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Adolescent Perceptions of Parental Privacy Invasion and Adolescent Secrecy: An Illustration of Simpson's Paradox

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Abstract

Adolescents' secrecy is intertwined with perception of parents' behaviors as acts of privacy invasion. It is currently untested, however, how this transactional process operates at the within-person level – where these causal processes take place. Dutch adolescents (*n* =244, mean age = 13.84, 38.50% boys) reported three times on perceived parental privacy invasion and secrecy. Cross-lagged panel models confirmed earlier findings. Privacy invasion predicted increased secrecy, but a reverse effect was found from increased secrecy to increased privacy invasion. Controlling for confounding positive group-level associations with a novel RICLM panel model, negative within-person associations were found. *Higher* levels of secrecy predicted *lower* levels of privacy invasive behaviors at the within-person level. These opposing findings within- vs between-persons illustrate a Simpson's paradox.

Keywords: privacy invasion, adolescent secrecy, parenting, within-person effects, random intercept cross lagged panel model

Adolescent Perceptions of Parental Privacy Invasion and Adolescent Secrecy: An Illustration of Simpson's Paradox

As adolescents mature, parent-child relationships need to be realigned to meet the adolescent's increasing need for independence and autonomy (Blos, 1967). Balancing autonomy and privacy can be challenging for parents and adolescents, but it is essential for healthy family interactions (Petronio, 2010). While parents often believe they have a legitimate right to know about the personal life of their child (Kuhn & Laird, 2011; Rote & Smetana, 2015), adolescents may disagree, and respond by trying to protect their own privacy boundaries. One possible response is keeping secrets.

This paper aimed to obtain a more in-depth understanding of the transactional linkages between parental privacy invasion and adolescent secrecy. Specifically, it is among the first studies to address increasing methodological concerns that cross-lagged panel models may result in theoretically uninterpretable estimates that do not represent actual within-person relations over time (Berry & Willoughby, 2016; Hamaker, Kuiper, & Grasman, 2015; Keijsers, 2015; Meeus, 2016; Ormel, Rijsdijk, Sullivan, Van Sonderen, & Kempen, 2002). We therefore applied a novel data-analytical method in structural equation modeling, the Random-Intercept Cross-Lagged Panel Model, to specifically test transactional processes between adolescent secrecy and perceived parental privacy invasion at the within-person level – the level where causal processes between parents and children take place.

Adolescent Secrecy

During adolescence, youths increasingly keep secrets from parents regarding their routine activities (Keijsers, 2015; Keijsers & Poulin, 2013) and feelings (Finkenauer, Engels, & Meeus, 2002) which may both have positive and negative sides (for a detailed discussion of routine vs self-disclosure, please see Tilton-Weaver, Marshall, and Darling (2014)). On the one hand, secrecy may help to promote adolescent autonomy from parents (Petronio, 2002), and empirical studies indeed link secrecy with a feeling of emotional autonomy (Finkenauer et al., 2002). On the other hand, according to the preoccupation model of secrecy (Wegner & Lane, 1995), emotional

suppression may result in obsessive preoccupation with the secret, which may ultimately cause psychopathology. This association may not only hold for secrecy that is related to feelings and emotions. In the monitoring literature (Keijsers & Laird, 2010; Racz & McMahon, 2011; Willoughby & Hamza, 2011), secrecy regarding routine activities has also been shown to be linked with internalizing and externalizing problems, and decreased feelings of self-control (Frijns, Keijsers, Branje, & Meeus, 2010; Laird & Marrero, 2010). Although such secrecy regarding routine activities may be part of a healthy individuation process, it may also be a risk factor for maladjustment.

Privacy Invasion and Secrecy: A Transactional Process at the Within-Person Level

One possible reason that adolescent secrecy increases is that children increasingly perceive their parents' involvement (e.g., solicitation) as an act of privacy invasion. In the theory of Communication Privacy Management (CPM) (Petronio, 2002), such an experienced loss of desired control over one's own private territory can motivate adolescents to reclaim this control either by confrontation or by subversive technique. Indeed, empirical work with cross-lagged panel models indicates that feelings of privacy invasion precede an increase in adolescent secrecy regarding routine activities, and decreased parental knowledge regarding such activities in turn (Hawk et al., 2013).

Theoretically, however, transactional effects are plausible (Loulis & Kuczynski, 1997). It has been suggested, for instance, that adolescents secrecy can also help to regulate the negative effects of privacy invasive parenting (Smetana, Metzger, Gettman, & Campione-Barr, 2006) and may promote emotional autonomy (Finkenauer et al., 2002; Petronio, 2002). If indeed such self-regulatory transactional dynamics between parents and their child exist, and secrecy may both result from privacy invasion, but also reduce privacy invasion, paths from parents-to-children could be positive (e.g., high privacy invasion resulting in high secrecy) and paths from children-to-parents could be negative (e.g., high secrecy resulting in low privacy invasion).

Thus far, empirical research, using cross-lagged panel models, predominantly suggests that it is privacy invasion of parents that drives increases in adolescent secrecy regarding routine activities (Hawk et al., 2013). However, parenting can be conceptualized both in terms of a stable parenting style (i.e., between-person processes) and in terms of more changeable practices (i.e., within-person processes; Darling & Steinberg, 1993). Practices are

part of transactional processes between parents and their own children, and occur at the within-person level (Loulis & Kuczynski, 1997). That is, practices of Ann's parents affect Ann, Karen's parents affect Karen, and Peter's parents affect Peter, etc. How children respond to their parent's acts of privacy invasion, and how adolescent secrecy may affect (the perception of) their parents, is thus a question regarding a transactional within-person processes. For instance, is the same child more secretive in or following periods when his or her parents are perceived more intrusive? This level of analysis is, to the best of our knowledge, yet to be examined.

Methodological Concerns

In line with methodological developments in psychology, cross-lagged panel models are often employed to disentangle parent-to-child from child-to-parent effects. Although these models have great potential to test for directionality of effects, they assume that between-person variation at the group-level (or, more precisely, the aggregate of between-person and within-person variation) will contain information regarding transactional within-person processes at the individual level. Increasingly, such cross-level inferences in which group-level correlations are used for making individual-level inferences, are being critiqued (Besemer, Loeber, Hinshaw, & Pardini, 2016; Hamaker et al., 2015; Keijsers, 2015; Meeus, 2016). In fact, the two levels may not be linked.

In an extreme case, the between-person correlation at the group-level, may oppose the within-person correlation at the individual-level. This may give rise to an ecological interpretation fallacy known as a Simpson's Paradox (Kievit, Frankenhuis, Waldorp, & Borsboom, 2013). For instance, it is likely that stable levels of privacy invasion correlate *positively* with stable traits in secrecy at the at the group level (i.e., individuals who experience more privacy invasion, also keep more secrets; a between-person covariation). However, at the same time, privacy invasion may correlate *negatively* with secrecy at the individual level (in or following periods when adolescents keep more secrets, their parents are perceived less privacy invasive; a within-person process; illustrated in Figure 1). Aggregating both sources of variation in a cross-lagged panel model, then, could seriously distort the estimates for within-person processes (Hamaker et al., 2015) and lead to ecological fallacies in the interpretation of the results (Keijsers, 2015).

This methodological concern is not without consequence. For parenting research to inform practice, and to know what parents can do to help their own adolescent thrive in life, the transactional processes that drive developmental change needs to be understood and isolated (Keijsers et al., 2016). However, empirical research on the within-person transactional processes of parenting is still scarce (Aunola, Tolvanen, Viljaranta, & Nurmi, 2013; Besemer et al., 2016; Hamaker et al., 2015; Keijsers, 2015; Keijsers et al., 2016; Rekker, Keijsers, Branje, Koot, & Meeus, 2017). These few studies tapping into the individual level, moreover, suggest that splitting within- from between-person effects may lead to better estimates, different theoretical conclusions regarding the transactional effects between parents and children, and different practical implications for parents and practitioners.

Specifically, two studies hint that Simpson's paradoxes may be present in the parenting literature (Aunola et al., 2013; Rekker et al., 2017). Specifically, the group or between-person level in the Anoula study indicated that in families with more psychological control, there were more negative emotions. At the individual or within-person level, however, negative emotions predicted decreased psychological control. Parents thus seem to respond to negative emotions by reducing their psychological control attempts. A similar response of parents may also be expected when it comes to adolescent secrecy.

Aim of the Study

Ultimately, as parenting research could possibly inform practice, we addressed urgent methodological concerns regarding the potential existence of ecological fallacies (perhaps even Simpson's paradoxes) in parenting research. Therefore, we tested transactional parent-child processes of secrecy and parental privacy invasion at the within-person level. Based on CPM and in line with existing empirical work, we hypothesized that high levels of perceived parental privacy invasion would predict *increased* adolescent secrecy. Moreover, in line with the idea that secrecy may successfully restore privacy and promote autonomy, we predicted that increased adolescent secrecy would predict *decreased* privacy invasion. Comparing families to each other, at the between-person level, we expected to find the same as other studies, namely more privacy invasion in families with more adolescent secrecy.

Method

Selection and Recruitment

Data were used from the 'Grumpy or Depressed' project [author reference], a Dutch longitudinal study using Experience Sampling to differentiate normative grumpy behavior during puberty from the early signs of depression. Participants were recruited from a large high school (±2000 students) in the south of the Netherlands (province Limburg). After informing parents of 604 adolescents through parent-teacher evenings (September and October 2014) and sending information letters, 341 showed an interest in participating, of which 269 adolescents and parents provided active consent. 25 adolescents withdrew because of organizational problems (e.g., phone was broken; withdrawing consent). For this study, these 244 adolescents filled out three online questionnaires with 3-months intervals (October 2014, January 2015, and April 2015). Participants received 5 euro gift vouchers for their participation, and there were raffles for iPads. The study was approved by the psychological ethical committee of Utrecht University.

Sample

Children of 21 classes of the 2nd, 3rd and 4th year participated in our study. The sample consisted of 244 Dutch adolescents (38.50% male), with a mean age of 13.84 (SD = 0.925) at T1 (n=183 at T2 and n = 183 at T3). Most participants were born in the Netherlands (98.40%).

Of the 244 participants, 218 (89.34%) indicated to live together with their biological mother and father. Others, indicated living in a different situation. Parent's educational level, which is a strong indicator of socioeconomic status in the Netherlands (SES; (Rekker et al., 2017) was diverse 12.00% lowest level, 34.50% intermediate, and 44.40% high. Furthermore, approximately half of the participants indicated to be non-religious (51.60%) whereas roughly the other half (46.70%) indicated to be Roman Catholic, the rest indicated differentially (1.60%). Within this sample, missing data were considered completely at random (Little's MCAR-test; $\chi 2 = 24.922$, $df = 18$, $p = 0.127$).

Measures

Parental Privacy Invasion. Perceptions of parental privacy invasion was assessed with a Dutch translation of the Level of Expressed Emotion (LEE) (Hale III, Raaijmakers, Gerlsma, & Meeus, 2007). The best three items were selected for this study, all with 4-point Likert scales (1 = untrue, 4 = true). The items were, "My parents… are always nosing into my business, have to know everything about me, butt into my private matters". The full scale has been validated in other samples of Dutch adolescents (Hale III et al., 2007; Hawk, Hale, Raaijmakers, & Meeus, 2008) and the shortened measure showed had improved alpha reliability compared to the longer 7-item version (Table 1 provides all descriptive statistics).

Adolescent Secrecy. Secrecy regarding routine activities was assessed by extracting items from the Child Disclosure Scale (Stattin & Kerr, 2000). Although factorial validity of the 2-item secrecy scale has been demonstrated (Frijns et al., 2010; Lionetti, Keijsers, Dellagiulia, & Pastore, 2016), we added an additional item regarding school, to balance the content of the items with the disclosure scale and to improve the reliability (please see Table 1). Items were: "Do you keep a lot of secrets from your parents about what you do during your free time?", "Do you hide a lot from your parents about what you do during nights and weekends?" and "Do you have secrets for you parents about things that happen at school?" Responses were rated on 5-point Likert scales, ranging from 1 (never) to 5 (often).

Strategy of Analysis

To test our hypotheses, we used the lavaan package (version 0.5-22) for structural equation modeling in R (R studio, version 0.99.902). Firstly, to compare our study with earlier empirical work, we first estimated a cross-lagged panel model (CLPM) with stability paths, cross lagged paths, a T1 (time 1) correlation, and correlated changes. All these parameters are estimated based on aggregating between- and within-person variance. Secondly, we isolated the within-person process from the between-person level, and tested our hypotheses with a novel Random-Intercept CLPM (Figure 2; RICLPM). This new analytical approach extends CLPM with latent factors (i.e., random intercepts) to capture stable between-person differences (Hamaker et al., 2015; Keijsers, 2015). In contrast to the CLPM, the correlations and lagged effects in this novel model capture the within-person

associations (e.g., does an adolescent who scores higher on secrecy on T1 than her or his own expected score, also score higher on privacy invasion than expected; for a technical explanation please see: (Hamaker et al., 2015). There is a conceptual overlap between RICLPM and the multilevel modeling framework, in the sense that both allow to disentangle within- from between-person processes. A specific additional strength of RICLPM is that it also allows to take the time structure into account, by including within-person stability paths and cross-lagged effects (as is common in structural equation modeling; see for an elaborate discussion Hamaker et al, 2015).

To trim down the models, we compared the unconstrained models against models in which the lagged effects (i.e., cross-paths and stability paths) and correlated errors at T2 and T3 were constrained to be equal over time. The RICLPM with constrained lagged effects had the most optimal fit, and is thus presented in the results section. Although we could additionally constrain the correlated change in the CLPM without decreasing model fit, this significantly decreased model fit for the RICLPM and did not change the lagged effects in the CLPM. In the results, we therefore present the conceptually similar models with lagged effects constrained for the purpose of comparison. Online Appendix 1 provides the model fit statistics and results of these Satorra Bentler adjusted Chi^2 difference tests.

For all analyses, we used the Lavaan option to mimic M*plus* and used all available data and Robust Full Information Maximum Likelihood estimation (FIML with Huber White corrected standard errors). This was done in order to correct for the slightly skewed distribution of secrecy. The authors will provide the full covariance matrix, as well as all input and output files upon request.

Results

Cross-Lagged Panel Model

As indicated in Table 2, the standard CLPM (Figure 1) had a reasonable model fit. As shown in Table 2, high levels of privacy invasion correlated with high levels of secrecy ($\beta = .24$). In line with earlier literature, a small positive cross-lagged effect was found from privacy invasion to secrecy three months later ($\beta = .11$ for both intervals). Moreover, secrecy positively predicted privacy invasion over time ($\beta = .08$ for both intervals).

Random Intercept Cross-Lagged Panel Model

To test the hypothesized transactional processes at the individual level, in other words, do children report more secrecy in periods when their feelings of privacy invasion are higher or lower than their personal expected score, we isolated the within-person from the between-person variance. Based on an intra-class correlations (ICC), 58.21% of the variance in perceived privacy invasion was explained by differences between-persons (or stable traits), the remainder by over-time fluctuations within-person. For secrecy, 60.29% of the variance was explained by differences between-persons, the remainder by fluctuations within-person. In the current study, we aimed at understanding how the within-person fluctuations in privacy invasion and secrecy (i.e., 42.89% and 39.71% of the variance, respectively), overlap and predict each other, while controlling for stable confounders.

Extending the CLPM with a random intercept (RI) significantly improved the model fit (Table 2; Sattora-Bentler model comparison: $\Delta\chi2$ (3) = 23.483, p = .000). This suggests that taking out stable traits provides a better representation of the data, compared to a CLPM. At the between-person level, there was a strong positive correlation between privacy invasion and secrecy (β= .65). Adolescents who reported stable high perceptions of privacy invasion also reported stable high levels of secrecy. After controlling for this *positive* between-person association, significant and *negative* correlated change (T2) (β = -.59), along with *negative* cross-lagged effects of secrecy on privacy invasion (β = -.39 and β = -.27) were found. Hence, whereas stable between-person differences in privacy invasion and secrecy were positively correlated at the group-level, the within-person effects capturing processes at the individual level were negative. In fact, within-person effects were unidirectional rather than bidirectional, and opposing in terms of the sign of the effect compared to the estimates obtained with a standard CLPM.

Discussion

This study examined the transactional linkages between perceived parental privacy invasion and adolescent secrecy regarding routine activities at the individual level, using Random Intercept cross-lagged panel model (RICLPM). As in earlier studies (e.g., Hawk et al, 2013), more secretive adolescents perceived more privacy invasion by their parents (a between-person association in a CLPM). In this study, we also demonstrated a negative effect running in the opposite direction from privacy invasion to decreased secrecy. However, at the individual level, this transactional process was negative and only ran from secrecy to decreased privacy invasion: An example of Simpson's paradox. The theoretical, practical, and methodological implications of this study are discussed below.

Secrecy and Privacy Invasion

It is an ongoing debate in the literature whether adolescent secrecy and self-concealment have positive or negative effects for the parent-child relationship (Finkenauer et al., 2002; Wegner & Lane, 1995), and a similar discussion can be found in the monitoring literature regarding the benefits or detrimental effects of secrecy regarding routine activities (Keijsers, 2015; Smetana et al., 2006). Earlier studies on parental monitoring have suggested that adolescent secrecy regarding routine activities may result from high levels of parental privacy invasion (Hawk et al., 2013). However, addressing transactional processes at the level were they take place – the individual level - secrecy correlated with and predicted decreased (rather than increased) perceived parental privacy invasion over 3 months' time. This opposite pattern suggests that adolescent's secrecy is a precursor of reduced privacy invasion (or at least the perception thereof), rather than increasing in response to privacy invasion. This novel approach thus provides the first pieces of empirical support for the idea secrecy has a positive impact on realigning relationships at the individual level, through reducing privacy invasion.

Theoretically, if indeed parental privacy invasion decreases as a result of adolescent secrecy, it would support ideas that secrecy may help adolescents become more emotionally autonomous (Finkenauer et al., 2002). Hence, this study thus raises new theoretical questions regarding the link of privacy invasion and secrecy. Whether

it is the child agency that drives parenting behaviors (or the perception thereof), or the actual parenting acts that call for a restorative response in terms of secrecy, or whether perhaps both are true in different families, on different time scale, or in the view of different actors, will need to be tested in future research.

Limitations and Future Directions

Motivated by an increasingly load call to address methodological concerns with the existing analytical paradigm in longitudinal parenting research (Besemer et al., 2016; Hamaker et al., 2015; Keijsers et al., 2016; Meeus, 2016), this study sets one step towards better understanding the complex transactional dynamics between parents and children, by zooming in on the individual level and differentiating variance due to within-person fluctuations from stable between-person correlations at the group-level. This is only a first step, however, and there are several ways in which within-person studies on parenting processes can be improved in the future.

Both parents and adolescents, and their own unique perceptions of their reality (Smetana et al., 2006), shape transactional processes. Therefore, a combination of and comparison between parents' and adolescents' experiences is recommended. Furthermore, in the current study we measured secrecy using a general measure. However, the perception of privacy invasion might be influenced by the topic of the secret (e.g., sexuality). Future research could take the types of issues adolescents keep a secret into account.

Additionally, in this short report we set a first step in isolating individual level processes from between-person or group-level correlations, using a RICLPM on a longitudinal dataset. By extending CLPM with RIs, we isolated individual-level processes from confounding influences of stable traits, such as gender and personality traits, and found quite different patterns of results. However, RICLPM also has some limitations. Firstly, RICLPM assumes one (fixed) within-person effect for everyone. Recently developed analytical models allow to conduct more in-depth research into the complex interplay of stable traits and within-person dynamics in the future. For instance, intensive data (e.g., with Experience Sampling Methods) and dynamic structural equation modeling (Hamaker et al., 2016) may illuminate how the within-person processes differ from person to person (Belsky & Pluess, 2009). Moreover, RICLPM is one possible extension of the CLPM. Alternatively, for instance when

divergent growth patterns occur in the variables, the model can be extended, to also include divergent growth patterns (e.g., Berry & Willoughby, 2016). Secondly, cross-lagged panel models, including RICLPMs are designed for assessing longer-term processes. Transactional processes, most likely, also operate on shorter time-intervals. We used a three-month interval in this study, but future studies may consider even shorter intervals (e.g., daily diaries). Thirdly, transactional processes are not linear, but dynamic in nature. As such, the timing of the intervals in the study may affect both the cross-lagged and stability paths (Voelkle, Oud, Davidov, & Schmidt, 2012). In fact, lagged effects may be positive in the short run and negative in the long run (Wagner, Voelkle, Hoppmann, Luszcz, & Gerstorf, in press).

Overall, although it is an important first step to differentiate between-person from within-person level of analyses, more assessments per person and more variety in the timing of assessments are needed to test how transactional effects unfold as a continuous function of time (Voelkle & Oud, 2013) and to grasp how every parent may be faced with unique challenges, depending on the child's unique characteristics and behaviors. Ultimately, these future studies could be an important next step towards personalizing interventions in practice.

Conclusion

Previous theoretical and empirical literature has suggested that perceived parental privacy invasive behaviors toward adolescents may result in adolescents becoming more secretive. Applying a RICLPM (Hamaker et al., 2015; Keijsers, 2015) we detected a Simpson's paradox. In line with earlier studies (Hawk et al, 2013), more secretive adolescents perceived their parents as more privacy invasive. However, at the individual or within-person level, transactional associations were negative: In and following periods with increased adolescent secrecy, parents were perceived as less privacy invasive. Theoretically, this transactional pattern at the individual level suggests a quite adaptive role for secrecy, as it may help youths to become autonomous and fulfill this important developmental tasks. Moreover, the study sets a methodological example of how disentangling stable traits from individual-level processes may bring us one step closer to obtaining accurate estimates of the transactional processes between parents and

adolescents, and ultimately to translating parenting science to a personalized parenting advice. As this study is just one step on the road, we provide several directions for future research.

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Table 1

Descriptives and Bivariate Correlations for Perceived Parental Privacy Invasion and Adolescent Secrecy

Variables	Descriptives				Correlations				
	Mean	*SD*	α	n	1	2	3	4	5
1. Privacy Invasion T1	2.221	.81	.880	232	-				
2. Secrecy T1	1.573	.61	.771	232	.235**	-			
3. Privacy Invasion T2	2.157	.76	.858	183	.586**	.160*	-		
4. Secrecy T2	1.506	.58	.771	183	.232**	.603**	.178*	-	
5. Privacy Invasion T3	2.207	.84	.922	183	.487**	.286**	.623**	.175*	-
6. Secrecy T3	1.648	.65	.814	183	.237**	.580**	.242**	.644**	.301**

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

Table 2 *Cross-lagged Panel Model and Random Intercept Cross-lagged Panel Model Linking Parental Privacy Invasion (PI) and Adolescent Secrecy (SE)*

	CLPM				RICLPM			
Parameters	*B*	*SE*	*p*	β	*B*	*SE*	*p*	β
Correlations								
T1	.116	.034	.001	.236**	-.038	.033	.252	-.158
Between-person					.176	.039	.000	.650***
Cross-lagged effects								
PI T1 → SE T2	.090[a]	.032	.005	.114**	-.164[e]	.089	.064	-.308
PI T2 → SE T3	.090[a]	.032	.005	.110**	-.164[e]	.089	.064	-.204
SE T1 → PI T2	.108[b]	.055	.049	.083*	-.530[f]	.172	.002	-.392**
SE T2 → PI T3	.108[b]	.055	.049	.084*	-.530[f]	.172	.002	-.271**
Stability paths								
PI T1→PI T2	.599[c]	.043	.000	.604***	.144[g]	.164	.397	.164
PI T2→ PI T3	.599[c]	.043	.000	.582***	.144[g]	.164	.397	.121
SE T1→SE T2	.677[d]	.063	.000	.654***	-.036[h]	.215	.876	-.044
SE T2→SE T3	.677[d]	.063	.000	.660***	-.036[h]	.215	.876	-.027
Correlated change								
T2[a]	.022	.022	.323	.076	-.086	.032	.007	-.587*
T3[a]	.041	.023	.069	.137	.013	.029	.662	.050

Note. Standard Cross-lagged panel model (CLPM) and Random Intercept Cross-Lagged Panel Model (RICLPM). Equal superscripts refer to parameter constraints. Confidence interval (95%) can be derived: $B \pm 1.96*SE$.
Model fit CLPM: Chi^2 (df = 8) = 25.864, CFI = .951, TLI =.909, RMSEA = .096. Model fit RICLPM: CFI = 1.000, TLI =1.017, RMSEA = .000, Chi^2 (df = 5) = 2.937. * $p < 0.05$, ** $p < .01$, *** $p < .001$.

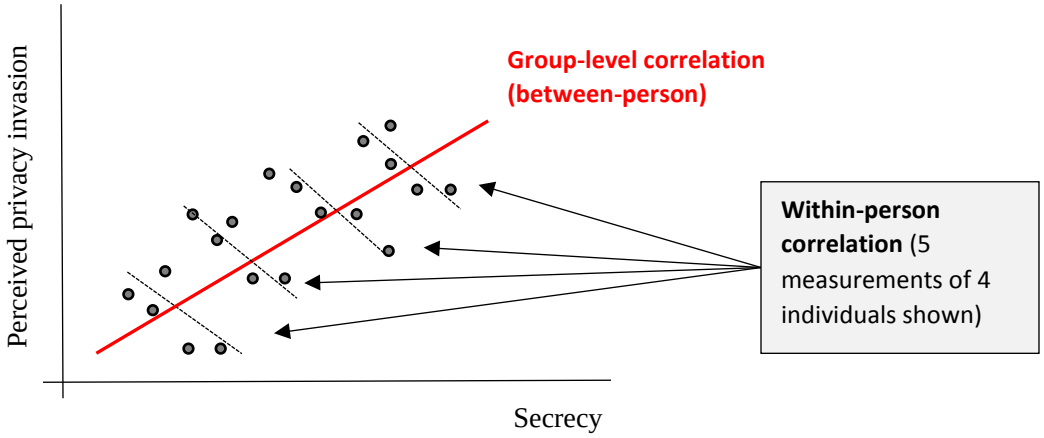

Figure 1. Simpson's Paradox: Hypothesized between-person correlation vs. within-person correlations of secrecy and privacy invasion.

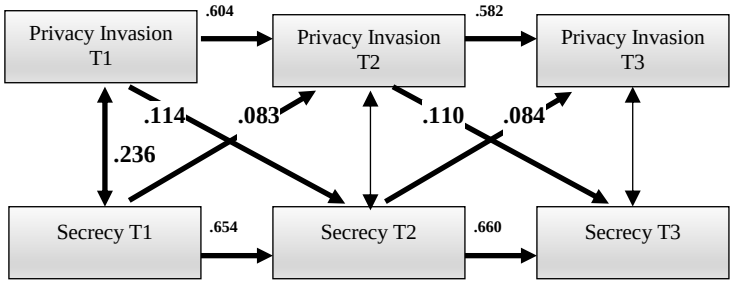

Figure 2. Standard Cross-Lagged Panel Model Examining Effects of Perceived Parental Privacy Invasion on Secrecy [Aggregate of Between-Person and Within-Person Variance]. Significant paths and standardized estimates are shown in bold. Unstandardized estimates were constrained to be equal over time. Table 2 provides the unstandardized estimates and SE of each of these parameters.

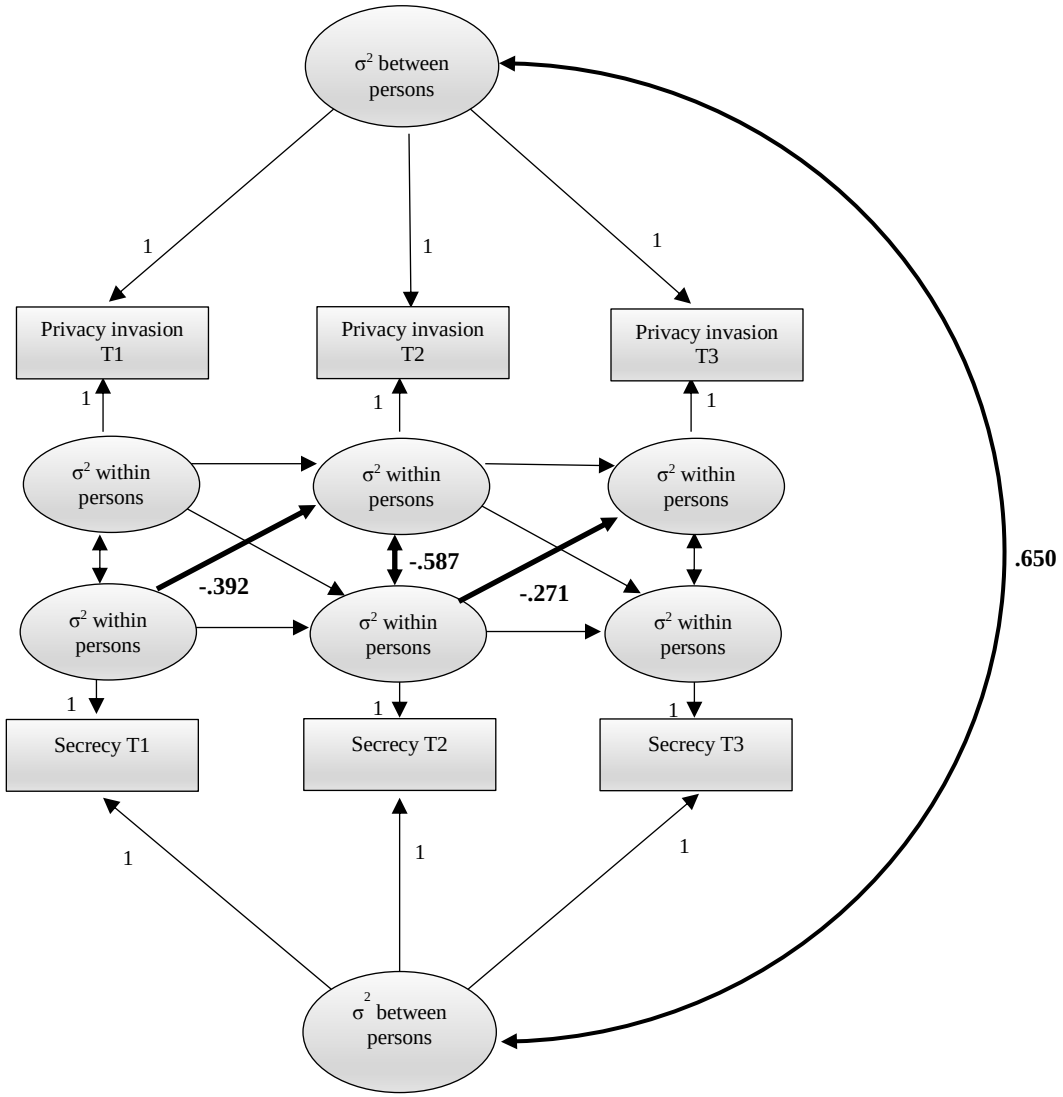

Figure 3. Three-Wave RICLPM (Hamaker et al., 2015). Linking Privacy Invasion and adolescent secrecy [disaggregating Within-Person and Between-Person Variance]. Significant paths shown and standardized estimates in bold. Unstandardized estimates were constrained to be equal over time. Table 2 provides the unstandardized estimates and SE of each of these parameters.