Parental Monitoring Strategies and Middle Adolescents' Information Sharing on Social Networking Sites

Emma van Ee	Claartje de Kleijn	Linda Koetzier	Kim Voerman
3499162	3655075	3499472	3544605
Bachelor	Pre-Master	Bachelor	Bachelor
Pedagogical Sciences	Pedagogical Sciences	Pedagogical Sciences	Pedagogical Sciences
University Utrecht	University Utrecht	University Utrecht	University Utrecht

Supervisor: Dr. Skyler T. Hawk

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Abstract

This cross-sectional study examined whether associations existed between parental monitoring strategies (solicitation, control, and subversive strategies), adolescents' perceptions of privacy invasion, their general perceived invasion, and the extent of their information sharing on social networking sites. Data from 159 Dutch adolescents (mean age = 15.7) was collected through self-report questionnaires measuring parental monitoring strategies, privacy invasion and information sharing on social networking sites. Subversive parental monitoring strategies, which were identified by Petronio (1994), emerged as a distinct parental monitoring strategy from the previously established parental monitoring strategies control and solicitation (Kerr & Stattin, 2000). Adolescents also interpreted subversive strategies as more invasive than parental solicitation and control. Parental solicitation was perceived as least invasive. Parental monitoring did not predict online information sharing. Adolescents' general perceived invasion did not mediate an association between the different parental monitoring strategies and day-to-day and deviant information sharing of adolescents on social networking sites. In conclusion, it is important that parents are aware of the effects that their different monitoring strategies may have on adolescents' feelings of invasion.

Keywords: parental monitoring strategies, privacy invasion, perceived invasion, information sharing on social networking sites.

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By the beginning of adolescence, privacy becomes an important and present topic in families' daily lives. Adolescents begin to spend less time with their parents and more time with their peers, offline as well as online, creating their own private world (DeVore & Ginsburg, 2005). In the past years, there has been an explosion in the use of social networking sites among adolescents, such as MySpace and Facebook (Moreno et al., 2009). Social networking sites make it possible to communicate with a wide circle of contacts, to upload and download videos, and to share and look at someone else's photos (Livingstone, 2008). The way parents try to stay informed about their adolescents' whereabouts, can be described as parental monitoring strategies such as parental control and solicitation (Stattin & Kerr, 2000) or subversive strategies such as eavesdropping (Petronio, 1994). These parental monitoring strategies can provoke feelings of privacy invasion among adolescents. These feelings of invasiveness can lead to conflicts between parents and adolescents (Hawk, Keijsers, Hale, & Meeus, 2009; Petronio & Caughlin, 2005). The current study used a cross-sectional design to investigate the associations between the three parental monitoring strategies, adolescents' perceptions of privacy invasion related to these strategies, their general perceived invasion and the extent of their information sharing on social networking sites.

By using different parental monitoring strategies, parents try to stay informed about their adolescents' whereabouts. Petronio (1994) investigated ways in which parents might invade adolescents' privacy and found two kinds of strategies. The first are subversive strategies, which are secretive strategies that are practised without the permission of the adolescent, such as eavesdropping. The second type of strategies identified by Petronio (1994) are direct strategies. These are monitoring strategies such as setting rules and asking questions about their adolescents' whereabouts. Direct strategies are therefore strategies of which the adolescent is aware. Stattin and Kerr (2000) expanded research in parental monitoring and defined parental monitoring as a knowledge gathering and controlling activity. Therefore, parental monitoring strategies explicitly describe parental behavior. They established two parental monitoring strategies; solicitation and control.

Solicitation is described as a conversational type of monitoring. Parents ask their adolescents about their whereabouts and leisure time spent without parents. They start conversations on that topic not only with their adolescents, but also with their adolescents' friends and their friends' parents (Stattin & Kerr, 2000). Research on solicitation has primarily focused on the consequences for adolescents. For example, parental solicitation has correlated negatively with delinquency (Eaton, Krueger, Johnson, McGue, & Iacono, 2009). However, Eaton et al. (2009) only found this correlation for

female adolescents. Laird, Marrero, and Sentse (2010) found a negative correlation between parental solicitation and antisocial behavior. They conducted a longitudinal study which found lower levels of antisocial behavior when higher levels of parental solicitation occured. This, however, is not a direct effect. Rather, it was moderated by the extent of how much the adolescent respected parental authority. Another important mediator of this link between parental solicitation and delinquency among adolescents is disclosure. Disclosure describes the extent in which adolescents voluntarily share information with their parents. Keijsers, Branje, VanderValk, and Meeus (2010) found no correlation between delinquency and parental solicitation, but did find a positive correlation between parental solicitation and disclosure. They also found a highly intertwined and bidirectional relation between disclosure and parental solicitation. Higher levels of parental solicitation predicted more disclosure and vice versa. This implies parental solicitation to indirectly have an effect on adolescent delinquent behavior.

The other parental monitoring strategy Stattin and Kerr (2000) defined is parental control. This strategy concerns parental rulemaking about their adolescents' disclosure and permission seeking. Adolescents cannot come and go wherever and whenever they want, but rather must ask permission and explain afterwards what they have been doing. As with parental solicitation, research on parental control has focused primarily on the consequences of this parental monitoring strategy. Setting rules in a household is negatively correlated with norm-breaking behavior (Kakihara, Tilton-Weaver, Kerr, & Stattin, 2010). On the other hand, self-esteem also decreases with higher levels of parental control (Kakihara et al., 2010). Parental control does not seem to correlate with delinquency (Keijsers et al., 2010).

Other researchers have followed Stattin and Kerr (2000) by concentrating upon parental control and solicitation as parental monitoring strategies (Eaton et al., 2009; Hawk, Hale, & Raaijmakers, 2008; Kakihara et al., 2010; Keijsers et al., 2010; Laird & Marrero, 2010). These strategies cover the direct strategies found by Petronio (1994), but leave the subversive strategies out. In fact, very few studies have examined subversive monitorig behaviors by parents since Petronio (1994) first identified this dimension. Petronio (1994) gave some examples of subversive strategies, such as listening to telephone conversations, opening their children's mail, going through their children's belongings without them knowing, and eavesdropping on conversations with others. Subversive strategies could therefore be defined as parental acts of gaining information about their children without their children's permission and/or knowledge. It is an act surrounded by secrecy. The lack of research on subversive privacy invasion tactics elicits the question of whether subversive parental monitoring emerges as a strategy that is distinct from the identified strategies solicitation and control.

These three types of parental monitoring strategies correlate with negative consequences for adolescents when they interpret these strategies negatively (Kerr & Stattin, 2000). When levels of parental monitoring strategies are not matched by the adolescent's willingness to reveal information, they can feel over-controlled and perceive privacy invasion. These feelings are related to poor adolescent adjustment, such as high levels of depression, low self-esteem, and having doubts about one's own abilities to succeed (Kakihara et al., 2010; Kerr & Stattin, 2000). It may also lead to conflicts within the family (Hawk et al., 2009; Petronio & Caughlin, 2005). It is therefore important to study adolescents' invasion perceptions in relation to each monitoring strategy.

When the age of adolescence is reached, children begin to develop a desire for autonomy which causes tension between wanting to be connected to parents and wanting to be independent. This, in turn, leads to conflicts between adolescents creating and protecting their privacy and parents trying to stay informed about their adolescents' whereabouts (Hawk et al., 2009; Petronio & Caughlin, 2005). Communication Privacy Management theory (CPM) describes this conflict as boundary turbulence (Petronio, 2010). One aspect of CPM depicts boundary control, which is characteristic for adolescents and their parents. CPM theory suggests that feelings of privacy invasion may occur when adolescents and their parents disagree over the limits of information co-ownership (Hawk et al., 2009). These invasion perceptions are subject to individual differences. Since invasion perceptions tend to decrease over time, older adolescents may not interpret strategies as being as invasive as do younger adolescents (Hawk et al., 2008). In addition, longitudinal research showed that parents less often use parental control as their adolescents get older (Barber, Maughan, & Olsen, 2005). Since this may probably be due to the growing autonomy of the adolescent (Barber et al., 2005), suggesting that this will be true for all parental monitoring strategies. Some adolescents may be overly sensitive to parental monitoring strategies, as these youths do not adequately note the decrease of parental solicitation, control (Barber et al., 2005) and subversive strategies as they get older. On the other side, some adolescents may be less sensitive to parental monitoring strategies. These adolescents may not perceive high levels of parental solicitation, control (Kakihara & Tilton-Weaver, 2009) and subversive strategies as invasive. Invasion perceptions are influenced by several factors. Therefore, parents may not even recognize that adolescents perceive their monitoring behavior as invasive (Petronio, 1994).

There is, however, quite a lack of research conducted on adolescents' invasion interpretations related to parental monitoring strategies. Existing research on adolescents' invasion interpretations focused primarily on parental control and solicitation. For example, Hawk et al. (2008) have tied parental control and solicitation to adolescents' invasion perceptions. Longitudinal links were found between parental

solicitation and general invasion perceptions. Longitudinal links were also found between parental control and general invasion perceptions, but only in cases when adolescent-parent interactions were of high quality. Adolescents may perceive parental solicitation as more invasive than parental control, because of its direct nature. Parental solicitation requires an immediate response from the adolescent. As a result, this may foster feelings of invasion more consistently then would be in the case of parental control (Hawk et al., 2008). These results suggest that adolescents' invasion perceptions differ for each parental monitoring strategy.

Since studies that investigated invasion perceptions focused primarily on parental solicitation and control, less is known about invasion perceptions related to subversive strategies. Petronio (1994) studied adolescents' invasion perceptions related to subversive strategies. When adolescents find out that their parents used subversive strategies to monitor them, they may feel frustrated because they feel like they have lost control over their own privacy. Invasion interpretations related to subversive strategies have not further been studied. This finding however suggests that adolescents may perceive subversive strategies as highly invasive. The lack of research conducted on adolescent invasion perceptions elicits the questions of how invasive adolescents perceive parental solicitation, control and subversive strategies to be.

The current study also focuses on online information sharing of adolescents and its links to parental monitoring strategies and general perceived invasion. The access to the Internet, and therefore social networking sites, have revealed a new research area. The use of social media by adolescents brings some risks when they often publicly display personal behaviors to a wide circle of contacts (Livingstone, 2008; Moreno, Parks, & Richardson, 2007; O'Keeffe & Clarke-Pearson, 2011). This publicly displaying behavior to a wide circle of contacts is called information sharing. This suggests that information sharing is divided into day-to-day information sharing and deviant information sharing. Deviant information sharing consists of, for example, sexting, sending, receiving or forwarding sexually explicit messages, photographs, or images via the Internet (O'Keeffe & Clarke-Pearson, 2011). Another form of deviant information sharing on social networking sites is the documentation of alcohol use, drunken behavior, and substance use (Morgan, Snelson, & Elison-Bowers, 2010). Day-to-day online information sharing, in contrast, contains all other forms of online information sharing. Some studies, examining online risk behavior, found only few risks of publicly displaying information on social networking sites (Hinduja & Patchin, 2008; Ybarra & Mitchell, 2008). An analysis from Hinduja and Patchin (2008) of the social networking site MySpace showed that the profiles of adolescents' included references to alcohol use, marijuana use, tobacco use, or photographs in underwear or swimwear in only some cases. Less than one percent of

adolescents place private information on their MySpace profiles. Thus, the majority of the adolescents are responsibly using MySpace (Hinduja & Patchin, 2008).

In addition, cross-sectional research has shown that the majority of adolescents who are online are not at risk for unwanted sexual solicitation or harassment on the Internet (Ybarra & Mitchell, 2008). Adolescents who did experience unwanted online sexual solicitation or Internet harassment reported that this did not happen on social networking sites. On the other hand, the risk-taking behavior of adolescents could expand, because there are a lot of new online risks (Pujazon-Zazik & Park, 2010). Cross-sectional research from Moreno et al. (2007) showed that almost half of the profiles on MySpace contained at least one public disclosure of sexual activity or substance use. Even though alcohol use is the most commonly displayed risk behavior, depictions of drug and tobacco use were also common. In agreement, Moreno et al. (2009) found that more than half of the examined profiles on MySpace included references to sex, and more than three quarters included references to substance use. The media has also cautioned parents to keep their adolescents safe through careful monitoring, because the Internet can be a dangerous place for adolescents (Rosen, Cheever, & Carrier, 2008). In conclusion, the use of the Internet, and then particularly the use of social networking sites, can provide some new risks for adolescents.

There is a lack of research conducted on the relation between perceived invasion and information sharing on social networking sites. Most research focused on the relation between parental monitoring and adolescents' risk-taking behavior, in general. For example, some studies have found that parental monitoring strategies can be an important protective factor against adolescents' risk-taking behavior (Li, Feigelman, & Stanton, 2000; Pujazon-Zazik & Park, 2010). However, some studies claim that parental monitoring strategies are not always effective in decreasing risk-taking behavior (Kerr & Stattin, 2000). This study tries to fill in the gap in current research by measuring the association of adolescents' general perceived invasion and their information sharing on social networking sites. This information sharing will be divided by day-to-day information sharing and deviant information sharing.

The current study

The existing literature provides little insight into the relation between parental monitoring strategies, invasion perceptions of adolescents, general perceived invasion, and adolescents' online information sharing behavior. The first aim of this study is to determine whether subversive monitoring behaviors, as found by Petronio (1994), emerges as a distinct strategy from the grounded parental monitoring strategies of solicitation and control. We hypothesize this to be the case (H1), because of the findings of Petronio (1994) and the existence of subversive strategies among romantic partners (Vinkers, Finkenauer, & Hawk, 2011). The second aim is to measure the invasion

perceptions of the different parental monitoring strategies by adolescents. Because of the secretive nature of subversive strategies (Petronio, 1994) and the direct nature of solicitation (Hawk et al., 2008), we hypothesize that adolescents perceive subversive strategies as more invasive than parental solicitation and control, and parental control as least invasive (H2). The third aim is to measure the association of adolescents' general perceived invasion and their information sharing on social networking sites. This information sharing will be divided by day-to-day information sharing and deviant information sharing. We hypothesize that the general perceived invasion of parental monitoring strategies by adolescents mediates a positive association between these strategies and day-to-day information sharing (H3). We hypothesize that this will also be the case with deviant information sharing on social networking sites (H4).

Method

Participants

Participants were 159 Dutch adolescent students (52.2% boys and 47.8% girls). They completed a questionnaire at their secondary school. Almost one third of the participants were low educated (vmbo; 31.4%), with a total of 50 of the participants, 45 participants were middle-high educated (havo; 28.3%), and 63 participants were high educated (vwo; 39.6%). Adolescents' ages ranged from 14 to 17 years old (M = 15.7, SD = .69). Most adolescents (83.6%) lived with both parents or with stepparents, some adolescents lived only with their mother (11.3%) or only with their father (2.5%). The remaining participants had another living situation or provided no information. The majority of the adolescents identified as native Dutch (97.5%).

Procedure

Students were administered the measures during their school hours. The data were collected from four schools in Barneveld, Gouda, Maarssen, and Oss in The Netherlands. Students received a consent form to give to their parentsNone of the parents refused to let their children participate. Consent was also obtained from all schools and the participants, themselves. Verbal and written instructions were given before the questionnaires were handed out. Completing the surveys required 15 minutes.

Measures

To measure all concepts of parental monitoring strategies, invasion perceptions and online information sharing, the participants were asked to fill in a questionnaire which contained items from different scales.

Parental solicitation. A Dutch translation of the Parenting Practices Scale from Kerr and Stattin (2000) was used to measure how often, according to the adolescents, parents use parental solicitation. All four items from the parental solicitation subscale were included in the questionnaire. This four-item measure was arranged on a 5-point

Likert scale, ranging from *never* to *very often*. An example of an item is, "During the past month, how often have your parents started a conversation with you about your free time?". This subscale demonstrated acceptable reliability (α = 0.63). This value is somewhat lower compared to past research (Engels, Finkenauer, Kerr, & Stattin, 2005; Kerr & Stattin, 2000). In an analysis of Kerr and Stattin (2000), the items of the parental solicitation subscale loaded on one factor, with loadings ranging from .69 to .74.

Parental control. A Dutch translation of the Parenting Practices Scale from Kerr and Stattin (2000) was included in the current study to measure how often, according to the adolescents, parents use parental control. All five items from the parental control subscale were included in the questionnaire. An example of an item is, "Do your parents always require that you tell them where you are at night, who you are with, and what you do together?". Adolescents responded to these questions on a 5-point Likert scale, ranging from *never* to *very often*. This subscale demonstrated good reliability (α = .77), which is comparable to past research (Engels et al., 2005; Kakihara et al., 2010; Kerr & Stattin, 2000). According to Kerr and Stattin (2000), the items of the parental control subscale loaded on one factor, with loadings ranging from .56 to .67 (Kerr & Stattin, 2000).

Subversive strategies. A Dutch translation of the frequency subscale of the Covert Invasion Scale, based on Petronio (1994), was used to measure how often, according to the adolescents, parents use parental subversive strategies. Four items were included in the questionnaire. An example of an included item is as follows: "How often do your parents snoop through your personal belongings?". Adolescents had to respond to these questions on a 5-point Likert scale, ranging from *never* to *very often*. This subscale demonstrated acceptable reliability (α = 0.62). In past research, adequate factor loadings showed that subversive strategies emerged as a distinct dimension fo invasive behavior.

Invasion perceptions. A Dutch translation of the Parenting Practices Scale from Kerr and Stattin (2000) was adjusted and used to measure adolescents' invasion interpretations related to parental solicitation. All four items from the parental solicitation subscale were included in the questionnaire. The questions were adjusted so that they measured invasion perceptions instead of frequencies. This four-item measure was arranged on a 5-point Likert scale, ranging from *not invasive* to *very invasive*. This subscale demonstrated good reliability (α = 0.88). Since this scale was adjusted, no psychometric support for reliability and validity is available in the literature.

To measure adolescent invasion perceptions related to parental control, a Dutch translation of the Parenting Practices Scale from Kerr and Stattin (2000) was adjusted and included in the current study. All five items from the parental control subscale were included in the questionnaire. The questions were adjusted so that they measured

invasion perceptions instead of frequencies. Adolescents responded to these questions on a 5-point Likert scale, ranging from *not invasive* to *very invasive*. This subscale demonstrated a good reliability (α = 0.90). Since this scale was adjusted, no psychometric support for reliability and validity is available in the literature.

A Dutch translation of the Covert Invasion Scale, based on Petronio (1994), was adjusted and used to measure adolescents' invasion interpretations of subversive strategies. Four items were included in the current study. The questions were adjusted so that they measured invasion perceptions instead of frequencies. Adolescents had to respond on a 5-point Likert scale, ranging from *not invasive* to *very invasive*. This subscale demonstrated good reliability (α = 0.92). Since this scale was adjusted, no psychometric support for reliability and validity is available in the literature.

General invasion perceptions. A Dutch translation of the Intrusiveness Subscale of the Level of Expressed Emotion (LEE) questionnaire was used to measure adolescents' general privacy invasion perceptions (Hale, Raaijmakers, Gerlsma, & Meeus, 2007). All seven items were included in the questionnaire. An example of an item is as follows: "My parents always want to know everything about me." Adolescents had to respond to these questions on a 5-point Likert scale, ranging from *totally disagree* to *totally agree*. This subscale demonstrated good reliability (α = 0.72), which is comparable to prior research (Hale et al., 2007; Hawk et al., 2008; Hawk et al., 2009). According to earlier analysis, items loaded on one factor, with loadings higher than .40 (Hale et al., 2007; Hawk et al., 2008).

Online day-to-day information sharing. The Information Sharing Scale was used to measure online day-to-day information sharing. Six out of 10 items were included, since these six items measured online day-to-day information sharing. An example of an item is as follows: "Have you ever posted photographs or videos about your hobbies or interests on the social networking site on which you are the most active?". Adolescents responded to these questions on a 5-point Likert scale, ranging from *never* to *very often*. This scale demonstrated good reliability (α = 0.83). Since this a novel scale, no psychometric support in the literature has been found for reliability and validity.

Online deviant information sharing. The Information Sharing Scale was used to measure online day-to-day information sharing. Four out of 10 items were included, since these four items measured online deviant information sharing. An example of an item is as follows: "Have you ever posted photographs or videos of yourself in which you were using alcohol or drugs on the social networking site on which you are the most active?". Adolescents had to respond to these questions on a 5-point Likert scale, ranging from *never* to *very often*. This scale demonstrated a good reliability (α = 0.80). Since this

a novel scale, no psychometric support in the literature has been found for reliability and validity.

Strategy of Analysis

To examine whether subversive parental monitoring strategies emerged as distinct from the previously identified strategies control and solicitation (H1), we ran an exploratory factor analysis. When conducting a factor analysis, one assumption holds that the items correlate with at least some other items. Therefore, Bartlett's Test of Sphericity was conducted. This tests the null hypothesis that the items do not correlate with other items. A significant Bartlett's Test indicates existing correlations between the items. The Kaiser-Meyer-Olkin (KMO) measure was used to test the sample adequacy (Field, 2009). The factor analysis was done for the frequency items measuring parental monitoring strategies by using SPSS. An exploratory factor analysis (EFA) can be computed by setting the method on "maximum likelihood". This method is preferred over principal component analysis, because it provides a more accurate image of the different factors (Byrne, 2005). Moreover, oblique rotation was applied in SPSS. Oblique rotation is a rotation method in which correlations between the different factors are taken into account, unlike orthogonal rotation. The use of oblique rotation therefore provides a more realistic outcome of factors such as different dimensions of the same behavior (i.e. monitoring), as compared to orthogonal rotation (Byrne, 2005). The factors were extracted by the eigenvalue criterion which states these eigenvalues should be >1 to call it a factor.

To measure whether subversive parental monitoring strategies were perceived as more invasive than solicitation and control, and control as least invasive (H2). This hypothesis was tested by using a three-level, two-way repeated-measures ANOVA. First, mean invasion interpretation scores for each parental strategy were calculated. The mean scores for each parental monitoring strategy were included as a level in the ANOVA to examine whether there were any significant differences between invasion interpretations in monitoring strategies. When a significant difference was found, a Bonferroni-corrected post hoc test was conducted to examine which parental monitoring strategies differed significantly from each other in invasion interpretation rates.

Sex was also included in the ANOVA to test for interaction effects between sex and different monitoring strategies. When a significant interaction effect between sex and invasion interpretations was found, a Bonferroni-corrected Tukey post-hoc test was conducted to examine which parental monitoring strategies differed for both sexes in invasion interpretations.

To examine whether adolescents' general invasion perceptions mediated links between the different parental monitoring strategies and day-to-day (H3) or deviant information sharing (H4) on social networking sites, multiple regression analyses were

conducted. Scores of age, the three parental monitoring strategies, general perceived invasion and the dependent variables were first transformed into standardized scores. In the first step of the analyses, age and sex were added as controls. The second step included the parental monitoring strategies of solicitation, control, and subversive strategies. The third step included general perceived invasion. The fourth step included all the two-way interactions with age and sex, and the fifth step included all the three-way interactions. Significant results of the second, third, fourth and fifth step indicate an association between the different monitoring strategies and day-to-day or deviant information sharing of adolescents on social networking sites.

An additional multiple regression analysis was conducted, using general perceived invasion as dependent variable and the different parental monitoring strategies as independent variables. This regression measured whether there was an association between the different parental monitoring strategies and general perceived invasion. In the first step of the analysis, sex and age were added as controls. The second step included the parental monitoring strategies of control, solicitation, and subversive strategies. Significant results of the second step indicate an association between the different monitoring strategies parents use and general perceived invasion.

Results

Descriptive statistics

The means and standard deviations of all variables are reported in Table 1. A three level two-way, for each gender, repeated-measures ANOVA was conducted to compare frequencies of each parental monitoring strategy. There was a significant difference in reported frequencies of the three monitoring strategies, F (2, 154) = 661.71, $p < .01$, $\eta_p^2 = .90$. A Bonferroni-corrected post hoc test indicated that, according to adolescents, parents applied subversive strategies (M = 1.29) significantly less than parental control (M = 3.37), $p < .01$. Subversive strategies were also reported significantly less than parental solicitation (M = 3.46), $p < .01$. There was no significant difference in frequencies for parental control and solicitation, $p = .71$. These findings suggest that subversive strategies are less commonly used by parents, compared to parental control and solicitation.

The three level two-way repeated-measures ANOVA also showed a significant difference between males and females in reporting frequencies of parental monitoring strategies, F (2, 154) = 5.80, $p < .01$, $\eta_p^2 = .07$. Females (M = 3.67) reported significantly more parental use of control than males (M = 3.10), p .01. Females (M = 3.61) also reported significantly more parental use of solicitation than males (M = 3.32), $p = .01$. Sex differences for subversive strategies were not significant, $p = .22$.

The correlations between the variables of parental monitoring strategies, invasion perceptions and information sharing are reported in Table 2. The parental monitoring strategies solicitation and control showed a significant positive correlation. Subversive strategies did not correlate with other monitoring strategies but associated positively with invasion perceptions of solicitation and control. Control and subversive strategies showed a positive correlation with general perceived invasion. Invasion perception of solicitation was positively associated with invasion perception of control, general perceived invasion and deviant information sharing. Invasion perception of subversive strategies and invasion perception of solicitation were negatively associated with one another. Invasion perception of control also showed a positive correlation with general perceived invasion. Deviant information sharing was positively associated with invasion perceptions of solicitation and control and day-to-day information sharing. Day-to-day information sharing in turn correlated positively with invasion perceptions of control and subversive strategies.

Parental Monitoring Strategies

To test whether a subversive parental monitoring strategy emerged as a distinct strategy from parental solicitation and control, an exploratory factor analysis (EFA) was conducted. This analysis was conducted on four items measuring frequency of parental solicitation, five items measuring frequency of parental control, and four items measuring frequency of subversive parental monitoring strategies. Table 4 shows the factor correlation matrix, which was significant using Bartlett's Test of Sphericity. The factors showed small correlations with each other. Solicitation and control showed the strongest correlation with .29. The sample adequacy was measured using the Kaiser-Meyer-Olkin (KMO) measure which verified that the sample was adequate, KMO=0.74 (Field, 2009).

As shown in Table 3, three factors showed eigenvalues over Kaiser's criterion of 1. The three factors explained 59.6% of the variance. A scree plot also indicated three factors at the point of inflexion. Table 3 shows the loadings of the items on the three factors. The loadings of the items on the factors were relatively evenly divided. All items loaded only on one factor.

The first factor contained four out of five of the control items loading on this factor, ranging from .52 to .91. The second factor contained the subversive items, with factor loadings range from .50 to .83. The last factor contained all solicitation items, ranging from .43 to .62. One item of the control measure loaded on a separate factor. This item was: "Do you need your parents' permission to be late in the evenings on weekdays?" Therefore, this item was removed from further analysis. This improved the reliability of the scale measuring parental control. Cronbach's alpha was .78 when all five items were included. After removing the one item mentioned above, Cronbach's Alpha increased to .83. Thus, three factors emerged; one for the control items, one for the

solicitation items, and one for the subversive items. These outcomes are in line with the hypothesis (H1) and suggest subversive parental monitoring strategies as a distinct parental monitoring strategy from the previously established parental monitoring strategies of control and solicitation.

Invasion perceptions

The means and standard deviations for adolescents' invasion perceptions of parental control, solicitation, and subversive strategies are reported in Table 1. It was hypothesized that subversive parental monitoring strategies would be perceived as more invasive than solicitation and solicitation, and control as least invasive by adolescents. A three level two-way, for each gender, repeated-measures ANOVA was conducted to compare adolescents' invasion perceptions of parental solicitation, control, and subversive strategies. Mauchly's Test of Sphericity indicated that the assumption of sphericity was violated, $\varepsilon = .80$, $p < .001$. Greenhouse-Geisser was applied to correct the degrees of freedom. After these corrections, results indicated that adolescents' invasion perceptions differed significantly across the three parental monitoring strategies, F (2, 155) = 315.54, $p < .001$, $\eta_p^2 = .80$. A Bonferroni-corrected post hoc test was used to compare the three groups on invasion perceptions. The post hoc results indicated that adolescents perceived subversive strategies ($M = 4.43$) as significantly more invasive than parental solicitation ($M = 1.69$), $p < .001$. Subversive strategies were also perceived as more invasive than parental control ($M = 2.25$), $p < .001$. Comparisons between parental control and solicitation indicated that adolescents perceived parental control to be significantly more invasive than solicitation.

In addition, sex was also included in the three level two-way repeated-measures ANOVA as a factor to measure whether there were interaction effects between sex and invasion perceptions. Results indicated that there was a significant interaction effect for invasion perceptions and sex, F (2, 155) = 3.78, $p = .03$, $\eta_p^2 = .05$. The mean sex differences and standard deviations in invasion perceptions for each monitoring strategy are reported in Table 5. Bonferroni-corrected Tukey post-hoc tests were conducted to compare invasion perceptions of both sexes. Results indicated that there was only a significant difference between both sexes in invasion perceptions for subversive strategies. Specifically, females ($M = 4.63$) perceived subversive strategies as more invasive than males ($M = 4.24$), F (1, 156) = 6.58, $p = .01$, $\eta_p^2 = .04$. Gender differences thus explained 4% of variance in subversive invasion perceptions. These results indicated that there was a small interaction effect of sex and invasion perceptions for parental subversive strategies. Figure 1 provides an overview of the mean sex differences in invasion perceptions for the three monitoring strategies.

The results described above suggest that adolescents perceived subversive strategies as more invasive than parental control and parental solicitation, which is in line

with Hypothesis 2. However, parental solicitation was perceived as least invasive by adolescents, which is in contrast to Hypothesis 2. Sex differences were only found for subversive strategies, which were perceived as more invasive by females than by males.

Day-to-day information sharing

A multiple regression analysis was conducted to study whether adolescents' general perceived invasion mediated an association between the different parental monitoring strategies and day-to-day information sharing on social networking sites.

On step one of the multiple regression analysis, sex and age accounted for a significant 9.0% of the variance in day-to-day information sharing, $p < .001$. There was a significant positive association between sex and day-to-day information sharing in step one ($\beta = .30$, $p < .01$), in which females shared more day-to-day information than males. A non-significant negative association between age and day-to-day information sharing ($\beta = -.08$, $p = .32$) was also found. On step two, the parental monitoring strategies were added to the regression analysis, and accounted for an additional non-significant 1.2% of the variance in day-to-day information sharing, $p = .59$. On step three, the general perceived invasion from adolescents was added to the regression analysis, and accounted for none of the variance in day-to-day information sharing, $p = .86$. As reported in Table 6, the variables that were entered in step two and three did not provide any significant associations with day-to-day information sharing. On step four, the two-way interactions with sex and age were add to the regression analysis, and accounted for an additional non-significant 2.9% of the variance in day-to-day information sharing, $p = .86$. On step five, the three-way interactions were add to the regression analysis, and accounted for an additional non-significant 2.0% of the variance in day-to-day information sharing, $p = .53$. The two-way and three-way interactions in step four and five did not provide any significant associations with day-to-day information sharing. The other variables that were already entered in previous steps showed no noteworthy differences, as reported in Table 6.

In sum, the results of the regression analysis suggest that there is no mediation effect of adolescents' general perceived invasion between the different parental monitoring strategies and day-to-day information sharing on social networking sites. In conclusion, H3 would be rejected, because the results suggest that there was no mediation effect on day-to-day information sharing. The only significant effect that the results suggested, was that girls engaged in more day-to-day information sharing than boys.

Deviant information sharing

A multiple regression analysis was conducted to test whether adolescents' general perceived invasion mediated an association between the different parental monitoring strategies and deviant information sharing of adolescents on social networking sites.

Results are presented in Table 7. On step one of the multiple regression analysis, sex and age accounted for a non-significant 3.8% of the variance in deviant information sharing, $p = .054$. There was a significant positive association between age and deviant information sharing in step one ($\beta = .19$, $p = .02$) meaning that the older the adolescents were, the more deviant information they shared. Also a non-significant negative association was found between sex and deviant information sharing ($\beta = -.02$, $p = .79$). On step two, the parental monitoring strategies were add to the regression analysis, and accounted for an additional non-significant 2.4% of the variance in deviant information sharing, $p = .29$. On step three, the general perceived invasion from adolescents was added to the regression analysis, and accounted for none of the variance in deviant information sharing, $p = .80$. On step four, the two-way interactions with sex and age were add to the regression analysis, and accounted for an additional non-significant 5.6% of the variance in deviant information sharing, $p = .45$. On step five, the three-way interactions were add to the regression analysis, and accounted for an additional non-significant 3.1% of the variance in deviant information sharing, $p = .30$. The two-way and three-way interactions in step four and five did not provide any significant associations with deviant information sharing. The other variables that were already entered in previous steps showed no noteworthy differences, as reported in Table 7.

In combination, the predictor variables explained a non-significant 15% of the variance in deviant information sharing, $p = .23$. In contrast to the hypothesis, it seems that adolescents' perceived invasion did not mediate an association between the different parental monitoring strategies and deviant information sharing of adolescents on social networking sites.

Association between monitoring strategies and general perceived invasion

A multiple regression analysis (see Table 8) was conducted to examine whether there was an association between parental monitoring strategies and adolescents' perceived invasion. On step one of the multiple regression analysis, age and sex accounted for a significant 4.2% of the variance in general perceived invasion, $p = .04$. There was a significant positive association between sex and general perceived invasion in step one ($\beta = .16$, $p = .05$) and a non-significant negative association between age and general perceived invasion ($\beta = -.16$, $p = .15$). On step two, the parental monitoring strategies were added to the regression analysis and accounted for an additional significant 23.7% of the variance in general perceived invasion, $p < .001$. There was a significant positive association between parental control and general perceived invasion ($\beta = .28$, $p < .001$) and a significant positive association between subversive strategies and general perceived invasion ($\beta = .36$, $p < .001$). No other variables were significant.

In combination, the predictor variables explained a significant 27.9% of the variance in general perceived invasion, $p < .001$. It seems that there is an association between parental monitoring strategies and adolescents' general perceived invasion.

Discussion

Parents try to stay informed about their adolescents' whereabouts by using different parental monitoring strategies, including solicitation, control (Kerr & Stattin, 2000) and subversive behaviors (Petronio, 1994). These different parental monitoring strategies can be interpreted by adolescents as invasive in some circumstances. The current study used a cross-sectional design to investigate the associations between these parental monitoring strategies, adolescents' perceptions of privacy invasion, and the extent of their information sharing on social networking sites. It is the first attempt to include subversive parental monitoring strategies in a study examining parental monitoring strategies. Informaiton about how youths interpret these different parental monitoring strategies are an important addition to the research, because of the effect of interpretation rates of adolescents on family life. Hawk et al. (2009) found adolescents' perceptions of privacy invasion to predict more frequent conflict with parents. This study also addresses to the digitization of adolescents' lives and the effect of parental monitoring on the internet use of adolescents. The association of parental monitoring strategies and online information sharing of adolescents therefore moves the field towards a greater understanding of how parents can best monitor their adolescents' behavior.

In the current study, we found subversive parental monitoring to emerge as a monitoring strategy that was distinct from parental solicitation and control (H1). Subversive parental monitoring strategies were perceived as most invasive, and solicitation as least invasive, which did not include our hypothesis (H2). Female adolescents interpreted subversive parental monitoring strategies as significantly more invasive than adolescent males. There was no association between parental monitoring strategies and day-to-day (H3) and deviant (H4) information sharing on social networking sites.

Supporting Hypothesis 1, subversive parental monitoring strategies emerged as a distinct strategy from the already established parental monitoring strategies of solicitation and control. This is in line with the findings of Petronio (1994), who provided evidence for the existence of a separate subversive parental monitoring strategy. The parental monitoring strategies solicitation and control, identified by Stattin and Kerr (2000), were also found as separate strategies in this study. Previous research has primarily focused on parental solicitation and control, and the association of these parental monitoring strategies with delinquency (Eaton et al., 2009; Keijsers et al.,

2010), antisocial behavior (Laird et al., 2010) and norm-breaking behavior (Kakihara et al., 2010). With the research conducted on the use of subversive strategies among romantic partners as one exception (Vinkers et al., 2011), subversive strategies have not been taken intro account in previous research since they were intially identified by Petronio (1994). Since subversive strategies, such as eavesdropping on conversations and snooping through adolescents' belongings, may have an association with adolescents' wellbeing, we suggest that it is important to always include all three parental monitoring strategies in future research. However, in this study, the frequency mean of subversive parental monitoring strategies was low (M = 1.29) on a 1 to 5 Likert scale. The explanation of this low mean score is not necessarily attributable to an almost non-existence of subversive monitoring strategies. The sneaky behavior of parents is the essence of subversive strategies (Petronio, 1994). Because this study used only adolescents' reports of parental monitoring behavior, it is understandable that we found low frequency scores on this topic. Future research should therefore include parental reports on their monitoring behavior to examine the frequency of subversive parental monitoring strategies.

We found mixed findings for Hypothesis 2. In line with Hypothesis 2, the current study found that adolescents perceived subversive strategies as more invasive than parental solicitation and control. This finding is in line with the findings of Petronio (1994), who found a correlation between parental subversive strategies and feelings of frustration by adolescents about losing control over their privacy. Past research suggested that parental monitoring strategies can have negative consequences for adolescents when levels of parental monitoring strategies are not matched by the adolescents' willingness to reveal information. As a result, adolescents can feel over-controlled and perceive invasion, which is related to poor adolescent adjustment, depression, low self-esteem and having doubts about their own abilities to succeed (Kakihara et al., 2010; Kerr & Stattin, 2000). It will thus probably have negative consequences when adolescents find out that their parents use subversive strategies to monitor them. To gain more insight on this topic, it is recommended that subversive strategies are included in future research on invasion perceptions.

In contrast to Hypothesis 2, the results of the current study showed that adolescents perceived parental solicitation as less invasive than parental control. This is in concordance with the suggestion made by Hawk et al. (2008). They found strong associations between control and perceived invasion. The fact that our results did not fully support our hypothesis, may be due to the fact that we used hypothetical situations, in which adolescents were asked how invaded they would feel if their parents would do such thing. It may be that if adolescents were asked about their real invasion perceptions, the hypothesis would be supported.

The fact that we used hypothetical situations may also be the reason for why the current study did not find sex differences in invasion perceptions for parental solicitation and control. A small but significant gender difference in invasion perceptions related to subversive strategies emerged in this study. Adolescent females perceived subversive strategies as more invasive than adolescent males. This is the first study to investigate sex differences in invasion perceptions related to subversive strategies. In addition, no gender differences for parental control or solicitation were found. Hawk et al. (2008) found a stronger longitudinal association between parental control and perceived invasion for males than for females. The study of Hawk et al. (2008) is different from the current study since they studied no hypothetical invasion perceptions and general perceived invasion by using a longitudinal design. This may account for the differences between our findings and those from Hawk et al. (2008). Therefore, future research should study sex differences in invasion perceptions related to parental control, solicitation and subversive strategies. Both adolescents and parents should be involved as to measure real invasion perceptions instead of reactions to hypothetical situations.

In contrast to Hypotheses 3 and 4, adolescents' general perceived invasion did not mediate an association between the different parental monitoring strategies and adolescent day-to-day information sharing (H3) or deviant information sharing (H4) on social networking sites. In line with this finding, Kerr and Stattin (2000) claimed that active parental monitoring strategies are not always effective in decreasing risk-taking behavior. However, other studies found that parental monitoring strategies can be an important protective factor against adolescents' risk-taking behavior (Li et al., 2000; Pujazon-Zazik & Park, 2010). Further, prior research found that parental monitoring strategies can reduce the Internet use of adolescents (Pujazon-Zazik & Park, 2010). These differences are probably due to the fact that the study of Kerr and Stattin (2002) focused on the relation between offline parental monitoring strategies and risk-taking behavior, while the study of Pujazon-Zazik and Park (2010) focused on the relation between online parental monitoring strategies and risk-taking behavior. We found no mediation in our study, which is probably due to the fact that offline parental monitoring strategies were researched in this study instead of online parental monitoring strategies. In the future it is important to look at online parental monitoring strategies, because there may be more important findings in this regard.

When looking further into the relation between offline parental monitoring strategies and general perceived invasion, general perceived invasion was associated with the parental monitoring strategies. More specifically, if parents use more control this is associated with higher levels of general perceived invasion in adolescents. This is partially in line with the findings of Hawk et al. (2008). Longitudinal links were found between parental solicitation and general perceived invasion, and between parental

control and general perceived invasion. However, the current study found no relation between parental solicitation and general perceived invasion. We also found that if parents use more subversive strategies, adolescents reported higher levels of general perceived invasion. This is in line with the findings of Petronio (1994), because in this study was found that when adolescents find out their parents use subversive strategies to monitor them, they may feel frustrated because they feel that they lost their own privacy.

In the study of Liau, Khoo and Ang (2008), which focused on four aspects of parental monitoring of Internet use, namely, parental supervision, communication, tracking, and adolescent disclosure, it was found that parents tend to underestimate adolescents' engagement in risky Internet behaviors. They also found that parents tend to overestimate the amount of parental monitoring they use in regard with Internet use of adolescents. Therefore, it is important for future research to study what the appropriate amount of parental monitoring is to reduce deviant information sharing of adolescents and in that way the risky Internet behaviors of adolescents.

Strengths and limitations

The present research possesses several strengths, as the data was conducted in different demographical regions in the Netherlands and this is the first attempt to take subversive parental monitoring strategies into account. However, there are some limitations to this study. First, to measure whether adolescents' perceived invasion mediated an association between the different offline parental monitoring strategies and deviant information sharing of adolescents on social networking sites, we only used offline parental monitoring strategies. We made the decision to examine only offline parental monitoring strategies to fill a gap in current research by studying this association. This is, however, an important limitation, because online parental monitoring strategies should also be examined and would probably show other relations with online information sharing. Online information sharing is a rather specific behavior that could require specific, online parental monitoring (Liau et al., 2008). Williams and Merten (2008) recommend, in response to their study of social networking site profiles of adolescents, that parents should at least know what their adolescents are sharing on the Internet and that they should monitor their adolescents with regard to this knowledge.

Second, our measures of privacy invasion and parental monitoring strategies required adolescents to report on parents as a unit, instead for mothers and fathers separately. Therefore we cannot draw conclusions about distinctions between mothers and fathers. Mothers and fathers differ in monitoring their children in several ways. Mothers often know more about adolescents' whereabouts than fathers and they often gain information by active supervision more than fathers (Waizenhofer, Buchanan, & Jackson-Newsom 2004). These results are confirmed by Crouter, Bumpus, Davis and

McHale (2005) who found mothers to rely more than fathers on solicitation while gaining information about their adolescents. Concerning Internet use, mothers also seem to be better informed about their adolescents internet use than fathers (Liau et al., 2008). On the other hand, fathers are more likely than mothers to check the websites their children visited (Wang, Bianchi, & Raley, 2005). With this information about mothers and fathers to differ in monitoring their children, future studies should separate parental reports into mother and father reports.

Finally, the sample was not ethnically diverse or diverse in terms of age, and this can be seen as a limitation to the generalizability. The Netherlands also houses other ethnical families such as Turkish and Moroccan families. We do not expect large differences with other cultures when it comes to reporting parental monitoring. A study among African-American adolescents revealed females to report more parental monitoring than males (Li et al., 2000), which is partly in line with our study. Tang and Dong (2006) also found strong similarities between the Western concept of privacy and the Chinese concept of privacy and also found similar problems with privacy boundaries within families.

Age also plays a role in this research area. For example, it associates with invasion perceptions of adolescents. Negative effects of parental control, such as feelings of being over-controlled, are more present in older adolescents than in younger adolescents (Kakihara et al., 2010). The extent in which parents practice parental control decreases was adolescents get older (Barber et al., 2005). Therefore, ideally, our findings should be replicated in samples that are more ethnically diverse and more diverse in terms of age.

Conclusion

The current study is the first since Petronio (1994) to take subversive strategies into account in addition to parental control and solicitation. The results suggest that subversive strategies emerged as a distinct parental monitoring strategy. Our findings also suggest that adolescents perceive subversive strategies as more invasive than parental solicitation and control. Our study did not find an association between the offline parental monitoring strategies and online information sharing. When choosing a parental monitoring strategy to gather knowledge about their adolescents' whereabouts, parents should be aware of the effects their behavior may have on their adolescents' feelings of invasion.

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Table 1

Descriptive Statistics of Parental Monitoring Strategies, Invasion Interpretation and Perceived Invasion of These Monitoring Strategies and Information Sharing

	All participants (n = 158)		Females (n = 76)		Males (n = 82)	
	M	*SD*	*M*	*SD*	*M*	*SD*
Age	15.70	.69	15.63	.69	15.77	.69
Parental monitoring						
1. Solicitation	3.46	.69	3.61	.65	3.32	.70
2. Control	3.37	.91	3.67	.85	3.10	.88
3. Subversive	1.29	.44	1.33	.47	1.25	.40
Invasion interpretation						
4. Solicitation	1.69	.76	1.58	.63	1.79	.85
5. Control	2.25	.97	2.20	.93	2.29	1.02
6. Subversive	4.43	.97	4.63	.71	4.24	1.13
7. Perceived Invasion	2.73	.61	2.83	.59	2.64	.61
Information sharing						
8. Deviant	1.41	.62	1.40	.60	1.43	.65
9. Day-to-day	2.78	.87	3.04	.78	2.52	.88

Table 2

Correlations Between Parental Monitoring Strategies, Invasion Perception of These Monitoring Strategies and Information Sharing

	1	2	3	4	5	6	7	8	9
Parental monitoring									
1. Solicitation	–	.36**	-.03	-.09	-.05	.07	.14	-.08	.10
2. Control		–	.16*	.04	-.08	.09	.38**	-.102	.12
3. Subversive			–	.33**	.21**	-.13	.41**	.10	-.07
Invasion Perception									
4. Solicitation				–	.53**	-.32**	.24**	.20*	.04
5. Control					–	.10	.27**	.21**	.19*
6. Subversive						–	.14	-.01	.17*
7. Perceived Invasion							–	-.02	.00
Information sharing									
8. Deviant								–	.38**
9. Day-to-day									–

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

Table 3

Factor Loadings for Exploratory Factor Analysis With Oblimin Rotation of Control, Solicitation and Subversive Parental Monitoring Strategy (N=159)

Item	Control	Subversive	Solicitation	Communality
Do your parents talk to your friends when they visit you?	-.08	.03	**.62**	.22
Did your parents during the last month, start a conversation your leisure time?	.05	.13	**.43**	.17
Do your parents start a conversation about a normal school day?	.03	-.11	**.57**	.29
Do your parents ask you to tell about things that happened in your leisure time?	.33	-.06	**.47**	.33
Do you need your parents' permission about what you're going to do on a Saturday evening?	**.52**	.00	.07	.31
Do your parents demand you to tell them about your evening when you are home late?	**.64**	.07	.05	.42
Do your parents demand you to tell them where you are, what you do and with whom in the evenings?	**.91**	-.01	-.00	.69
Do your parents demand you to tell them about your plans on a Saturday evening?	**.89**	-.03	-.13	.65
How often do your parents try to watch your MSN/chat conversations?	.12	**.66**	.02	.42
How often do your parents read your diary without your permission?	-.05	**.83**	.08	.69
How often do your parents read your e-mail or text messages without your permission?	-.07	**.74**	.13	.54
How often do your parents sniff around your personal belongings without your permission?	.04	**.50**	-.23	.30
Eigenvalues	3.27	2.33	1.56	
% of variance	27.21	19.42	13.01	

Note. Factor loadings >.40 are in boldface

Table 4

Factor Correlations

Factor	Control	Subversive	Solicitation
Control	1.00	.15	.29
Subversive		1.00	-.01
Solicitation			1.00

Note. Bartlett's Test of Sphericity: $p < .001$

Table 5

Mean Differences of Invasion Interpretations of Parental Monitoring Strategies Between Boys and Girls

				95% CI	
Parental monitoring strategy	*MD* (boys-girls)	*SD*	*p*	*LL*	*UL*
Parental control	.09	.16	.57	-.22	.40
Parental solicitation	.21	.12	.76	-.02	.45
Parental subversive strategies	-.39	.15	.01	-.69	-.09

Note. CI: confidence interval; *LL* = lower limit, *UL* = upper limit.

Table 6

Multiple Regression Analysis Predicting Day-to-day Information Sharing From Adolescents on Social Networking Sites

Predictor	B	SE	*β*	Adj. R^2	ΔR^2
Step 1				.08	.09
Sex	.59	.15	.30*		
Age	.08	.08	.08		
Step 2				.07	.01
Sex	.57	.16	.29*		
Age	.08	.08	.08		
Solicitation	.02	.08	.02		
Control	.05	.09	.05		
Subversive	-.10	.08	-.10		
Step 3				.07	.00
Sex	.57	.16	.29*		
Age	.08	.08	.08		
Solicitation	.02	.09	.02		
Control	.04	.09	.04		
Subversive	-.10	.09	-.11		
Invasion	.02	.09	.02		
Step 4				.04	.03
Sex	.58	.17	.29*		
Age	.00	.11	.00		
Solicitation	.08	.12	.08		
Control	.02	.13	.02		
Subversive	-.04	.13	-.04		
Invasion	-.06	.12	-.06		
Sex x Age	.15	.17	.11		
Sex x Solicitation	-.12	.18	-.08		
Sex x Control	.02	.19	.01		
Sex x Subversive	-.13	.18	-.10		
Sex x Invasion	.17	.19	.11		
Age x Solicitation	.00	.10	.00		
Age x Control	-.11	.11	-.10		
Age x Subversive	-.07	.08	-.09		
Age x Invasion	.05	.10	.06		
Step 5				.03	.02

Sex	.57	.17	.29*
Age	-.08	.11	-.01
Solicitation	.08	.12	.08
Control	.02	.14	.02
Subversive	-.02	.13	-.02
Invasion	-.05	.13	-.05
Sex x Age	.16	.17	.11
Sex x Solicitation	-.13	.18	-.08
Sex x Control	.02	.19	.02
Sex x Subversive	-.15	.19	-.11
Sex x Invasion	.14	.20	.09
Age x Solicitation	-.03	.13	-.03
Age x Control	-.25	.16	-.24
Age x Subversive	.16	.15	-.20
Age x Invasion	.22	.14	.23
Sex x Age x Solicitation	.06	.20	.04
Sex x Age x Control	-.28	.22	.18
Sex x Age x Subversive	.14	.18	.14
Sex x Age x Invasion	-.33	.21	-.23

Note. * $p < .05$

Table 7

Multiple Regression Analysis Predicting Deviant Information Sharing From Adolescents on Social Networking Sites

Predictor	B	SE	*β*	Adj. R^2	ΔR^2
Step 1				.03	.04
Sex	-.04	.16	-.02		
Age	.19	.08	.19*		
Step 2				.03	.02
Sex	.01	.17	.00		
Age	.19	.08	.19*		
Solicitation	-.07	.09	-.07		
Control	-.07	.09	-.07		
Subversive	.12	.08	.12		
Step 3				.02	.00
Sex	.01	.17	.00		
Age	.19	.08	.20*		
Solicitation	-.07	.09	-.07		
Control	-.08	.09	-.08		
Subversive	.11	.09	.11		
Invasion	.02	.09	.02		
Step 4				.02	.06
Sex	-.01	.17	-.00		
Age	.24	.11	.25*		
Solicitation	-.15	.12	-.15		
Control	-.07	.13	-.07		
Subversive	.20	.13	.20		
Invasion	-.07	.12	-.08		
Sex x Age	-.10	.17	-.07		
Sex x Solicitation	.17	.18	.11		
Sex x Control	-.01	.19	-.01		
Sex x Subversive	-.20	.19	-.15		
Sex x Invasion	.25	.19	.17		
Age x Solicitation	-.08	.10	-.07		
Age x Control	-.14	.11	-.13		
Age x Subversive	.02	.08	.02		
Age x Invasion	.04	.10	.04		
Step 5				.03	.03

Sex	-.03	.17	-.01
Age	.23	.11	.23*
Solicitation	-.14	.12	-.14
Control	-.09	.14	-.09
Subversive	.22	.13	.22
Invasion	-.05	.12	-.06
Sex x Age	-.15	.17	-.10
Sex x Solicitation	.18	.18	.12
Sex x Control	-.00	.19	.00
Sex x Subversive	-.23	.19	-.18
Sex x Invasion	.27	.20	.18
Age x Solicitation	-.16	.13	-.16
Age x Control	-.13	.16	-.12
Age x Subversive	.19	.15	.23
Age x Invasion	-.07	.14	-.08
Sex Age x Solicitation	.27	.20	.17
Sex x Age x Control	-.05	.22	-.04
Sex x Age x Subversive	-.25	.18	-.26
Sex x Age x Invasion	.25	.21	.18

Note. * $p < .05$

Table 8

Multiple Regression Analysis Predicting General Perceived Invasion From the Parental Monitoring Strategies

Predictor	B	SE	*β*	Adj. R^2	ΔR^2
Step 1				.03	.04
Sex	.31	.16	.16*		
Age	-.11	.08	-.12		
Step 2				.26	.24
Sex	.05	.15	.03		
Age	-.08	.07	-.08		
Solicitation	.05	.08	.05		
Control	.28	.08	.28*		
Subversive	.36	.07	.36*		

Note. * $p < .05$

Figure 1

Means of Invasion Perceptions of Parental Monitoring Strategies for Boys and Girls