UNIVERSAL WISER
PUBLISHER

Research Article

Surveilling and Spying on Romantic Partners in the United States: The Influence of Perceived Maternal Rejection and Psychological Maladjustment

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Abstract: According to interpersonal acceptance-rejection theory (IPARTheory), people who perceive rejection by important others experience more psychological maladjustment than those who do not perceive rejection. IPARTheory predicts universal responses to perceived rejection or acceptance, making it important to explore its predictive ability with theoretically-related constructs like romantic relationships. Participants ($N = 443$; $M_{age} = 36.05$ years; $SD = 11.26$; 46% identifying as men, 45.4% reported their assigned sex at birth as male) completed surveys regarding perceptions of their childhood relationships with their mother, interpersonal anxiety, engagement in romantic surveillance, jealousy, infidelity, sociosexual orientation, and gender norms. We examined how well perceived maternal acceptance-rejection (independent variable) predicted reasons to spy/stalk on a romantic partner and the likelihood of spying/stalking (dependent variables). For both models, we explored psychological maladjustment, interpersonal anxiety, jealousy, and sociosexuality as mediators and included correlated demographic variables as covariates in the models. Jealousy mediated perceived maternal rejection and increased surveilling. Our study broadens the understanding of variables that influence surveilling behaviors in romantic relationships in the United States, and provides support for the universal application and predictive ability of IPARTheory.

Keywords: IPARTheory, psychological maladjustment, romantic relationships, romantic spying, romantic surveilling, maternal rejection, jealousy, gender role attitudes

1. Introduction

Relationships are crucial for social and emotional development and stability regardless of age, gender, race, ethnicity, religion, or wealth (Rohner & Rising, 2006). Children's relationships with their primary caregivers are particularly important for future relationships (Rohner & Khaleque, 2002), as early childhood environments influence internal working models of relationships (Bowlby 1969, 1973; Faherty et al., 2016; Rohner & Lansford, 2017). In this study, we explored whether perceived maternal acceptance-rejection influences negative maintenance behaviors in adulthood romantic relationships — particularly the likelihood of engaging in spying-and-or surveilling (S-S) on romantic partners.

Myriad studies have examined behaviors people use to maintain relationships, with the majority biased toward pro-social or positive behaviors like investment, conflict management, and expressing gratitude (Ogolsky et al., 2017). Not all maintenance behaviors are positive, as some people rely on potentially negative behaviors to maintain their relationships in a desired state (Dainton et al., 2017; Dainton & Gross, 2008; Goodboy & Bolkan, 2011; Goodboy et al., 2010, 2017). For example, individuals might use unhealthy tactics to avoid conflict rather than maintain boundaries, partner regulation via inducing guilt, or spying as maintenance techniques (Dainton & Gross, 2008; Goodboy & Bolkan, 2011; Jayamaha et al., 2016; Tokunaga, 2011, 2016). In one study, participants reported using jealousy, avoidance, infidelity, destructive conflict, and spying (Dainton & Gross, 2008). However, in order to truly understand why an individual uses any given relationship maintenance strategy, one must pay attention to the social context in which it occurs (Ogolsky et al., 2017).

Research is beginning to examine how dysfunctional relationship maintenance behaviors of S-S relates to interpersonal acceptance and rejection theory (IPARTheory; Demarest et al., 2018). How negative behaviors might be related to early life experiences is a significant part of what people say and do in their romantic relationships and why they do it, which have yet to be fully explored (Goodboy et al., 2017). Of particular interest for our study is exploring one possible reason (i.e., perceived maternal rejection) that people engage in the negative behaviors of S-S in order to maintain their current relationship. Although initial ideas of S-S might conjure images of horror movies and standing outside someone's house in recessed shadows, research suggests that S-S is subtler and complicated, especially in interpersonal relationships (Tokunaga, 2011) – particularly as it mostly occurs online now (Reed et al., 2016).

S-S in romantic relationships, whether online or offline, occurs when one partner closely observes and monitors a partner. This behavior is probably related to important evolutionary mechanisms originally meant to guard against threats potentially lurking in the dark of one's relationship (Tokunaga, 2011, 2016). In the presence of romantic jealousy, S-S can be used as a way for a person to monitor and attempt to control their partner's behavior to maintain control in the relationship (Hernández-Santaolalla & Hermida, 2020), and might help individuals monitor their surroundings for anything that might threaten the relationship (Shoemaker, 1996; Tokunaga, 2016).

While S-S behavior happens offline (such as following a partner, showing up at a place of work or study, etc.), much of the S-S that occurs now happens online, and particularly via social media (Wang et al., 2017). Individuals use S-S strategies to access information to reduce the uncertainty they feel in their relationships regarding whether a partner is cheating or to search for information about the partner's commitment level (Dainton et al., 2017; Goodboy et al., 2017; Hertlein & van Dyck, 2020; Tokunaga, 2011). With technological innovations made nearly daily, monitoring the nature and context of another's social activities is easier, more enticing, less detectable and less energy intensive (Hertlein & van Dyck, 2020; Tokunaga, 2011; 2016).

The negative maintenance strategies of S-S are meant to sustain the existence of a desired relationship over time (Tokunaga, 2016). These behaviors are used to validate one's passion for the relationship (Goodboy et al., 2010) and decrease relationship anxiety (Wang et al., 2017). According to Goodboy and colleagues (2010), individuals with a passionate love style are more likely to engage in S-S, as are those with insecure attachment styles (Wang et al., 2017). Perhaps these individuals are testing whether their passion for the relationship is shared by the partner or striving to buffer their own anxiety. When the partner found behaving appropriately, the S-S serves as reassurance that the relationship is good and provides comfort (Wang et al., 2017).

Research shows that using negative maintenance behaviors is symptomatic of low-quality relationships, and thus not used to improve the relationship but instead to ensure its continued existence (Goodboy et al., 2017; Tokunaga, 2016). Yet, relational S-S has mostly been overlooked in research that includes childhood-based antecedents to such behavior. Thus, we examined this behavior from a socio-developmental perspective. Specifically, we were interested in the development of S-S behavior relating to parental rejection perceived during participants' childhoods.

1.1 *Interpersonal acceptance-rejection theory*

IPARTheory attempts to explain the antecedents, correlates, and consequences of perceived relational acceptance or rejection (Rohner & Khaleque, 2002). Originally rooted in work with children, IPARTheory encompasses adult memories of childhood acceptance-rejection, perceptions of current adulthood acceptance-rejection, and how those perceptions influence psychological maladjustment (Khaleque & Ali, 2017; Ki et al., 2018). Studies indicate that when relationships are perceived as warm and loving, people are psychologically well adjusted. On the contrary, when

relationships are perceived as less loving, psychological adjustment is impaired (Khaleque & Ali, 2017; Rohner & Khaleque, 2002).

In accordance with IPARTheory, parental acceptance-rejection has four principle expressions: warmth/affection, hostility/aggressiveness, indifference/neglect, and undifferentiated rejection (Khaleque & Ali, 2017; Rohner, 2021; Rohner & Khaleque, 2005). Importantly, these are measured on a continuum, as opposed to a dichotomy, and each person's perceptions vary in range from acceptance to rejection. Moreover, cultural, gender, and ethnic identity do not significantly influence perceptions of one's acceptance or neglect (Faherty et al., 2016; Khaleque & Ali, 2017; Rohner, 2021).

The *warmth/affection* dimension refers to the quality of affectionate bonds, including physical, verbal, and symbolic behaviors to express care for others. In a parent-child relationship, these could include parents hugging and praising their child, whereas a lack of physical and/or verbal behaviors indicates little warmth or affection. Physical and verbal indicators of *hostility/aggression* include behavior that intends to hurt someone physically or emotionally. *Indifference/ neglect* includes being physically or psychologically unavailable or ignoring the child's needs. Finally, unlike specific behaviors indicated in the other principle expressions, *undifferentiated rejection* refers to beliefs that others do not really love them or care about them, without specific behavioral indicators of rejection (Rohner, 2021; Rohner & Rising, 2006). Many studies suggest that behavioral, social, and emotional problems during the lifespan can be linked, to some degree, to perceived parental rejection across culture, race, gender, and language (Rohner & Khaleque, 2002). Hundreds of cross-cultural and meta-analytic studies indicate that when children experience perceived parental rejection in childhood, they show increased psychological maladjustment and other dysfunctional issues in adulthood, like increased likelihood for acceptance-rejection syndrome (ARS), which includes a constellation of negative personality dispositions (e.g., hostility, low self-esteem, emotional instability; Rohner, 2021; Rohner & Rising, 2006), depression or depressed affect (Rohner, 2021; Rohner & Britner, 2002), rejection sensitivity (Ibrahim et al., 2015), and fear of intimacy (Rohner, 2021).

For example, Khaleque et al. (2018) demonstrated that greater levels of remembered maternal rejection predicted psychological maladjustment among young adults from Pakistan. In the same study, greater levels of remembered maternal rejection was correlated with higher levels of relationship anxiety and greater fear of intimacy. African American adolescent girls were more likely to have externalizing problems if they perceived greater maternal rejection (Donenberg et al., 2018). Finally, Sultana et al. (n.d.) established a correlation between greater perceived maternal acceptance and perceived acceptance from the participants' intimate partners. Clearly, these studies suggest that there is reason to explore the ways in which perceived maternal acceptance-rejection might be connected to various aspects of romantic relationships, such as S-S behaviors.

1.2 *Potential outcomes and mediators*

In line with IPARTheory and attachment theory, if a child struggles with childhood parental rejection, they are more likely to struggle in their adult romantic relationships (Ki et al., 2018). Childhood relationships to important figures serve as a model for later relationships (Ki et al., 2018; Rohner & Khaleque, 2002). Without positive relationships in childhood, the likelihood of problems in adult romantic relationships increases, likely due to perceptions or reactions to those perceived experiences (Lansford et al., 2010; Rohner & Lansford, 2017). When a person's important emotional bonds are disappointing, threatened, or broken, it is possible that emotions such as anxiety, insecurity, or anger will appear (Rohner & Britner, 2002).

Adults who feel they were rejected are likely to perceive situations and relationships in ways that are consistent with their distorted mental representations, including constructing mental images of personal relationships as being unpredictable, untrustworthy, and hurtful (Ibrahim et al., 2015; Rohner & Lansford, 2017). They are more likely to perceive adult partners as hostile, untrustworthy, or a threat of imminent rejection (Ibrahim et al., 2015). In sum, individuals who perceive childhood rejection tend to experience interpersonal anxiety in adulthood.

1.2.1 *Psychological maladjustment and interpersonal anxiety*

Parental rejection has a profound negative effect on one's psychological adjustment (Ali et al., 2018; Khaleque et al., 2018; Rohner 2021). IPARTheory suggests that a child's psychological adjustment is influenced by how a child

perceives they were treated by parents. Specifically, a large meta-analysis demonstrated that when people remember feeling accepted by parents, they are better psychologically adjusted in comparison to people who felt rejected (Ali et al., 2018). And, although it decreases as the individual ages, people's perceptions of maternal undifferentiated rejection exacerbate that effect of maladjustment (Ali et al., 2018).

Interpersonal anxiety in adult romantic relationships is not only related to both paternal and maternal rejection, but it is also a primary predictor of future relationship traits. Adults who experience interpersonal anxiety tend to rate their parents as having been less warm, caring, and dismissive than adults without interpersonal anxiety (Giaouzi & Giovazolias, 2015). Individuals who report having a warm, caring relationship with at least one parent in childhood were significantly less likely to develop a fear of intimacy than adults who did not have such a relationship, and, more specifically, maternal rejection was more strongly related to adults' fears of intimacy than paternal rejection (Rohner et al., 2019). Moreover, psychological maladjustment partially mediates the relationship between parental rejection and fear of intimacy (Rohner et al., 2019).

Individuals who feel rejected by significant others are more likely to be anxious and insecure than those who are not, as they perceive higher levels of potential partner rejection (Giaouzi & Giovazolias, 2015; Khaleque & Rohner, 2012). Anxiety and avoidance are related to the fear of rejection and abandonment (anxiety) and discomfort with closeness (avoidance) in personal relationships (Rohner et al., 2019). Moreover, insecure individuals tend to be more likely to engage in negative maintenance strategies (Goodboy et al., 2017). In line with attachment theory, insecure individuals distrust others, which tends to suppress prosocial behaviors (Goodboy et al., 2017). Additionally, they may be engaging in negative maintenance strategies out of worry that the partner will behave badly, and S-S allows them to seek information to reduce anxiety (Goodboy & Bolkan, 2011; Goodboy, et al., 2017). In fact, many studies show that insecurity is a direct positive predictive of S-S behaviors (Dainton et al., 2017; Goodboy & Bolkan, 2011).

1.2.2 *Romantic jealousy*

People who perceived more rejection from their parents and other important adults during their childhood tend to have higher levels of jealousy (Rohner & Lansford, 2017). Perceptions of parental rejection in childhood are associated with the development of cognitive distortions, including the tendency to overreact to real or imagined rejection (Ibrahim et al., 2015). In an attempt to allay relationship anxieties, individuals who feel rejected may become jealous in the face of competition for time or affections, as well as neediness expressed in frequently seeking reassurance (Rohner & Lansford, 2017).

Moreover, expressions of romantic jealousy serve a relationship maintenance purpose (Dainton & Gross, 2008). Jealousy is the experience of distress following a threat (whether real or imagined) to the existence or quality of one's relationships. This creates a threat to one's self-esteem as well as imposes uncertainty onto the relationship. Jealousy is a complex emotion that stems from the fear of abandonment or feelings of inadequacy, and has evolved to not only alert individuals to potential relationship threats but also to activate mate-guarding behaviors to threats — such as S-S (Buss et al., 1996).

1.2.3 *Sociosexuality*

An important developmental achievement is the ability to form and maintain long-term committed romantic relationships (Szepsenwol et al., 2017). Sociosexuality (SO), one dimension of variability in this domain, refers to people's comfort levels with sexual interactions outside the confines of romantic commitment, ranging from restricted (i.e., highly comfortable) to unrestricted (i.e., highly uncomfortable; Simpson & Gangestad, 1991a; 1991b). Some argue that this reflects adaptive adjustments to experiences in early life, specifically related to the early family environment (Szepsenwol et al., 2017). Individuals who were rejected by their mothers in childhood are more likely to have negative experiences in romantic relationships and engage in casual sex with a greater number of partners (Penke & Asendorpf, 2008; Szepsenwol et al., 2017).

Relationship beliefs based on early experiences play an important mediating role between the relationships in early environments and sociosexuality (Szepsenwol et al., 2017). As such, SO has a strong, and often negative, influence in adult romantic relationships, including decreased commitment, attraction, and liking of the current partner (Hackathorn & Brantley, 2014), and ultimately increased engagement in infidelity (Mattingly et al., 2011). In addition to a long list of

studies showing increased rates of infidelity, individuals with an unrestricted SO are also more likely to engage in other negative relational maintenance behaviors related to control and aggression (Yost & Zurbriggen, 2006). To the best of our knowledge, however, there are no studies that examined whether SO is related to the specific negative relational maintenance strategy of S-S.

1.2.4 *Gender role attitudes*

A child's development is not only influenced by the relationship the child has with each of the parents, but is also shaped by the relationship between the parents (Li & Meier, 2017; Rohner & Lansford, 2017). It is important to consider how warmth (or, alternately, coldness) might indirectly influence children via parental relationships. That is, each parent's behavior influences the other parent's behavior, which then influences the child's outcomes (Li & Meier, 2017). Beliefs in gender roles, although changing, are thought to be passed down from one's parents (Ciocca et al., 2020; Li & Meier, 2017).

Traditional gender roles often point to unequal work expectations in parenting. However, relaxation of gendered expectations for both sexes has promoted new ideals, such as nurturing fathers, and has changed the landscape of parenting. Beliefs in non-traditional gender roles can influence the child's beliefs about each parent and each parent's responsibilities. More specifically, children can "raise the bar" on the amount of interaction, warmth, and affection they can expect to see from their parents (Li & Meier, 2017). In turn, those expectations can influence the amount of neglect perceived in those relationships (Khaleque & Ali, 2017; Rohner, 2021).

Gender role beliefs can also influence the quality of adulthood romantic relationship (Redlick, 2019; Stafford et al., 2000). Consistent differences among genders can be found in research about positive relationship maintenance strategies (Stafford et al., 2000). However, the explanations for these differences tend to originate in gender role stereotypes, as research implies that there is a relationship between gender role beliefs and positive relational maintenance (Stafford et al., 2000), rather than sex differences. Stafford and colleagues (2000) found that while there are sex differences in many of the positive maintenance strategies, biological sex is not a primary predictor of such strategies. For example, being female was not as influential as femininity. This suggest that it is not biological sex but gender role characteristics that are important when considering how to maintain a relationship (Stafford et al., 2000).

If femininity and masculinity influence positive maintenance strategies, perhaps believing in traditional gender roles is also influential. Traditional gender role endorsement includes a set of beliefs about actions and attitudes expected and considered appropriate when assessing a potential intimate partner (Redlick, 2019). However, there are inconsistencies in past research regarding what type of effect gender role beliefs have on a relationship (Redlick, 2019). More related to the central tenets of our paper, we are unaware of studies that examined gender role beliefs in the negative relational maintenance strategies. Research regarding gender role beliefs and maintenance strategies indicates that communication behaviors are strongly linked to gender role beliefs (Stafford et al., 2000). Thus, it makes sense that negative relational maintenance, especially S-S, might also be linked to gender role beliefs. As such, this notion could be supported by a recent study that showed that individuals from cultures with higher levels of gender equality norms were generally less tolerant of S-S behaviors than individuals with lower levels of gender equality norms (Sheridan et al., 2017).

2. Present study

We explored whether or not people who perceived childhood maternal rejection were more likely to surveil or spy on their romantic partners, and if this was mediated by other variables including jealousy, interpersonal anxiety, psychological maladjustment, sociosexuality, and gender role attitudes. The use of multiple variables as possible mediators is beneficial as an attempt to examine IPARTheory in the various ways it might have explanatory power in the realm of romantic relationships. We hypothesize: (1) adult participants who remember feeling greater childhood maternal rejection would be more likely to engage in the negative relational maintenance strategy of S-S in their adult romantic relationships; and (2) that other relevant variables, such as gender role attitudes, psychological adjustment, general relationship anxiety, sociosexual orientation, and jealousy might influence or mediate the relationship between perceived maternal rejection and S-S. Our second hypothesis is exploratory in nature, and so we do not hypothesize the

directions of these expected relationships.

3. Methods

All research procedures [research materials, hypotheses, and analyses are at https://osf.io/68s9w/?view_only=41c cde87d42141998ff14530837700ebrt] were approved by the appropriate Institutional Review Board and in line with the American Psychological Association's ethical guidelines. Data for this project was collected in February and March of 2019.

3.1 *Participants*

Participants ($N = 443$; $M_{age} = 36.05$ years; $SD = 11.26$; 46% identifying as men, 45.4% reported their assigned sex at birth as male) were required to be residing in the United States at the time they completed the surveys. In terms of sexual orientation, 74% reported they are heterosexual, 2.9% homosexual, 8.8% bisexual, and 13.3% marked 'other'. A majority (60.7%) had an undergraduate degree (47.2% bachelor; 13.5% associate), 14.9% had graduate degrees, 7.2% were currently undergraduate students, 16.3% had a high school diploma or equivalent, and the rest (0.9%) did not answer this question. The majority were White/Caucasian (75.2%), with 4.5% claiming an ethnic identity as Black, 7.7% as Hispanic, 5.9% as Asian, 6.1% as 'other', and 0.6% not responding.

We asked participants about political ideology, and 26.6% said they were Republicans, 35.2% Democrats, 20.1% Independents, 14.2% 'other', and 3.8% did not answer. Participants also indicated their political ideology on a 100-point line (anchored from "very conservative" to "very liberal"), with the mean score was 46.39 ($SD = 29.98$), indicating a right-of-center average, yet demonstrating diversity in political ideology, as the standard deviation is quite large relative to the mean. On a similar 100-point line measure of religiosity (with higher scores indicating more religiosity), the participants' average was 44.73 ($SD = 35.28$), indicated a level of religiosity less than, or below, the midpoint with quite a bit of variability. Participants reported their religious affiliation as Catholic (18%), Protestant (37.7%), Jewish (2.3%), Muslim (1.2%), 'Other' (12.4%) and 'none' (20.1%).

A large portion were currently married (47%, with another 0.5% stating they were married and having an affair), with 19.6% single, 11.3% identifying as committed, 11.1% as dating exclusively, 6.5% as dating casually, and 4.1% engaged to be married. For participants currently in a relationship, the mean length of their relationship was 84.86 months ($SD = 103.55$ months), or 7.07 years ($SD = 8.63$ years) –indicating great variability in participants' responses. We asked participants to state if they had ever cheated on their partners (yes = 35.3%) or if they had ever been cheated on by their partners (yes = 51.9%).

3.2 *Materials and procedure*

We utilized Amazon.com's Mechanical Turk (MTurk) to collect the data. To participate in our study, participants had to be at least 18 years old, had successfully completed previous surveys on MTurk, and currently lived in the United States. If potential participants met these requirements, they clicked on the link, which directed them to a brief study description and consent form. Upon clicking a button to indicate consent, they were directed to the survey. Participants were presented, in random order, measures for the following constructs:

3.2.1 *Maternal acceptance-rejection*

With permission, we used the 24-item Parental Acceptance-Rejection Questionnaire for Mothers (PARQ-M; Rohner & Khaleque, 2005) to measure perceived rejection from one's mother. It includes items such as, "My mother saw me as a big nuisance." Participants responded on a four-point Likert-type scale from "almost always true" to "almost never true." The measure contains four subscales: warmth/affection (eight items; $\alpha = .93$), hostility/aggression (six items; $\alpha = .90$), indifference/neglect (six items; $\alpha = .86$), and undifferentiated rejection (four items; $\alpha = .88$; Rohner, 2021). A total rejection score was calculated by summing each of the individual subscale scores and can range from no rejection (24) to extreme rejection (96). Higher scores on this measure indicate greater perceptions of rejection ($\alpha = .96$).

3.2.2 Spying and surveillance

We used two measures to investigate both the reasons and the likelihood of S-S behavior toward romantic partner. To explore the reasons why participants might spy on or surveil their romantic partners, we used the Reasons for Spying Scale (RSS; Demarest et al., 2018). This survey has 16 items that participants respond to using a five-point Likert scale (1 = I would definitely not spy for this reason; 5 = I would definitely spy for this reason). Example items include: "S/he has a new opposite sex friend." Higher scores on this survey indicate that the participant endorses more reasons for spying on their partner (α = .96).

To measure the likelihood that participants would engage in S-S on their romantic partner, we used the Stalking/Spying Likelihood Scale (SSL; Demarest et al., 2018). This survey has 11 items, and participants use a five-point Likert scale (1 = I would not do this at all; 5 = I would definitely do this). Participants are instructed to respond to each item as if they suspected their partner of cheating. Example items include "Follow your partner without him/her knowing." Higher scores on this survey indicate that the participant is more likely to S-S on their partner (α = .95).

3.2.3 Psychological maladjustment

The Personal Assessment Questionnaire (PAQ; Rohner & Khaleque, 2005) is a 63-item survey that measures participants' personal psychological adjustment. It includes items such as "I avoid close interpersonal relationships." Participants responded on a four-point Likert-type scale from "almost always true" to "almost never true." After reverse-score appropriate items, higher scores on this measure indicate greater psychological maladjustment (α = .96).

3.2.4 Interpersonal anxiety

The Interpersonal Relationship Anxiety Questionnaire (IRAQ; Rohner, 2013) presents participants with nine items, such as "I feel stressed." Participants are instructed to respond to these items in the context of their relationships with other people. Participants responded on a four-point Likert-type scale from "almost always true" to "almost never true." After reverse-score appropriate items, higher scores on this measure indicate greater anxiety (α = .90).

3.2.5 Jealousy

The Multidimensional Jealousy Scale (MJS; Pfeiffer & Wong, 1989) measures levels of romantic jealousy via three subscales with eight items each: cognitive (α = .97), emotional (α = .93), and behavioral (α = .95) components of jealousy. The cognitive and behavioral subscales use a seven-point Likert-type scale (1 = never; 7 = always) for 8 response items each (e.g., "I suspect that [my partner] is secretly seeing someone of the opposite sex"). The emotional subscale items were also rated using a seven-point Likert-type scale, but with different anchors (1 = very pleased; 7 = very upset). An example of an emotional item is, "How would you react emotionally [if your partner] hugs and kisses someone of the opposite sex." Higher scores on each subscale, as well as the combined overall scale (α = .90), indicate greater jealousy.

3.2.6 Sociosexuality

The Sociosexual Orientation Inventory-Revised (SOI-R; Penke & Asendorpf, 2008) measures the comfort people have with sex outside of a committed relationship. It has seven items measuring participants' sexual history, hoped-for future sexual behavior, sexual fantasies, emotional attachments, and attitudes about casual sex (α = .78). Four items on the inventory use a Likert-type measure to ask about fantasies and attitudes, while three items ask about the number of past sexual partners and behaviors as well as expected number of future sexual partners. Items on the measure are summed, and higher numbers on the inventory indicate an unrestricted orientation (e.g., greater comfort with non-committed, or casual, sex). In the current sample, scores ranged from 11 to 74.

3.2.7 Gender role attitudes

We used the Hypergender Ideology Scale (HGIS; Hamburger et al., 1996) to investigate participants' gender role attitudes. Using a six-point Likert-type scale (1 = strongly disagree; 6 = strongly agree), participants responded to 57

items, such as "Real men look for danger and face it head on." After reverse-scoring appropriate items, higher scores on this measure indicate a more traditional (e.g., less egalitarian) gender ideology ($\alpha = .98$).

3.3 *Data analysis*

The purpose of our study was to determine if participants' perceptions of maternal rejection predicted participants' endorsement of and the likelihood of S-S on their partners. We used SPSS version 23 to calculate descriptive statistics and correlations (Table 1). Then, as previous research suggests other variables are related to romantic S-S (Goodboy & Bolkan, 2011; Goodboy et al., 2010), we tested two different mediation models. We computed one mediation model to predict endorsement of reasons to S-S on a romantic partner and another model to predict the likelihood that participants would engage in S-S.

4. Results

Before computing predictive models, we calculated descriptive statistics and correlations (Table 1) among the variables of interest. We also conducted Harman's single factor test to determine any common method bias (CMB). Because the items in the independent variable and dependent variables, when forced into one factor, accounted for less than 50% of the variance (it was 32.13%), we assume no significant issues with CMB. Finally, the data met assumptions to allow us to compute the modeling analyses we discuss below.

Table 1. Correlations ($N = 443$, Bootstrap of 1,000 samples) and descriptive information

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	M(SD)
1. PARQ-M															44.27(16.94)
2. PAQ	.55***														133.37(31.14)
3. SOI	.28***	.27***													38.07(13.91)
4. IRAQ	.35***	.64***	.18***												2.43(6.19)
5. SSL	.23***	.25***	.24***	.20***											27.26(11.86)
6. RSS	.16**	.15**	.13**	.15**	.61***										45.36(15.79)
7. MJS	.38***	.43***	.37***	.26***	.57***	.52***									79.95(21.26)
8. HGIS	.36***	.34***	.35***	.16**	.40***	.24***	.44***								142.85(53.80)
9. Age	-.12*	-.26***	-.14**	-.12*	-.17*	-.05	-.11*	-.22***							36.05(11.26)
10. EDUC	.01	-.05	.04	-.07	.08	-.01	.05	.12**	.01						5.78(2.39)
11. LIB	.08	.01	.01	.04	.26***	.25***	.24***	.40***	.05	.00					46.39(29.98)
12. RL	-.26***	-.28***	-.37***	-.14*	-.15**	-.03	-.22***	-.37***	.54***	-.08	.06				84.86(103.55)
13. REL	.02	.05	.05	.03	.23***	.18***	.24***	.40***	.01	.11*	.53***	.04			44.73(35.28)
14. Sex	-.06	-.03	.11*	-.07	-.08	-.15**	-.07	.23**	-.12*	.00	.002	-.21**	-.03		.45(.50)

Note: PARQ-M: higher scores = greater rejection; PAQ: higher scores = greater psychological maladjustment; SOI: higher scores = more comfort with casual sex; IRAQ: higher scores = greater interpersonal anxiety; SSL: higher scores = greater likelihood of spying/stalking; RSS: higher scores = more reasons for spying/stalking; MJS: higher scores = greater jealousy; HGIS: higher scores = more traditional, less egalitarian gender ideology; EDUC: higher numbers = greater levels of formal education; LIB: higher scores = more liberal ideology; RL: length of current relationship in months; REL: higher numbers = more regular religious services attendance; Sex = biological sex, 0 = female, 1 = male; $*p < .05$, $**p < .01$, $***p < .001$

All measures demonstrated sufficient reliability, as can be seen in the materials subsection. As can be seen in Table 1, many variables also correlated (with 1,000 bootstrapped samples) with each other. Of particular relevance, greater perceived maternal rejection (PARQ-M) correlates with greater psychological maladjustment, greater SO, greater interpersonal anxiety, greater likelihood for S-S, more reasons for S-S, greater jealousy, more traditional gender ideology, younger age, and shorter relationship lengths. Endorsement for reasons for S-S and likelihood of engaging in S-S were also positively correlated with all of the relevant factors.

Among the demographic variables, younger participants and those in shorter relationships perceived more maternal rejection. Endorsement for reasons for S-S was correlated negatively with age and relationship length, but positively with liberal ideology and religiosity. Furthermore, the likelihood of engaging in S-S was positively correlated with liberal ideology and religiosity.

4.1 *Predicting endorsement of reasons to S-S*

To determine if perceptions of maternal rejection predicted reasons to S-S — and to see if this relationship were mediated by various other constructs — we utilized PROCESS version 3.4 in SPSS (Hayes, 2019). We used scores on the PARQ-M as our predictor variable and scores on the RSS as our criterion variable. In the model, we included psychological maladjustment (PAQ), interpersonal anxiety (IRAQ), jealousy (MJS), SO, and gender attitudes as potential mediators; per the correlated demographic variables, we also included religiosity, relationship length, liberal ideology, age, and biological sex as co-variates.

The total effect of the PARQ-M on the RSS was not significant [$B = .0408$, $t = .7166$, $p = .4742$, *95% CI*: -.0713, .1530], but the general model, including the covariates, was significant [$r = .27$, $r^2 = .07$, $F(5,427) = 3.68$, $p = .0015$]. Once mediators were included in the model, the direct effect of the PARQ-M on the RSS remained non-significant [$B = .1096$, $t = -1.7266$, *95% CI*: -.2346, .0153]. As can be seen in Figure 1 and Table 2, the only significant partial mediator between perceived maternal acceptance-rejection and endorsement of reasons to S-S was jealousy [$B = .1838$, *95% CI*: .1165, .2658], suggesting greater jealousy scores are partially responsible for the connection between scores on the PARQ-M and RSS. In addition, only greater political liberalness [$B = .199$, $t = 3.29$, *95% CI*: .0420, .1663] and biological sex [0 = female, 1 = male; $B = -.1559$, $t = -2.6463$, *95% CI*: -8.6551, -1.2717] were significant covariates.
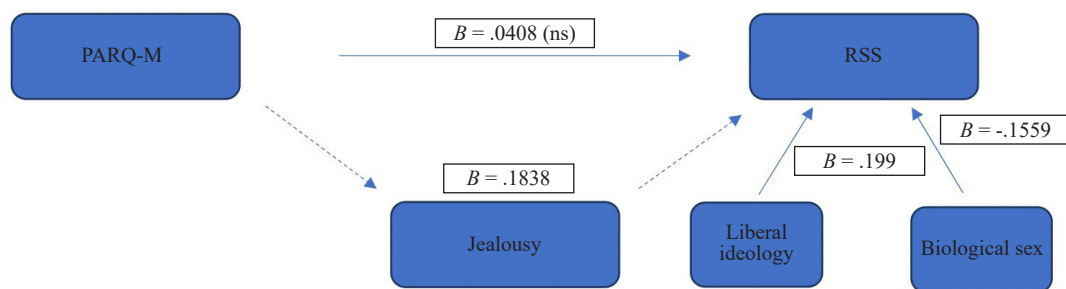

Figure 1. Multiple mediation model predicting reasons to spy

Table 2. Multiple mediation model predicting endorsement of reasons to spy ($N = 433$)

Variable	B	SE	t	95% CI
Total Effect				
PARQ-M	.0408	.0570	.7166	-.0713, .1530
Total Model [$r = .27$, $r^2 = .07$, $F = 3.68$, $p = .0015$]				
PARQ-M (direct effect)	-.1096	.0635	-1.7266	-.2346, .0153
Mediators (Indirect Effects)				
Sociosexuality	-.0035	.0142		-.0313, .0270
Interpersonal Anxiety	.0323	.0259		-.0171, .0881
Psychological Maladjustment	-.0591	.0476		-.1509, .0327
Jealousy	**.1838**	**.0385**		**.1165, .2658**
Gender Attitudes	.0033	.0212		-.0417, .0429
Co-Variates				
Religiosity	.0305	.0290	.4749	-.0434, .0710
Liberal Ideology	**.1891**	**.0341**	**2.9305****	**.0328, .1670**
Age	-.0562	.0981	-.8291	-.2744, .1117
Relationship Length	-.0243	.0108	-.3402	-.0249, .0176
Biological Sex	**-.1559**	**1.8756**	**-2.6463****	**-8.6551, -1.2717**
(Constant)	43.7372	4.4773	9.7687***	34.9249, 52.5496

Note: Reasons to spy: higher scores = more reasons for spying/stalking; PARQ-M: higher scores = greater rejection; Sociosexuality: higher scores = more comfort with casual sex; Interpersonal Anxiety: higher scores = greater interpersonal anxiety; Psychological Maladjustment: higher scores = greater psychological maladjustment; Jealousy: higher scores = greater jealousy; Gender Attitudes: higher scores = more traditional, less egalitarian gender ideology; Religiosity: higher numbers = more regular religious services attendance; Liberal Ideology: higher scores = more liberal ideology; Relationship Length: length of current relationship in months; Biological Sex: 0 = female, 1 = male. Confidence Intervals (*CI*) are significant if they do not include zero, and significant *CI*s are in bold type; bootstrapped at 1000; all reported betas are standardized. *$p < .05$, **$p < .01$, ***$p < .001$

4.2 *Predicting likelihood of S-S*

To determine if perceptions of maternal rejection predicted the likelihood of S-S — and to see if this relationship were mediated by various other constructs — we utilized PROCESS version 3.4 in SPSS (Hayes, 2019). We used scores on the PARQ-M as our predictor variable and scores on the SSL as our criterion variable. In the model, we included the same potential mediators as in the reasons for S-S model; we also included the same covariates.

The total effect of the PARQ-M on the SSL was significant [$B = .0882$, $t = 2.11$, *95% CI*: .0057, .1707], as was the overall model [$r = .32$, $r^2 = .10$, $F(5,426) = 5.57$, $p < .001$]. Once mediators were included, the direct effect of the PARQ-M on the SSL was no longer significant [$B = -0.0822$, $t = -1.81$, $p = .0714$, *95% CI*: -.1715, .0072]. The only significant full mediator of the relationship between perceived maternal acceptance-rejection and likelihood of S-S was jealousy [$B = .1679$, *95% CI*: .1079, .2383] – indicating that greater jealousy scores fully mediate the connection between scores on the PARQ-M and SSL (Figure 2 and Table 3). In addition, greater liberal ideology was a significant covariate [$B = .1312$, $t = 2.07$, *95% CI*: .0026, .1013] and biological sex [$B = -.1218$, $t = -2.10$, *95% CI*: -5.6195, -.1880].
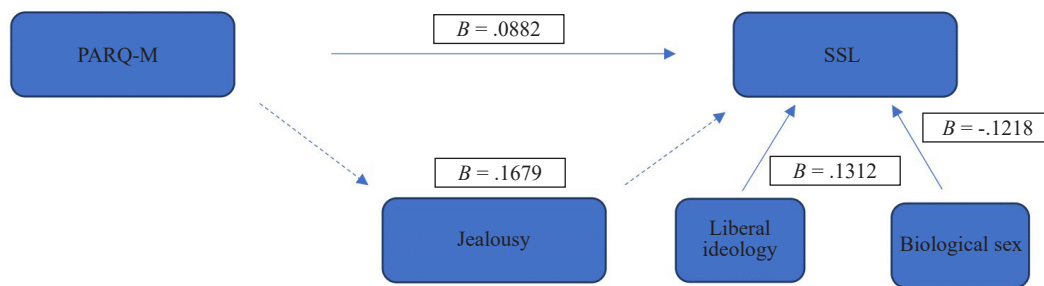
Figure 2. Multiple mediation model predicting likelihood to spy/stalk

Table 3. Multiple mediation model predicting likelihood to spy/stalk ($N = 432$)

Variable	B	SE	t	95% CI
Total Effect				
PARQ-M	**.0882**	**.0419**	**2.11***	**.0057, .1707**
Total Model [$r = .32$, $r^2 = .10$, $F = 5.57$, $p < .001$]				
PARQ-M (direct effect)	-.0822	.0454	-1.81	-.1715, .0072
Mediators (Indirect Effects)				
Sociosexuality	.0180	.0147		-.0080, .0516
Interpersonal Anxiety	.0353	.0231		-.0065, .0878
Psychological Maladjustment	-.0166	.0493		-.1075, .0849
Jealousy	**.1679***	**.0336**		**.1079, .2383**
Gender Attitudes	.0326	.0212		-.0056, .0759
Co-Variates				
Religiosity	.1190	.0214	1.89	-.0018, .0823
Liberal Ideology	**.1312**	**.0251**	**2.07***	**.0026, .1013**
Age	-.0179	.0722	-.27	-.1615, .1226
Relationship Length	-.1473	.0079	-2.10*	-.0323, -.0010
Biological Sex	**-.1218**	**1.3798**	**-2.10***	**-5.6195, -.1880**
(Constant)	18.1262	2.7878	6.5020	12.647, 23.606

Note: Likelihood to spy/stalk: higher scores = greater likelihood of spying/stalking; PARQ-M: higher scores = greater rejection; Sociosexuality: higher scores = more comfort with casual sex; Interpersonal Anxiety: higher scores = greater interpersonal anxiety; Psychological Maladjustment: higher scores = greater psychological maladjustment; Jealousy: higher scores = greater jealousy; Gender Attitudes: higher scores = more traditional, less egalitarian gender ideology; Religiosity: higher numbers = more regular religious services attendance; Liberal Ideology: higher scores = more liberal ideology; Relationship Length: length of current relationship in months; Biological Sex: 0 = female, 1 = male. Confidence Intervals (*CI*) are significant if they do not include zero, and significant *CI*s are in bold type; bootstrapped at 1000; all reported betas are standardized. *$p < .05$, **$p < .01$, ***$p < .001$

5. Discussion

The purpose of our study was to examine the relationship between maternal rejection and the likelihood of engaging in the negative relational maintenance strategy of S-S in adult romantic relationships. Our findings indicate that perceived maternal rejection was significantly correlated with, and predicts, via the fully mediator of jealousy, endorsing reasons to S-S a romantic partner, as well as the likelihood of engaging in S-S behaviors. Early childhood environments provide an internal working model (IWM) of relating to others, and a parent and child's relationship quality is a predictor of relationship well-being in adulthood (Bowlby, 1969, 1973; Ki et al., 2018; Rohner & Lansford, 2017). Therefore, our work supports past studies that show some individuals engage in these negative relational maintenance strategies, particularly S-S, to attempt to keep the relationship in the desired state (Goodboy et al., 2010;

Tokunaga, 2016). As parental rejection in early childhood can create a broken IWM (Rohner & Lansford, 2017), it is not surprising that S-S may seem like a viable strategy to maintain a romantic relationship. Future studies, including multi-study projects, should investigate the connections between perceived maternal rejection and other negative relational maintenance strategies, such as inducing jealousy, destructive conflict, and infidelity, which may be related to S-S on romantic partners as well as more violent stalking behaviors (Love et al., 2020).

We also examined potential correlates and found that perceived maternal rejection related to all of the negative outcomes (Ali et al., 2018). Specifically, greater perceived maternal rejection positively correlated with factors such as psychological maladjustment and less egalitarian gender attitudes. Perceived maternal rejection also positively correlated with relationship outcomes such as interpersonal anxiety, jealousy, and SO. This supports myriad research studies (Love et al., 2020), but also connects some of the past research in one specific area. These findings further prior findings that hostile parent/child relationships predict later impediments to one's adjustment and well-being as well as negative interpersonal behaviors (Ki et al., 2018; Lansford et al., 2010; Martínez-León et al., 2017; Rohner & Khaleque, 2002; Rohner & Lansford, 2017).

We examined which variables might mediate the relationship between maternal rejection and S-S, which across both models was greater jealousy and being biologically female. Perceptions of parental rejection in childhood have been associated with cognitive distortions, such as jealousy, in adulthood romantic relationships (Ibrahim et al., 2015; Martínez-León et al., 2017). Individuals who experience distress as a result of romantic jealousy may feel uncertainty in the relationship and seek reassurance (Bhogal & Howman, 2019; Reed et al., 2016; Rohner & Lansford, 2017). Expressing that jealousy by S-S on a romantic partner to reduce anxiety serves a relationship maintenance purpose, as it serves mate-guarding behavior as well as reassures the individual of the relationship's status (Dainton & Gross, 2008; Reed et al., 2016). As such, individuals with maladaptive views on relationships stemming from childhood may feel that S-S is a viable romantic relationship maintenance strategy that reduces the feelings of distress from jealousy.

While our work suggests that perceived maternal rejection is connected to romantic jealousy in future adult relationships, the mechanism that explains why this statistical relationship exists remains unclear. In other words, we can say that perceived maternal rejection predicts romantic jealousy, which in turn predicts more S-S behaviors; however, we still cannot say why this happens. Future studies, including multi-study projects, should examine potential mechanisms for these statistical relationships, as well as the intensity and frequency of S-S behaviors. This could be an important outcome to add to the romantic jealousy research, which tends to primarily focus on emotional consequences, dissolution of romantic relationships, and aggression/violence (Martínez-León et al., 2017).

While we did not find that gender role attitudes impacted the reasons to nor the likelihood of S-S, other research has documented this relationship (Turan & Duy, 2020). Conversely, we found that biological sex was predictive of S-S, and not necessarily in an expected way. We were not necessarily expecting that being biologically female would influence the relationship between reasons to and likelihood to S-S. Often, females and women are portrayed in media as the victims of S-S and dating violence (Borges, 2019) — especially violent stalking (Baril, 2020). Because of this, males (and usually young males) are targeted by anti- S-S interventions (Exner-Cortens et al., 2019). In future work that explores how parenting behavior interacts with gender and biological sex to affect romantic relationships, both gender attitudes as well as gender and sex identity should be included.

One of our unexpected findings is that having a more liberal ideology was significantly related to both more reasons to and a greater likelihood of engaging in S-S behavior. We were unable to find a clear pattern or consensus in the existing literature that might explain this finding. Other research has indicated that in films, stalkers (both men and women) are portrayed as having more traditional (i.e., less liberal) gender norms (Baril, 2020). Others have suggested that people are claiming a more liberal ideology that does not necessarily translate into liberal attitudes, behaviors, or beliefs in all areas of their lives (Baker, 2008). Exploring how liberal ideology interacts or correlates with different aspects of romantic relationship maintenance could be a fruitful extension of this research.

5.1 *Limitations*

Although our study showed some important connections between perceived maternal rejection and various negative relationship outcomes, there were some limitations. Retrospective self-reporting is present in almost all of the studies about parental rejection. Research shows that children's perceptions are sometimes discrepant from parents' perceptions or an outsider's perceptions (Rohner, 2021). Moreover, our data were collected cross-sectionally, so any inference to

cause and effect should be regarded with caution.

IPARTheory focuses on both maternal and paternal acceptance-rejection (Rohner, 2021); however, because of an unfortunate error in data collection for our current project, we only collected data on maternal acceptance-rejection. While this error limits our ability to discuss paternal acceptance-rejection, we explored how the perception of maternal acceptance-rejection, specifically, impacts people's romantic relationships. Previous research indicates that remembered maternal acceptance-rejection has a unique impact on psychological adjustment. Finally, future work should incorporate more current measures of relationships issues. For example, the measure of jealousy we used in this study is relatively heteronormative and could be perceived as a bit dated. As societies around the world become more open and accepting of different types of romantic relationships, measurements within relationship research should keep pace.

It is clear that the variables we did not measure in this study account for much of the variance in the dependence variables of reasons to and likelihood of S-S (the models we tested only accounted for up to 10% of the variance). Perhaps future research could examine important specific aspects of romantic relationships that potentially mediate S-S behavior, such as relationship status (e.g., marriage vs. cohabitation). As relationship length was correlated with perceived maternal rejection and S-S, it deserves further research (Dainton & Gross, 2008).

One important finding that should be examined further is whether individuals interpret these S-S behaviors as negative and whether they view them as maintenance strategies at all. While research has documented the negative consequences of being a victim of dating violence (Strauss et al., 2016), perhaps the perpetrators see S-S as adaptive rather than negative. For example, do people perceive snooping through a partner's email as more or less negative than stealthily and sneakily following their partner as they hang out with friends?

It is important to point out that the measure of maternal acceptance-rejection is a measure that asks participants to consider how they remembered their childhood interactions with their mothers. Participants' memories may influence current mental health and wellbeing, relationship status, or other more contextual variables at the time they participated in our research. This type of memory bias might influence how participants thought about their childhood relationships with their mothers and impact other data they provided. Longitudinal data from participants through childhood and into adulthood might be the only way to determine if mother-child interactions objectively impact later relationships. Such research would be costly in both time and resources, but could prove to be invaluable.

We want to emphasize that our findings should not be interpreted in a way that blames mothers for negative maintenance behaviors such as S-S. Recall that we only presented data on maternal acceptance-rejection because of a data collection error; our plan was to collect data on participants' memories of acceptance-rejection from both parents. We assume that, based on previous findings on IPARTheory, paternal acceptance-rejection would account for a similar amount of variance in our analyses. Recall that while our models accounted for a significant amount of variance, maternal acceptance-rejection did not account for more than 10% of the variance in either model. Thus, there is still a large amount of variance in romantic S-S behavior not related to maternal acceptance-rejection. Our findings should be interpreted with that caveat, and future research should attempt to clarify the relationship among both perceived maternal and paternal rejection with S-S.

Finally, IPARTheory is but one theory that attempts to use existing evidence, logic, and research to explain how a person's early childhood memories and relationships can have an impact on later life relationships. Scholarship, such as that on attachment theory (Cassidy & Shaver, 2018), parenting styles (Cucci et al., 2019) and cultural values regarding parenting expectations (Jankowiak, 2020) have all been used as lenses to explore how early life experiences can impact later life romantic relationships. Future research could attempt to bring the understanding from all of these areas of the scholarship together in a more unified way.

5.2 *Conclusion*

Overall, this project furthers IPARTheory and extends the literature in negative relational maintenance. Our findings suggest, and replicate other studies, that poor relationships in childhood are related to negative outcomes in adulthood. The findings from our study suggest that perhaps S-S is a method of coping with feelings of jealousy and socialization tied to biological sex, and that perhaps that tendency originates in poor childhood relationships and poor IWMs. Although further information is needed, including from multi-study projects, our study elucidates some of the reasons that individuals might behave poorly in interpersonal relationships, especially as it pertains to S-S behavior, and suggests the possibility of clinical interventions aimed at minimizing the negative effects of parental rejection.

Acknowledgments

Conflict of interest

We have no conflict of interest to disclose.

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