). The average score of the items was calculated for each participant, at each time point.

*Adolescent-parent conflict.* Frequency of adolescent-parent conflict was assessed using a Dutch translation of Laursen's (1993) 34-item measure. Adolescents reported the frequency of conflicts in the previous week with mothers and fathers, separately, using a 5-point Likert scale (1 = *never*, 5 = *often*). Adolescents' reports on mothers showed good alpha reliability in all measurement waves (Time 1 $\alpha$ = .93; Time 2 $\alpha$ = .94; Time 3 $\alpha$ = .94), as did their reports on fathers (Time 1 $\alpha$ = .94; Time 2 $\alpha$ = .95; Time 3 $\alpha$ = .94). At Times 1 and 2, mothers and fathers completed identical scales reporting on conflict frequency with adolescents. Mothers' reports showed good alpha reliability in both measurement waves (Time 1 $\alpha$ = .93; Time 2 $\alpha$ = .94), as did fathers' reports (Time 1 $\alpha$ = .94; Time 2 $\alpha$ = .94). At the third measurement wave, 232 mother-father sets continued their participation under a new longitudinal project, whereas the remaining 77 continued in the prior project (seven mothers and fathers provided incomplete data, leaving 70 respondents). As part of this new study, these parents completed a 10-item version of the same scale. Mothers' reports showed good reliability for both the longer and shorter versions ($\alpha$ = .94 and .86, respectively), as did fathers' reports ($\alpha$ = .96 and .89, respectively). We compared scores between the 70 mothers who continued using the longer scale ($M$ = 1.72, $SD$ = .49) with a randomly selected sub-sample of 70 mothers using the shorter version ($M$ = 1.76, $SD$ = .55) and found no significant differences, $F(1, 138)$ = .25, $p$ = .62. A similar procedure was performed for fathers' reports, and the scores again did not differ between the longer version ($M$ = 1.74, $SD$ = .57) and the shorter one ($M$ = 1.90, $SD$ = .65), $F(1, 138)$ = 2.39, $p$ = .13. In addition to separate scores for mothers and

fathers, we created a score of adolescents' reports of parents as a unit by averaging the separate mean scores for mothers and fathers. A collective score for parents' reports was created in the same fashion.

## Strategy of Analyses

To test the aforementioned hypotheses, we implemented cross-lagged panel analyses (see Figure 1), using the M*plus* 4.0 program (Muthen & Muthen, 2006). Six separate analyses were conducted: First, we examined the correspondence between adolescent and parental reports by analyzing models based on adolescents combined reports of conflicts with mothers and fathers as a unit (as this fits the manner in which perceived privacy invasion was assessed in all waves), and then mothers' and fathers' combined reports of conflict with their child. Four additional models were then used to examine differences in the associations based upon parental gender; first for adolescent and maternal reports of conflict in that particular dyad, and then likewise for fathers. Multi-group analyses were then imposed upon these models to test for adolescent gender differences. We used Robust Maximum Likelihood estimation, as it gives a better estimation of standard errors when data violate the normality assumption (Satorra & Bentler, 1994). Because missing data were completely at random (Little's MCAR test: $\chi^2$ (139, $N = 309$) $= 112.88$, $p = .95$), it was justified to include respondents with missing data in model estimations (Enders & Bandalos, 2001). For each variable, a maximum of 3.24% of cases ($N = 10$) was missing, and these cases were imputed during model estimation in M*plus*.

In the cross-lagged models, we included correlations between privacy invasion and conflict at each time point, and cross-paths and stability paths between two subsequent measurement points (i.e., from T1 to T2 and from T2 to T3). T1 to T3 paths were only necessary in terms of model fit in parent-reported models. All models had good model fits, indicted by Comparative Fit Index (CFI) and Tucker and Lewis's Index (TLI) above .95 and Root Mean Square Error of Approximation (RMSEA) below .08 (Hu & Bentler, 1999). Fit statistics for the final models are in Tables 2 to 7. To examine gender differences on the cross-paths, we used multi-group analyses based on Chi-square statistics (Satorra & Bentler, 2001).

## Results

### Descriptive Statistics

Table 1 shows means and standard deviations of the variables under examination, as well as the bivariate correlations. There was moderate agreement between parents and adolescents; correlations ranged from $r = .12$ to $r = .27$ for adolescent-father conflicts, and from $r = .28$ to $r = .34$ for adolescent-mother conflicts. Conflicts with fathers seemed to correspond to conflicts with mothers (correlations between father and mother reports ranged from .34 to .38, and correlations between adolescent-reported conflict with fathers and mothers, respectively, were .82 and .86).

In the cross-lagged panel models, three types of associations are interpreted. First, Time 1 correlations reflect the concurrent associations between feelings of privacy invasion and conflict. Second, correlated change (represented by correlated residuals on T2 and T3) reflects common change in privacy invasion and conflict whilst controlling for initial and cross-lagged associations. Third, the direct effect of privacy invasion upon conflict and, vice-versa, are shown in the cross-paths. These estimates are controlled for stability in privacy invasion and conflict, and for concurrent associations, and thus represent longitudinal effects.

### Concurrent Associations and Correlated Change

As can be seen from the bivariate correlations, as well as from the T1 associations in the cross-lagged models (Tables 1 to 3), there was a positive correlation between conflict and adolescent-reported privacy invasion on all three measurement points (ranging from $r = .17$ to $r = .37$). These associations occurred regardless of whom reported on conflict (fathers, mothers, or adolescents), and for adolescent-reported conflicts with both fathers and mothers. Longitudinally, perceptions of privacy invasion and conflict frequency were also related. That is, we found a significant correlated change ranging between .07 and .22, suggesting that changes in adolescent-parent conflict accompany changes in adolescents' perceptions of parental privacy invasion. Hence, adolescents' perceptions of privacy invasion seemed to relate to the frequency of their conflicts with fathers and mothers. To address the further issue of recip-
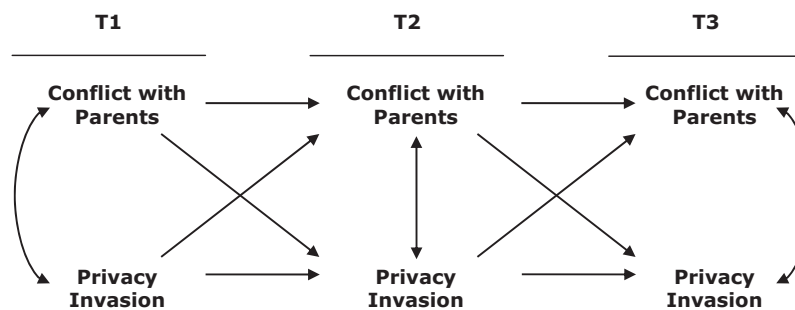


*Figure 1.*   Three-wave path model for relations between adolescent-parent conflict and perceived privacy invasion.

Table 1

*Descriptives and Correlations for Conflict as Reported by Mothers (M), Fathers (F), and Adolescents (AM and AF), and Parental Privacy Invasion as Reported by Adolescents (AP)*

| | Descriptives | | Correlations | | | | | | | | | | | | | |
| | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1: T1 Conflict (M) | 1.83 | .46 | — | | | | | | | | | | | | | |
| 2: T2 Conflict (M) | 1.81 | .51 | .65*** | — | | | | | | | | | | | | |
| 3: T3 Conflict (M) | 1.93 | .61 | .57*** | .66*** | — | | | | | | | | | | | |
| 4: T1 Conflict (F) | 1.85 | .50 | .38*** | .20*** | .17** | — | | | | | | | | | | |
| 5: T2 Conflict (F) | 1.76 | .48 | .29*** | .34*** | .28*** | .65*** | — | | | | | | | | | |
| 6: T3 Conflict (F) | 1.94 | .63 | .27*** | .25*** | .37*** | .31*** | .59*** | — | | | | | | | | |
| 7: T1 Conflict (AM) | 1.74 | .52 | .28*** | .24*** | .24*** | .33*** | .18*** | .19*** | — | | | | | | | |
| 8: T2 Conflict (AM) | 1.80 | .55 | .27*** | .34*** | .30*** | .14* | .13* | .11 | .51*** | — | | | | | | |
| 9: T3 Conflict (AM) | 1.70 | .50 | .23*** | .27*** | .29*** | .19*** | .22*** | .22*** | .46*** | .65*** | — | | | | | |
| 10: T1 Conflict (AF) | 1.64 | .51 | .21*** | .16** | .18** | .27*** | .14* | .12* | .82*** | .47*** | .44*** | — | | | | |
| 11: T2 Conflict (AF) | 1.69 | .57 | .17** | .24*** | .22*** | .16** | .12* | .15* | .47*** | .83*** | .59*** | .54*** | — | | | |
| 12: T3 Conflict (AF) | 1.61 | .51 | .21*** | .25*** | .27*** | .23*** | .22*** | .22*** | .44*** | .64*** | .86*** | .49*** | .68*** | — | | |
| 13: T1 Invasion (AP) | 2.22 | .60 | .22*** | .14* | .14* | .20*** | .11 | .15* | .33*** | .24*** | .22*** | .29*** | .19*** | .26*** | — | |
| 14: T2 Invasion (AP) | 2.11 | .64 | .08 | .24*** | .24*** | .05 | .17*** | .21*** | .21*** | .35*** | .34*** | .22*** | .30*** | .35*** | .45*** | — |
| 15: T3 Invasion (AP) | 2.15 | .68 | .12* | .27*** | .37*** | .02 | .15* | .22*** | .17** | .33*** | .36*** | .15* | .20*** | .30*** | .37*** | .73*** |

\* $p \leq .05$. \*\* $p \leq .01$. \*\*\* $p \leq .001$.

rocal influence, we examined cross-lagged paths (depicted in Figure 1, results in Tables 2–4). Results are summarized in terms of the direction of these associations, and are first discussed for adolescent-parent conflicts, followed by adolescent-father and adolescent-mother conflicts.

### Does Perceived Privacy Invasion Influence Adolescent-Parent Conflict?

Supporting our hypothesis, adolescents' T2 perceptions of parental privacy invasion (adolescent modal age = 15) were related to their conflicts with parents as a unit at T3 (adolescent modal age = 16). This effect existed both for adolescents' reports on conflict with parents as a unit, and for the combined reports of fathers and mothers on conflict with their child (see Table 2). This effect was not found between the first two measurements, however.

When considering this cross-lagged effect for conflicts with fathers and mothers separately, the same picture emerged, regardless of whether parents or adolescents reported on conflict (see Tables 3 and 4). Hence, in line with hypotheses, it seems that adolescents' perceptions of privacy invasion affected future conflicts with parents.

### Does Adolescent-Parent Conflict Influence Perceived Privacy Invasion?

In addition to an effect of privacy invasion on later conflict with parents, the reverse association was also present. This effect was found from T1 conflict (adolescent modal age = 13) to T2 invasion (adolescent modal age = 15) in adolescents' reports of conflict with parents as a unit, and from T2 conflict to T3 invasion for parents' combined reports of conflict (Table 2). The timing of the effect that conflict had on perceptions of privacy invasion thus seemed to depend on whether we considered adolescents' or parents' reports of conflict.

By looking at adolescent-mother and adolescent-father conflicts separately (Tables 3 and 4), this different timing became more understandable. Concerning adolescents' conflicts with mothers, both respondents' reports of T2 conflict affected perceived invasion at T3. Conflict with fathers at T1 related to privacy invasion 2 years later, but a T2-T3 effect was not significant. Given the pattern of significant associations for adolescents' reports on fathers, we conducted a post hoc Sobel's test to examine whether T2 invasion mediated the link from T1 to T3 adolescent-reported conflict with fathers. This test was significant ($Z = 2.15$, $p = .03$), suggesting the presence of mediation. Thus, it seemed that adolescents' conflicts with both mothers and fathers influenced later perceptions of parental privacy invasion, but the timing of this effect depended on whether it concerned adolescent-father or adolescent-mother processes.

### Adolescent Gender Differences

Using multi-group analyses, we tested gender differences in cross-lagged effects for all models. One gender difference emerged from these comparisons: The path leading from

Table 2
*Cross-Lagged Panel Model for Adolescents and Parents*

| Parameter estimate | Adolescent on parents (combined) | | | | | | Parents (combined) on adolescent | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time 1–2 | | | Time 2–3 | | | Time 1–2 | | | Time 2–3 | | |
| | *B* | *SE* | β | *B* | *SE* | β | *B* | *SE* | β | *B* | *SE* | β |
| Stability paths: | | | | | | | | | | | | |
| Conflict | .57 | .06 | .54*** | .58 | .05 | .64*** | .68 | .05 | .66*** | .63 | .07 | .50*** |
| Privacy invasion | .43 | .06 | .40*** | .75 | .05 | .72*** | .49 | .05 | .46*** | .74 | .05 | .71*** |
| Cross-lagged paths: | | | | | | | | | | | | |
| Privacy invasion → Conflict | .03 | .04 | .03 | .11 | .03 | .15*** | −.01 | .03 | −.02 | .13 | .04 | .16** |
| Conflict → Privacy invasion | .15 | .07 | .11* | .06 | .06 | .04 | −.06 | .08 | −.04 | .15 | .07 | .09* |
| Correlations: | | | | | | | | | | | | |
| T1 | .11 | .02 | .37*** | | | | .06 | .01 | .26*** | | | |
| T2 | .07 | .01 | .21*** | | | | .05 | .01 | .21*** | | | |
| T3 | .03 | .01 | .08** | | | | .04 | .01 | .12*** | | | |
| Model fit (CFI; TLI; RMSEA) | .99 | .97 | .07 | | | | 1.00 | .99 | .04 | | | |

*Note.* T1-T3 stability was added to parents' reports on conflict ($B = .28$, $SE = .07$, $β = .22$, $p < .01$).
The T1-T2 time interval was 1 year and the T2-T3 interval was 2 years.
* $p ≤ .05$.  ** $p ≤ .01$.  *** $p ≤ .001$.

combined parental reports of conflict at T2 to privacy invasion at T3 was significantly stronger for males (β = .20) than for females (β = .04). When we examined this result in more detail for the models of mother- and father-reported conflicts, we found no adolescent gender differences on any of the cross-lagged paths, or between any points in time. Generally, this suggests that the effects of adolescents' perceptions of parental invasion upon conflict frequency, and vice-versa, were equivalent for adolescent males and females.

## Discussion

This study examined links between adolescent perceptions of parental privacy invasion and the frequency of conflicts with mothers and fathers. The fluidity of family privacy boundaries can result in discrepant privacy ideals, leading to situations in which discordant expectations must be addressed and renegotiated (Collins et al., 1997; Petro-

nio, 1994; Petronio et al., 2004). Both the CPM and EV-R perspectives would posit that (a) each person constructs expectations for ideal family privacy boundaries, which are tied to notions of autonomy, (b) family members' separate ideals may be misaligned and require negotiation, (c) interpersonal conflict can be a means of both recognizing and resolving discordant privacy expectations, and (d) cycles of privacy violation and boundary renegotiation can occur repeatedly in close relationships, because expectations must be routinely realigned.

Adolescents' perceptions of privacy invasion predicted more frequent conflict with parents. This association was present for all respondents, but only between the second and third measurement points, when the majority of the sample was in mid-adolescence (from 15 to 16 years). As adolescents gain more independence and social capital within the family, perceived invasion may predict overt conflict more strongly. The 2-year gap between the first two measure-

Table 3
*Cross-Lagged Panel Model for Adolescents and Fathers*

| Parameter estimate | Adolescent on father | | | | | | Father on adolescent | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time 1–2 | | | Time 2–3 | | | Time 1–2 | | | Time 2–3 | | |
| | *B* | *SE* | β | *B* | *SE* | β | *B* | *SE* | β | *B* | *SE* | β |
| Stability paths: | | | | | | | | | | | | |
| Conflict | .57 | .06 | .53*** | .61 | .06 | .67*** | .64 | .05 | .66*** | .55 | .08 | .42*** |
| Privacy invasion | .47 | .05 | .44*** | .74 | .04 | .72*** | .49 | .06 | .46*** | .77 | .04 | .72*** |
| Cross-lagged paths: | | | | | | | | | | | | |
| Privacy invasion → Conflict | .01 | .05 | .01 | .14 | .03 | .18*** | −.03 | .04 | −.03 | .14 | .05 | .14** |
| Conflict → Privacy invasion | .17 | .07 | .14* | −.01 | .05 | −.10 | −.05 | .06 | −.04 | .03 | .06 | .03 |
| Correlations: | | | | | | | | | | | | |
| T1 | .10 | .02 | .33*** | | | | .06 | .02 | .20*** | | | |
| T2 | .07 | .02 | .18*** | | | | .04 | .01 | .14*** | | | |
| T3 | .02 | .01 | .07* | | | | .03 | .01 | .07* | | | |
| Model fit (CFI; TLI; RMSEA) | .98 | .94 | .09 | | | | .99 | .96 | .07 | | | |

*Note.* T1-T3 stability was added to fathers' reports on conflict ($B = .30$, $SE = .07$, $β = .24$, $p < .01$).
The T1-T2 time interval was 1 year and the T2-T3 interval was 2 years.
* $p ≤ .05$.  ** $p ≤ .01$.  *** $p ≤ .001$.

Table 4
*Cross-Lagged Panel Model for Adolescents and Mothers*

| Parameter estimate | Adolescent on mother | | | | | | Mother on adolescent | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time 1–2 | | | Time 2–3 | | | Time 1–2 | | | Time 2–3 | | |
| | B | SE | β | B | SE | β | B | SE | β | B | SE | β |
| Stability paths: | | | | | | | | | | | | |
| Conflict | .51 | .05 | .50*** | .57 | .05 | .64*** | .72 | .04 | .65*** | .58 | .08 | .49*** |
| Privacy invasion | .45 | .05 | .43*** | .75 | .04 | .72*** | .48 | .05 | .46*** | .74 | .05 | .71*** |
| Cross-lagged paths: | | | | | | | | | | | | |
| Privacy invasion → Conflict | .07 | .04 | .07 | .09 | .04 | .11* | −.00 | .04 | −.00 | .12 | .05 | .13** |
| Conflict → Privacy invasion | .09 | .07 | .08 | .12 | .05 | .10* | −.03 | .07 | −.02 | .15 | .05 | .11** |
| Correlations: | | | | | | | | | | | | |
| T1 | .12 | .02 | .37*** | | | | .06 | .02 | .22*** | | | |
| T2 | .08 | .02 | .22*** | | | | .06 | .01 | .19*** | | | |
| T3 | .03 | .01 | .09** | | | | .05 | .01 | .13*** | | | |
| Model fit (CFI; TLI; RMSEA) | .99 | .96 | .07 | | | | 1.00 | 1.00 | .00 | | | |

*Note.* T1-T3 stability was added to mothers' reports on conflict ($B = .31$, $SE = .08$, $\beta = .24$, $p < .01$).
The T1-T2 time interval was 1 year and the T2-T3 interval was 2 years.
* $p \leq .05$. ** $p \leq .01$. *** $p \leq .001$.

ments is problematic, however; it could be that effects of perceived invasion upon conflict are more short-lived than the reverse association. The results may thus be a consequence of the timing of the data collection. It is not surprising, however, that this relation emerges as youths continue to further narrow the range of life issues over which they grant parents legitimate control (e.g., Smetana, 1989; Smetana & Asquith, 1994). The homogeneity of our sample unfortunately prevented a statistical examination of age differences. Further research including early-, mid-, and late-adolescents could provide additional support to the notion that adolescents' use of conflict as a privacy management strategy increases with age.

It seems likely that adolescents' own, increasing sense of empowerment contributes to their willingness to deal directly with privacy boundary turbulence. Individuals are likely to choose nonaggressive privacy management strategies when they anticipate negative outcomes of their attempts to regain control (Buslig & Burgoon, 2000). This interpretation fits well with the clinical literature on ambiguous or overly fluid family privacy boundaries. The potential for parental invasion to prompt adolescent secrecy (e.g., Petronio, 1994; Rorty, Yager, & Rossotto, 1993; Rorty et al., 2000) is problematic with regard to clinical symptoms going unnoticed. Further, in disorders such as bulimia nervosa, symptoms may include secretive behaviors that individuals subjectively link with desires for greater privacy and control (e.g., Rorty et al., 1993, 2000). Confrontational privacy management strategies, while often being momentarily unpleasant, offer the benefits of restoring boundary ownership while also being rather definitive messages that others cannot easily misinterpret (e.g., Mazur & Hubbard, 2004; Petronio, 1994). The reverse can be said for adolescents' secretive or evasive behaviors, which offer opportunities to avoid uncomfortable encounters but likely at the price of continued invasion episodes. Research on family interactions would benefit from a more thorough comparison of these two privacy management options, especially in

terms of their precursors and the effects upon communication patterns, relationship satisfaction, and adolescents' clinical symptoms (but see Hale et al., 2007; Mazur & Hubbard, 2004, and Petronio, 1994 for correlational data). In summary, we found the expected longitudinal link from privacy invasion to conflict frequency, independent of the particular dyad or informant being considered.

Results also showed that adolescent-parent conflicts predict perceptions of invasion. Notably, however, this link depended upon the informant and measurement wave. The most notable discrepancy concerned adolescent-father disagreement about the conflict-to-invasion association between the first two waves. The lack of paternal confirmation for this relationship is consistent with prior longitudinal research showing that fathers' negative behaviors predict offspring's later negative attributions, but not vice-versa (MacKinnon-Lewis et al., 2001). This raises questions about whether adolescents' ongoing attributional biases play a role in perceptions of privacy invasion, and the extent to which such interpretations "may represent reasonable inferences from the history of their interactions with [parents]" (MacKinnon-Lewis et al., 2001, p. 483). The fact that this path alone showed adolescent gender differences (based on combined parental reports) suggests that males, in particular, are prone to react to conflict episodes in adolescence with privacy invasion attributions. This is in line with traditional gender norms that include stronger social expectations for male adolescent autonomy, compared to females. Earlier research has also found that males are more prone to interpreting active parental monitoring strategies as invasive of privacy (Hawk et al., 2008). Taken together, the proposed link from conflict to invasion was verified by the reports of multiple informants, but findings were less consistent than for the invasion-to-conflict association.

Our hypotheses concerning parental gender were not supported by the data. There were interesting differences between parents in the timing of these associations, however, with the conflict-to-invasion link occurring earlier for fa-

thers than for mothers. Closer relationships with mothers, compared to fathers (e.g., Harris & Morgan, 1991; Steinberg & Silk, 2002), could delay the influence of conflict upon later invasion perceptions. These closer relationships may create more permeable adolescent privacy boundaries, in that youths voluntarily grant mothers more access and the range of situations that they interpret as privacy-invasive is more limited. This earlier conflict-to-invasion relation for adolescents and fathers can also be interpreted in light of the traditional rule-enforcer role that fathers play. In accordance with this social role, fathers might focus more strongly than mothers upon setting limits on early adolescents' autonomy. Through the conflicts that arise during periods of active boundary renegotiation, fathers may thus contribute to adolescents' invasion perceptions before mothers, but this link also relaxes earlier on. Further research should aim to discern whether this difference in timing is attributable to one or more of these explanations. Additional, later measurement points demonstrating a consequent subsiding of the mother-adolescent association would clarify the ages at which conflicts affect subsequent invasion perceptions and the duration of these effects.

In short, the existence of bidirectional effects between perceived privacy invasion and conflict frequency was confirmed based on both adolescent, mother, and combined parental reports. This reciprocity was demonstrated by the reports of at least one informant for both the adolescent-father and adolescent-mother dyads, but the pattern of effects differed between parents. For mothers, the two paths occurred simultaneously, between the last two measurement points. For fathers, however, perceived privacy invasion mediated adolescent-reported conflict between the first and third measurement points. This mediating role of invasion was unexpected, and deserves more considered attention in future research.

The bolstering of the theoretical predictions by second-reporter conflict data was an advantage of this study. Future research on privacy invasion should continue the aim of assessing parents' perspectives, as boundary constructions and renegotiations are influenced by all individuals involved (Petronio, 2002). Correlations between adolescent and parent reports of conflict, while all significant, were modest in size (ranging from .34 to .12), particularly between adolescents and fathers at the second time point. Such results are consistent with prior research reporting greater parent-child divergences in perceptions of conflict as youths approach mid-adolescence, with the lowest congruencies appearing between youth and father reports (Galambos & Alameida, 1992). The aforementioned closer relationships that mothers have with children throughout adolescence can likely account for the stronger report congruencies between adolescents and mothers. The generally modest correlation strengths are also partly attributable to aspects of the data collection. First, our measure assessed respondents' perceptions of conflict frequency in the previous week (from *never* to *often*). This measure may be affected by generational differences in sensitivity to conflict. Low-intensity disagreements that are characteristic of normative adolescent-parent relationships may actually foster stronger negative feelings

among parents than among adolescents (Steinberg, 2001). Thus, a couple of conflicts in a week may feel like a lot from a parent's perspective, and less so from an adolescent's; this interpretation is supported by the somewhat higher mean conflict scores for parents across measurement points. Second, responses concerned the frequency of conflict in the previous week, but adolescent and parental reports were collected at separate venues and in separate weeks. Assessing adolescents' perceptions of conflict and invasion at separate venues and times is also a strength of the study, however, as this approach reduces the potential for common method variance or particular environments to consistently influence the results.

This research underscores the utility of combining the CPM perspective with other theories, such as EV-R, that more specifically address the changing nature of adolescent-parent relations (e.g., Collins et al., 1997). However, the unequal distances between measurement waves beg the question of whether the strength and timing of the longitudinal associations are more attributable to the theoretical processes we propose, or to the particular schedule of data collection (Delsing, Oud, & De Bruyn, 2005). Thus, it is difficult to conjecture upon the particular trajectories of these associations, and future research should address this caveat. Finally, prior research has demonstrated that particular types of invasion may be linked to certain boundary management strategies (e.g., Burgoon et al., 1989; Mazur & Hubbard, 2004; Petronio, 1994). Thus, future longitudinal research should examine parents' invasive behaviors with more specificity, as well as the particular conflict issues that promote invasion perceptions.

Although the effects reported here were relatively modest, this can be the result of the cross-lagged design (see for a discussion Raaijmakers, Engels, & Van Hoof, 2005). Longer time intervals also generally tend to weaken associations. In this sense, the fact that such influences were still present over fairly extensive periods of adolescents' formative development implies that there may be more powerful, immediate effects that would warrant further attention. Examining these relationships at closer intervals, whereas preserving the longitudinal nature of the research, would be highly informative. It would be especially important to examine early adolescent processes in more detail, as the current study had a 2-year gap in this period. Future investigations should also include in-depth interviews or experimental studies with longitudinal components, to more accurately identify the mechanisms behind adolescents' privacy-related attributions and behaviors. Such techniques would advance theories on reactions to privacy violations, as well as other dynamic perspectives that posit cycles of disorganization and reorganization to be central to social development (e.g., Van Geert, 1994).

It is important for parents, adolescents, and professionals assisting families to keep in mind that conflict over privacy should not be viewed as entirely negative. Instead, it likely plays an important role in openly negotiating changing social expectations for adolescents (Collins et al., 1997; Petronio, 1994; Smetana & Asquith, 1994). As the present results demonstrate, these intergenerational conflicts may

also be a means by which discordant expectations are initially brought to light (Collins et al., 1997; Petronio, 2002), and thus may function to prompt developmentally appropriate renegotiations of adolescent-parent privacy rules. In conclusion, the findings suggest a functional role for conflict in constructing family privacy boundaries, in that it both draws attention to discrepant expectations and provides youths with a means of directly managing perceived parental intrusions.

## References

Burgoon, J. K., Parrott, R., LePoire, B. A., Kelley, D. L., Walther, J. B., & Perry, D. (1989). Maintaining and restoring privacy through communication in different types of relationships. *Journal of Social and Personal Relationships, 6,* 131–158.

Buslig, A. L. S., & Burgoon, J. K. (2000). Aggressiveness in privacy-seeking behavior. In S. Petronio (Ed.), *Balancing the secrets of private disclosures* (pp. 181–196). Mahwah, NJ: Lawrence Erlbaum.

Caughlin, J. P., & Petronio, S. (2004). Privacy in families. In A. L. Vangelisti (Ed.), *Handbook of family communication* (pp. 379–412). Mahwah, NJ: Lawrence Erlbaum.

Collins, W. A., Laursen, B., Mortensen, N., Luebker, C., & Ferreira, M. (1997). Conflict processes and transitions in parent and peer relationships: Implications for autonomy and regulation. *Journal of Adolescent Research, 12,* 178–198.

Crouter, A. C., Bumpus, M. F., Davis, K. D., & McHale, S. M. (2005). How do parents learn about adolescents' experiences? Implications for parental knowledge and adolescent risky behavior. *Child Development, 76,* 869–882.

Delsing, M. J. M. H., Oud, J. H. L., & De Bruyn, E. E. J. (2005). Assessment of bidirectional influences between family relationships and adolescent problem behavior: Discrete vs. continuous time analysis. *European Journal of Psychological Assessment, 21,* 226–231.

Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling, 8,* 430–457.

Fincham, F. D., Beach, S. R. H., Arias, I., & Brody, G. H. (1998). Children's attributions in the family: The children's relationship attribution measure. *Journal of Family Psychology, 12,* 481–493.

Galambos, N. L., & Alameida, D. M. (1992). Does parent-adolescent conflict increase in early adolescence? *Journal of Marriage and the Family, 54,* 737–747.

Grace, N. C., Kelley, M. L., & McCain, A. P. (1993). Attribution processes in mother-adolescent conflict. *Journal of Abnormal Child Psychology, 21,* 199–211.

Hale, W. W., III, Raaijmakers, Q. A. W., Gerlsma, C., & Meeus, W. (2007). Does the level of expressed emotion (LEE) questionnaire have the same factor structure for adolescents as it has for adults? *Journal of Social Psychiatry and Psychiatric Epidemiology, 42,* 215–220.

Harris, K. M., & Morgan, S. P. (1991). Fathers, sons, and daughters: Differential paternal involvement in parenting. *Journal of Marriage and the Family, 53,* 531–544.

Hawk, S. T., Hale, W. W., III, Raaijmakers, Q. A. W., & Meeus, W. (2008). Adolescents' perceptions of privacy invasion in reaction to parental solicitation and control. *Journal of Early Adolescence, 28,* 583–608.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6,* 1–55.

Laufer, R. S., & Wolfe, M. (1977). Privacy as a concept and a social issue: A multidimensional developmental theory. *Journal of Social Issues, 33,* 22–41.

Laursen, B. (1993). The perceived impact of conflict on adolescent relationships. *Merrill Palmer Quarterly, 39,* 535–550.

Laursen, B., & Collins, W. A. (2004). Parent-child communication during adolescence. In A. L. Vangelisti (Ed.), *Handbook of family communication* (pp. 333–348). Mahwah, NJ: Lawrence Erlbaum.

Laursen, B., Coy, K. C., & Collins, W. A. (1998). Reconsidering changes in parent-child conflict across adolescence: A meta-analysis. *Child Development, 69,* 817–832.

MacKinnon-Lewis, C., Castellino, D. R., Brody, G. H., & Fincham, F. D. (2001). A longitudinal examination of the associations between fathers' and children's attributions and negative interactions. *Social Development, 10,* 473–487.

MacKinnon-Lewis, C., Lamb, M. E., Belsky, J., & Baum, C. (1990). A cognitive-affective model of mother-child aggression. *Development and Psychopathology, 2,* 1–13.

MacKinnon-Lewis, C., Lamb, M. E., Hattie, J., & Baradaran, L. P. (2001). A longitudinal examination of the associations between mothers' and sons' attributions and their aggression. *Development and Psychopathology, 13,* 69–81.

Mazur, M. A., & Hubbard, A. S. E. (2004). Is there something I should know? Topic avoidant responses in parent-adolescent communication. *Communication Reports, 17,* 27–37.

Muthen, B. O., & Muthen, L. K. (2006). *Mplus user's guide* (4th ed.) Los Angeles, CA: Muthen & Muthen.

Newell, P. B. (1995). Perspectives on privacy. *Journal of Environmental Psychology, 15,* 87–104.

Parke, R. D., & Sawin, D. B. (1979). Children's privacy in the home: Developmental, ecological, and child-rearing determinants. *Environment and Behavior, 11,* 87–104.

Pedersen, D. M. (1997). Psychological functions of privacy. *Journal of Environmental Psychology, 17,* 147–156.

Petronio, S. (1994). Privacy binds in family interactions: The case of parental privacy invasion. In W. R. E. Cupach & B. H. E. Spitzberg (Eds.), *The dark side of interpersonal communication* (pp. 241–257). Hillsdale, NJ: Lawrence Erlbaum Assoc.

Petronio, S. (2002). *Boundaries of privacy: Dialectics of disclosure.* SUNY series in communication studies. Albany, NY: SUNY Press.

Petronio, S., Jones, S., & Morr, M. C. (2004). Family privacy dilemmas: Managing communication boundaries within family groups. In L. R. Frey (Ed.), *Group communication in context: Studies of bona fide groups* (pp. 23–55). Mahwah, NJ: Lawrence Erlbaum.

Raaijmakers, Q. A. W., Engels, R. C. M. E., & Van Hoof, A. (2005). Delinquency and moral reasoning in adolescence and young adulthood. *International Journal of Behavioral Development, 29,* 247–258.

Rorty, M., Yager, J., & Rossotto, E. (1993). Why and how do women recover from bulimia nervosa? The subjective appraisals of forty women recovered for a year or more. *International Journal of Eating Disorders, 14,* 249–260.

Rorty, M., Yager, J., Rossotto, E., & Buckwalter, G. (2000). Parental intrusiveness in adolescence recalled by women with a history of bulimia nervosa and comparison women. *International Journal of Eating Disorders, 28,* 202–208.

Satorra, A., & Bentler, P. M. (1994). Corrections to test statistics and standard errors in covariance structure analysis. In A. Von Eye & C. C. Clogg (Eds.), *Latent variables analysis: Applications for developmental research* (pp. 399–419). Thousand Oaks, CA: Sage Publications.

Silars, A., Canary, D. J., & Tafoya, M. (2004). Communication, conflict, and the quality of family relationships. In A. L. Vangelisti (Ed.), *Handbook of family communication* (pp. 413–446). Mahwah, NJ: Lawrence Erlbaum.

Smetana, J. G. (1989). Adolescents' and parents' reasoning about actual family conflict. *Child Development, 60,* 1052–1067.

Smetana, J. G., & Asquith, P. (1994). Adolescents' and parents' conceptions of parental authority and personal autonomy. *Child Development, 65,* 1147–1162.

Smetana, J. G., Metzger, A., Gettman, D. C., & Campione-Barr, N. (2006). Disclosure and secrecy in adolescent-parent relationships. *Child Development, 77,* 201–217.

Steinberg, L. (2001). We know some things: Parent-adolescent in retrospect and prospect. *Journal of Research on Adolescence, 11,* 1–19.

Steinberg, L., & Silk, J. S. (2002). Parenting adolescents. In M. H. Bornstein (Ed.), *Handbook of parenting, Vol. 1: Children and parenting* (pp. 103–133). Mahwah, NJ: Lawrence Erlbaum.

Van Geert, P. (1994). *Dynamic systems of development: Change between complexity and chaos.* Hertfordshire, England: Harvester Wheatsheaf.

Vangelisti, A. L., & Caughlin, J. P. (1997). Revealing family secrets: The influence of topic, function, and relationships. *Journal of Social and Personal Relationships, 14,* 679–705.

Waizenhofer, R. N., Buchanan, C. M., & Jackson-Newsom, J. (2004). Mothers' and fathers' knowledge of adolescents' daily activities: Its sources and its links with adolescent adjustment. *Journal of Family Psychology, 18,* 348–360.

Wolfe, M., & Laufer, R. (1974). The concept of privacy in childhood and adolescence. In S. Margulis (Ed.), *Privacy* (pp. 29–54). Stony Brook, NY: Environmental Design Research.

Youniss, J., & Smollar, J. (1985). *Adolescent relations with mothers, fathers, and friends.* Chicago, IL: University of Chicago Press.