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A Daily Within-Person Study of Parent-Adolescent Relations

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## Abstract

Feeling loved has many benefits but research is limited on how daily behaviors of one person in a relationship shape why someone else feels more or less loved from day to day. The parent-adolescent relationship is a primary source of love. We expected parent-reported warmth and conflict would explain daily fluctuations in how loved adolescents reported feeling. In a sample of 151 families (Adolescent  $M_{\text{age}} = 14.60$ ; 61.6% female) over a 21-day period, we used multilevel models to disentangle within-family (daily variability) and between-family (average levels) parent-reported daily warmth and conflict in relation to adolescents' daily reports about how loved they were feeling.

Findings indicated adolescents in families with higher parent-reported warmth across days and higher adolescent-reported closeness with parents felt more loved by their parents, on average. At a within-person level, we found considerable day-to-day variability in how loved adolescents reported feeling was partially explained by meaningful variability in both parent-reported warmth and conflict across days. On days when parents reported more warmth than usual and less conflict than usual, adolescents reported feeling more loved. Further, a significant within-day interaction indicated that the importance of days' parent warmth was greater on high conflict days; but, when parents directed more warmth towards their adolescents, the difference between high- and low-conflict days was negligible. Theoretical implications for studying daily emotional love in parent-youth relationships and suggestions for parenting interventions that focus on daily practices of parent warmth are discussed.

Keywords: Love, warmth, parent-adolescent conflict, adolescence, daily diary

## When Do Adolescents Feel Loved?

### A Daily Within-Person Study of Parent-Adolescent Relations

“Love doesn’t just sit there, like a stone; it has to be made, like bread; remade all the time, made new.” – Ursula K. Le Guin

Love is one of the most common and important emotions as it can create moments of social connection and self-expansion that builds social bonds and enduring resources (Fredrickson, 2013, 2016; Shiota et al., 2017; Trampe, Quoidbach, & Taquet, 2015). Feeling loved involves shared closeness, affection, joy, or connection between at least two people that cultivates concern for the other’s well-being and can help to satisfy one’s need for nurturance and protection (Fredrickson, 2013, 2016; Shiota, Neufeld, Yeung, Moser, & Perea, 2011; Shiota et al., 2014). Further, love facilitates openness and exploration that can lead to strengthened social connections, a better understanding of others, better health, and a better ability to cope with adversity (e.g., Fredrickson, 2013, 2016; Otero et al., 2019; Shiota et al., 2017). Love can fulfill humans’ psychological need for connection and can bind people to others for decades, but it can also fluctuate and fade (Deci and Ryan, 2000; Fredrickson, 2016; Trampe et al., 2015). So, what predicts or explains when people feel more or less loved?

The nature of feeling loved at a daily or emotional level is not well understood. Although we should expect daily feelings of love to fluctuate like any other emotion, a broader focus on love as a trait-like experience or enduring bond has resulted in limited research on when people feel more or less loved on a daily basis. Indeed, in a recent experience sampling study, there were variations in time and day when adults indicated feeling loved. Although love was the second most commonly reported emotion, there were times when participants did not report feeling loved (Trampe et al., 2015). The design of this study did not reveal what others could do

to make participants feel more loved or link love to another person. In a cross-cultural study, adolescents listed what their parents do to make them feel loved. Most commonly, the list included forms of warm and nurturing parenting behaviors (e.g., show affection, listen to them, praise, and understanding; McNeely & Barber, 2010). These findings support the positivity resonance theory conceptualization that feeling loved involves shared positive emotions and a mutual sense of caring (Fredrickson, 2016), but this cross-sectional study did not examine daily experiences between adolescents and their parents or why adolescents feel less loved.

Given that parenting behaviors may vary by day or situation (e.g., Ainsworth, 1979; Baumrind, 2005; Fosco & LoBraico, 2019; Lippold, Davis, Lawson, McHale, 2016; Repetti, Taylor, & Seeman, 2002;), there are likely times when parents do things that make their children feel more or less loved at a daily level. Thus, adolescents may experience day-to-day fluctuations in how much they feel loved by their caregivers, and these fluctuations may be accounted for by variability in parents' behaviors and parent-adolescent relationships. Even though love is central to parent-youth relationships, no research has examined fluctuations in how loved adolescents' felt at a daily level. The present study advances theoretical understanding about the role of common parent-adolescent interactions in relation to adolescents' emotional experiences of feeling loved. To capture parent-adolescent relation dynamics and avoid shared-method variance, we compared how daily parent-reported warmth and conflict each associated with how loved their adolescents reported feeling over 21 days.

### **Warmth and Conflict in Parent-Adolescent Relationships: Implications for Adolescents Feeling Loved**

During adolescence, the parent-youth relationship typically reorganizes as adolescents seek greater autonomy from their parents, and parents grant more space to allow for adolescents

to experience independence and competence (e.g., Allen & Tan, 2016; Smetana, 1988; Steinberg, 2001). Even so, parent behaviors remain central to when their adolescents feel loved (McNeely & Barber, 2010), but no research has examined this at a daily level. These changes in the parent-adolescent relationship may lead to greater variability in parents' warmth or spur conflicts as adolescents assert their independence and parents offer corrective guidance (e.g., Assor et al., 2004; Baumrind, 2005; Lippold et al., 2016; Repetti et al., 2002).

To date, considerable evidence points to the importance of maintaining warm (e.g., sensitive and affectionate) parenting and minimizing parent-adolescent conflict to promote optimal adolescent development. Attachment theory posits that when parents are consistently responsive and caring in warm ways towards their children, they develop close bonds and secure attachments indicating confidence that their parents can be relied on. This closeness results in more opportunities for positive emotions like love (Bowlby, 1988; Ainsworth, 1979). Parent warmth is consistently linked to parent-youth relationship closeness, behavioral outcomes, mental health, and well-being (e.g., Bowlby, 1988; Galambos et al., 2003; Greenberg & Lippold, 2013; Lippold et al., 2016; McNeely & Barber, 2010; Narvaez, Wang, & Cheng, 2016; Repetti et al., 2002). When parent responsiveness is limited or inconsistent, children develop insecure attachments associated with reduced closeness, less safety, and fewer positive emotions (Ainsworth, 1979; Allen & Manning, 2007; Allen & Tan, 2016; Bowlby, 1988). Parent-adolescent conflict is a normative part of adolescence. Some conflicts may be necessary or constructive, but high levels of conflict and frequent conflicts are associated with a wide array of negative outcomes such as mental and physical health problems, school problems, and early mortality (e.g., Davies et al., 2002; Feeney, 2006; Repetti et al., 2002; Smetana, 1988; Weymouth, Buehler, Zhou, & Henson, 2016).

This parent-adolescent literature points to robust, rank-order correlations indicating high levels of warmth and low levels of conflict are optimal for long-term developmental outcomes, but it is faced with several important limitations that reduce theoretical understanding of love as an emotion in the parent-youth relationship. First, most of these studies examine either warmth or conflict, rarely including both as independent factors that may relate to adolescent development (Repetti et al., 2002). Second, this work is predominantly reliant on long-term developmental designs that space global assessments over long periods of time (e.g., annual assessments). As a result, they do not capture daily fluctuations in how loved adolescents feel. Third, this work has relied almost entirely on between-person methods and is thus unable to make direct statements about within-person changes in response to fluctuations in parenting. This empirical foundation awaits systematic work, drilling down into the day-to-day experiences in parent-adolescent relationships that help understand the drivers in how loved adolescents feel.

### **Daily Measurements**

Intensive longitudinal methods, such as experience sampling methods and daily diary methods, can provide unique insights into the role of parent warmth and parent-adolescent conflict in relation to how loved adolescents feel. By assessing these experiences over short intervals and by conducting assessments at home (i.e., internet-delivered surveys to mobile devices), daily diary methods are uniquely suited to provide ecologically valid information about life and emotions as they unfold. In addition, the short intervals inherent in daily diary methods reduce recall bias and capture lower-intensity experiences because participants report on specifics from that day, rather than their general impressions over a longer period of time (Shiffman, Stone, & Hufford, 2008; Smyth & Heron, 2014). Further, using daily diary methods, it is possible to disentangle within-family (e.g., when parents are warm, adolescents feel more



loved) and between-family (e.g., parents who are warmer have adolescents who feel more loved) links that map on to important questions relevant to theory and interventions (Molenaar, 2004). Likewise, multi-informant methods looking at how one parents' daily behaviors associate with adolescents' feelings not only minimize shared-reporter inflation in statistical model estimates (Bank, Dishion, Skinner, & Patterson, 1990) but could provide key information for family-specific interventions by better targeting of warmth or conflict. Finally, as some adolescents feel closer to their parents than others, daily measures will also allow tests to determine if certain daily behaviors of parents matter more or less depending on general closeness reported by adolescents. The current study utilized daily diary methods to understand family processes and within-person change in how loved adolescents felt.

#### **Daily Variation in Warmth and Conflict: Implications for Adolescents Feeling Loved**

Several studies have examined parent warmth at a daily level but not in relation to feeling loved. At a daily timescale, parent warmth includes affection, praise, and understanding directed at children (Lippold et al., 2016). Notably, this daily warmth cultivates a sense of safety while conveying positive emotions and caring that are all central to feeling loved at an emotional level (Fredrickson, 2016). On days when parents used more positive reinforcement, adolescents felt more connected to their caregivers than usual (Fosco & LoBraico, 2019). In moments when adolescents felt more supported by their parents, they reported feeling happier (Csikszentmihalyi & Schneider, 2001). In line with attachment literature on consistent parenting and closeness, recent work suggests that day-to-day consistency in parent warmth or positive reinforcement associated with reduced risk for depression, anxiety, physical health problems, and alcohol use in youth (Fosco, Mak, Ramos, LoBraico, & Lippold, 2019; Lippold et al., 2016). This preliminary evidence suggests that daily variation in parent warmth shapes the quality of the parent-

adolescent relationship; yet, to date, none of these studies examined how parent-reported warmth corresponds to changes in how loved adolescents felt by their parents.

Although conflict is another highly explored feature of the parent-adolescent relationship, there needs to be more research to examine connections to feelings of love at the daily level (e.g., Davies et al., 2002; Feeney, 2006; Repetti et al., 2002; Smetana, 1988; Weymouth et al., 2016). Conflicts can suspend a sense of safety between two people, reduce shared positive emotions, and weaken feelings of mutual concern that are central to feeling emotional love (Fredrickson, 2016). On a day-to-day basis, findings from a large, multi-cultural sample of 9<sup>th</sup>-grade adolescents indicated family conflict (i.e., sum of daily conflict between parents and parent-adolescent conflict) was emotionally distressing with ramifications (e.g., distressed mood, problem with peers) felt two days later (Chung et al., 2009; Chung & Fuligni, 2011). Although this past work underscores how daily parent-adolescent conflict may contribute to adolescents' negative emotions and maladaptation, little is known about the degree to which day-to-day parent-adolescent conflicts may relate to how loved adolescents feel. As such, there is no evidence on how these feelings may be offset by warm parenting or whether this is tempered by general parent-adolescent closeness.

### **Examining Relative and Unique Contributions of Daily Warmth and Conflict**

Given the complexities of day-to-day life in parent-adolescent relationships, one question is whether warmth or conflict is more “important” for understanding changes in the degree to which adolescents feel loved by their parents. In some ways, both warmth and conflict may emerge in the service of the same goal. On one hand, parent warmth can promote desired behaviors in adolescents, thereby reducing undesired behaviors that could cause conflict (Assor et al., 2004; 2016; Fosco & LoBraico, 2019; Roth, 2008). In other cases, parents may believe

that withholding love and affection may encourage children to act in the way parents want (Assor et al., 2004; Smiley et al., 2016). For example, parents reported using less positive parenting on days when adolescents were angrier than usual (Fosco & LoBraico, 2019). In the current study, we incorporate parent warmth and parent-adolescent conflict as distinct dimensions of daily family life to gain insights into their unique impact (accounting for the other) on how loved adolescents feel, or whether one is a more potent factor in feeling loved.

Another question is whether warmth and conflict work in concert with each other in relation to how loved adolescents feel. In a lab study of long-term couples discussing a conflict situation, researchers linked shared positive emotions with higher emotional love and lower negativity about the conversation (Otero et al., 2019). This aligns with resilience research finding positive affect may be protective against negative experiences and stressors (e.g., Fredrickson, Tugade, Waugh, & Larkin, 2003; Ong, Bergman, Bisconti, & Wallace, 2006). We examined the interaction between fluctuations in warmth and conflict to evaluate whether parent warmth might serve as a protective factor for adolescents on days with higher parent-adolescent conflict.

Finally, it is valuable to recognize that day-to-day family interactions occur within the context of general relationships, with considerable variability in closeness across parent-adolescent relationships. Daily experiences of warmth or conflict with a parent may hold different significance for adolescents who generally feel close and secure with their caregivers than for adolescents who do not. To address questions about whether between-person differences in parent-adolescent relationship quality temper daily experiences, we evaluated adolescents' perceptions of global relationship closeness to their caregivers as a moderator of daily effects of warmth and conflict on their feelings of being loved by caregivers.

### **Study Hypotheses**

This manuscript is the first to use a 21-day daily diary method to disentangle within-family and between-family differences of one parent's warmth and conflict on how loved his or her adolescent-reported feeling on each day. As such, this study is one of the first to look at reasons for daily fluctuations in feeling loved in long-term relationships. Given the established importance of the parent-adolescent bond, we included a general measure of adolescent-reported closeness to determine if daily behaviors of one parent predicted how loved her or his adolescent-reported feeling beyond closeness. As gender differences in relation to emotions are plausible, we also included adolescent gender. The following hypotheses were tested:

**H1: Daily parent warmth and parent adolescent-conflict will predict how loved adolescents feel.** Specifically, we expected that, on days when parent-reported warmth was higher than usual, adolescents would feel more loved by that parent (H1a). However, on days when parent-reported conflict was higher than usual, we expected adolescents would feel less loved (H1b). These within-family hypotheses were tested while accounting for closeness and between-family differences in average levels of daily warmth and conflict across the 21 days.

**H2: Parent warmth will act as a buffer against parent-adolescent conflict.** Based on the ways that positive experiences can protect against negative experiences (Fredrickson et al., 2003; Ong et al., 2006; Otero et al., 2019), this hypothesis was tested by including an interaction term for the within-family coefficients for day's parent-reported conflict and day's parent-reported warmth (level 1 by level 1 interaction). We expected that on days when parent warmth was high, conflicts with that parent would have limited relation with how loved the adolescent feels.

**H3: We explored whether overall parent-adolescent closeness moderated the daily associations between warmth, conflict, and love.** Beyond the above within-person hypotheses, we considered the possibility that daily warmth and conflict occur within the broader relationship

context. Using two exploratory cross-level interactions, we evaluated whether adolescents in particularly close relationships with their parents would be more or less affected by daily experiences, such as less benefit from daily warmth from parents, and less vulnerability to daily conflict.

## Method

### Participants and Procedure

The sample is from the FLOW study, a daily diary study wherein the target adolescent children and one of their parents reported on family functioning, their feelings, and their well-being on up to 21 consecutive days. It was approved by The Pennsylvania State University IRB (#0472). Participants were 151 families of 9<sup>th</sup> and 10<sup>th</sup>-grade adolescents. This study was originally designed to capture family dynamics in two-parent households (e.g., Fosco & Lydon-Staley, 2019), and relied on web-based surveys completed nightly in homes by parents and adolescents. The sample size ( $N=151$ ) and 21 measurement occasions were selected to have power to detect effects in this study, far exceeding suggestions for including samples of 50 or larger (Maas & Hox, 2005). The calculated power to detect within-person effects in this study was excellent (range .962-1.000; Bolger & Laurenceau, 2013). Eligibility criteria included: (1) two-caregiver family status (because of study aims to investigate questions related to couple conflict; Fosco & Lydon-Staley, 2019), (2) adolescents lived in one household continuously (to avoid transitions between homes during the 21-day period), (3) internet access and means to complete daily surveys at home, (4) English fluency, (5) the participating adolescent was in 9<sup>th</sup> or 10<sup>th</sup> grade, and (6) both parent and adolescent consented to participate in the study. Families were recruited through high schools in Pennsylvania via emails sent to parents from school Principals (their primary way of contacting parents), accessing the study website, and through

referrals from participating families.

After confirming family eligibility for the study, parents and adolescents were consented and assented for participation and both were administered baseline surveys. Upon completion of both baseline surveys, the family was automatically enrolled in a 21-day daily diary protocol followed by post-baseline questionnaires at 3-month, 6-month, and 12-month after the initiation of baseline questionnaire via email (with text or phone reminders, based on participant preference). Payments were made in the form of gift cards to Wal-Mart or Amazon (based on participants' preference). Adolescents and parents received \$25 each for completing baseline surveys. Daily diaries were compensated based on completion rates for up to \$25 per week for adolescents and adults. Thus, families could earn \$50 per week between the participating parent and adolescent. Families were compensated for 3-, 6-, and 12-month follow-up surveys. The total possible family compensation was \$360.

This study included baseline and daily diary assessments. Each night, daily surveys were emailed separately to the participating parent and adolescent at 7:00 PM in their time zone, followed by text message or phone call (based on the participants' preferences) reminder that the links had been sent. Participants were instructed to complete the daily questionnaire before going to bed; however, survey links remained active until 9:00 AM the following morning. If the survey was completed in the morning, participants were instructed to report on the previous days' experiences. During the baseline assessment, adolescents were asked to indicate their relationship to the participating caregiver [parent 1] and the second caregiving adult in their home [parent 2] to allow for piped text (e.g., mother, father, stepmother) in surveys to accurately refer to the participating parent and non-participating parent. Adolescents completed 90.5% ( $M_{Adolescent} = 19.00$ ,  $SD_{Adolescent} = 2.52$ ) and parents completed 96.5% ( $M_{Parent} = 20.27$ ,  $SD_{Parent} = 1.28$ )

of daily surveys. Families provided daily reports ranging from 10 to 21 days, resulting in 2848 occasions from adolescents (90%), and 3056 occasions from parents (96%) out of the total 3170 occasions, respectively.

Adolescent participants were between 13 and 16 years old ( $M_{Age} = 14.60$ ,  $SD_{Age} = 0.83$ ); 61.6% were female ( $n = 93$ ; female was coded as 1 and male was coded as 2). Adolescents were identified (via parent report) as White (83.4%), African American/Black (4.6%), Native American/American Indian (0.7%), Asian American (4.6%), Hispanic/Latino (0.7%), multiracial (5.3%), and missing information (0.7%). Participating parents were between the age of 30 and 61 years ( $M_{Age} = 43.40$ ,  $SD_{Age} = 6.88$ ) and 95.4% were female. Regarding the relationship to target adolescents, 92.7% of the participating caregivers were mothers ( $n = 140$ ), 4.6% were fathers ( $n = 7$ ), 1.3% were stepmother ( $n = 2$ ), 0.7% were aunt ( $n = 1$ ), and 0.7% were foster mother ( $n = 1$ ). Participating parents identified their ethnicity as White (90.1%), African American/Black (2.6%), Asian American (3.3%), Hispanic/Latino (0.7%), multiracial (2.0%), and missing information (0.7%). The majority reported being married ( $n = 134$ ), while some indicated being single ( $n = 6$ ), separated ( $n = 1$ ), divorced ( $n = 1$ ), or living with a significant other ( $n = 9$ ). Most participating caregivers (96.7%) graduated from high school or earned a GED certificate. Yearly household incomes ranged from “less than \$10,000” to “\$125,000 or more” with the Median in the range of \$70,000 to \$79,999.

### **Measures**

This study was designed to leverage parent and adolescent reports of focal constructs in this study. We used adolescents’ daily subjective ratings of feeling loved by their parents as our outcome measure. To avoid shared-reporter variance, we used parents’ daily reports of warmth and conflict. Regarding between-family differences in relationship quality for these within-

family models, adolescent subjective ratings of closeness were used as a moderator.

**Daily Adolescent-Reported Feeling Loved.** Adolescents provided daily reports of their feelings of being loved by the participating parent. Using a slider scale of 0 to 10 (in 0.1 increments), adolescents responded to the item “How much did you feel LOVED by your [participating parent] today?” The score ranged from 0 (*not at all true*) to 10 (very true) from adolescents’ perspective ( $M = 8.37, SD = 2.30$ ). Because this was a single item, reliability estimates could not be computed.

**Daily Parent-Reported Warmth.** Each evening, participating parents reported their perception of providing different types of warmth (e.g., affection, understanding, praise) to their adolescents, using a slider scale of 0 to 10 (in 0.1 increments), on four items: “I PRAISED or COMPLIMENTED my child for good behavior”, “I let my child know when he/she was doing a good job with something”, “I TRIED TO UNDERSTAND my child’s point of view”, and “I was LOVING and AFFECTIONATE with my child”. Daily *parent warmth* scores, calculated as the average of the four items, ranged from 0 (*not at all true*) to 10 (very true) from parents’ perspective ( $M = 8.01, SD = 1.96$ ). A reliability score ( $R_c$ ) designed for intensive longitudinal measures to evaluate whether scales can reliably assess within-person change (Bolger & Laurenceau, 2013) was calculated, and daily parent warmth was evidenced to have meaningful change within-person across days (.74). In addition, a between-person reliability estimate ( $R_{1F}$ ) was calculated on the parent warmth measure to determine if the measure reliably captured between-person differences in addition to within-person differences (Cranford et al., 2006). The  $R_{1F}$  value indicated there were reliable between-family differences in daily parent warmth (.88).

**Daily Parent-Reported Conflict.** In the daily survey, participating parents also reported their perception of conflict with adolescents, using a slider scale of 0 to 10 (in 0.1 increments)



scaled 0 to 10 (in 0.1 increments), on two items: “I was ANGRY or MAD at my child”, and “There was TENSION between my child and I today”. Daily *parent conflict* scores, calculated as the average of the two items, ranged from 0 (*not at all true*) to 10 (very true) from parents’ perspective ( $M = 0.95$ ,  $SD = 1.85$ ). Within-person reliability ( $R_c = .71$ ) and between-family reliability ( $R_{1F} = .57$ ) indicated that there are meaningful changes in within-person daily parent-reported conflicts across days, and there are reasonable between-family differences in parent-reported conflict.

**General Adolescent-Reported Closeness with Caregiver.** In the baseline questionnaire, adolescents responded to 10 items capturing a general sense of trust and communication with their parents from the Inventory of Parent and Peer Attachment (IPPA, Arnsden & Greenberg, 1989). Example items are: “My [parent 1] respects my feelings”, “My [parent 1] accepts me as I am”, and “My [parent 1] senses when I’m upset about something.” Items were rated on a 5-point Likert scale from (1) *Completely Untrue* to (5) *Completely True*. Calculated average score of the 10 items ranged from 2.00 to 5.00 ( $M = 4.22$ ,  $SD = 0.68$ ). Higher scores reflected higher general feelings of closeness with parents. The scale internal consistency (Cronbach’s  $\alpha = .92$ ) was high.

### **Analytic Plan**

Our empirical analysis makes use of adolescents’ daily reports about how loved they felt by their participating parents on that day, parents’ daily reports about *warmth* and *conflict, days* for the data collection, and adolescents’ reports of *general parent-adolescent closeness*. Data analysis was conducted in R version 3.6.1. Missing data—occasions with no information available in either one of the predictors—were removed by using “completeFun” to return complete rows (2797 occasions; 88% of possible occasions) for the following multilevel modeling (MLM) analysis. MLM was used to simultaneously analyze within-person variance

and between-person differences (Fleeson, 2007). To conduct MLM, we used both person-mean centering and grand mean centering to decompose raw daily variables (e.g. daily parent-reported warmth) into day level and between family-level components. At the day level, scores were computed as deviation scores from the person-centered mean to reflect values that were higher or lower than usual levels for that individual. At the between family-level, person-centered means were grand-mean centered to indicate between family differences in individual averages across the 21 days. These procedures are consistent with recommended decomposition of within-person and between-person effects in daily diary studies (Bolger & Laurenceau, 2013). We used a series of MLM to estimate the impact of daily predictors, general parent-adolescent closeness, and any interaction terms among them.

Table 1 lists the equations that were tested in each model, where  $Loved_{ij}$  represented the daily score of how loved the adolescent in family  $j$  was feeling on day  $i$  by the parent in family  $j$ ;  $Gender_j$  and  $Closeness_j$  represented gender and general adolescent-reported closeness for family  $j$ , respectively;  $Time_{ij}$  represented the centered-time for family  $j$  on day  $i$ ;  $Warmth_{wj}$  and  $Conflict_{wj}$  represented the parent report of day's warmth and day's conflict in family  $j$ , respectively;  $Warmth_{bj}$  and  $Conflict_{bj}$  represented the average scores of parent-reported warmth and conflict for family  $j$  across days, respectively;  $\mu_{0j} \sim \mu_{4j}$  represented the random effects that were assumed to have no significant impact on adolescents' daily score of feeling loved by their parent, and  $\varepsilon_{ij}$  represented a within-person error component that was assumed to be normally distributed and have no autocorrelation over time.

We used  $\gamma$ s to represent the fixed effects for different components in equations. Specifically,  $\gamma_{00}$  represented the intercept for how much did adolescents feel loved by the parent;  $\gamma_{10}$ ,  $\gamma_{20}$ , and  $\gamma_{30}$  represented the effects of day's parent-reported warmth, day's parent-reported

conflict, and time, respectively;  $\gamma_{01}$ ,  $\gamma_{02}$ ,  $\gamma_{03}$ , and  $\gamma_{04}$  represented the effects of average parent warmth, average conflict, gender, and general adolescent-reported closeness, respectively;  $\gamma_{11}$ ,  $\gamma_{21}$ , and  $\gamma_{40}$  represented the effects of adolescent-reported closeness by day's parent warmth interaction, adolescent-reported closeness by day's parent-reported conflict interaction, and day's parent warmth by day's parent-reported conflict interaction.

A systematic model building process was executed to distinguish the effects of level-one (day level) predictors, level-two (between family-level) predictors, and interaction terms (Bolger & Laurenceau, 2013). In Model 1, we examined the effects of daily variables (i.e., day level and between family-level components of daily parent warmth and daily parent-reported conflict) and controlled for the impact of gender and time. In Model 2, the effect of general adolescent-reported closeness was added in the between family-level equation. These two models aimed to test H1 (i.e., daily parent-reported warmth and parent conflict will predict how loved adolescents feel). In Models 3 through 5, interaction terms were added one at a time. Model 3 tested the day level interaction between day's warmth by day's conflict, which aimed to examine H2 (i.e., parent-reported warmth will act as a buffer against parent-reported conflict). Model 4 tested the cross-level interaction of general adolescent-reported closeness by day's warmth. Model 5 tested the cross-level interaction of general adolescent-reported closeness and day's parent-reported conflict. Models 4 and 5 examined H3 (i.e., whether the overall adolescent-reported relationship closeness would moderate the daily associations between parent-reported warmth, parent-reported conflict, and love). Model selection was based on the statistical fit criteria, including Akaike information criterion (AIC) and Bayesian information criterion (BIC; Akaike, 1974; Schwarz, 1978). Lower AIC and lower BIC indicate a more optimal fit.

## Results

To get a sense of the variability in how much adolescents felt loved by their caregiver across the 21 days, a plot is provided in Figure 1. Within-person variance was calculated (1-ICC) to be .39, indicating meaningful variance consistent with typical daily diary studies that fall between .2 and .4 (Bolger & Laurenceau, 2013). There was sufficient variability to proceed with MLM analyses predicting daily variation in adolescents feeling loved.

Descriptive information for the main study variables and their correlations at the between-person and within-person level (when applicable) are in Table 2. Of note, at the between-person level, how loved adolescents feel, daily parent-reported warmth, daily parent-reported conflict, and general adolescent-reported closeness were significantly correlated with each other in the expected direction. Gender was not significantly correlated with any of the four variables. At the within-person level, the range and average correlation coefficients between three daily variables were also in the expected direction.

Model 1 and 2 evaluated the main effects of within-family and between-family predictors on how loved adolescents felt, and Model 3 – 5 additionally evaluated the within-level and cross-level interaction effects between those predictors. Table 3 summarizes the parameter coefficients for each model.

Model 1 revealed statistically significant day level results. Specifically, on days when parents were more warm than usual (their average level), adolescents felt more loved ( $\gamma_{10} = .12$ ,  $p < .01$ ). On days when parents reported less conflict with their child than usual (their average level), adolescents felt more loved by their parents ( $\gamma_{20} = -.05$ ,  $p < .01$ ). Between-family findings indicated that adolescents in families with higher average parent warmth felt more loved by their parents ( $\gamma_{01} = .22$ ,  $p < .01$ ), however, the association between average parent-reported conflict and feeling loved was not significant in this model ( $\gamma_{02} = -.10$ ,  $p = .12$ ). In Model 2, this pattern

of results did not change in a meaningful way when general adolescent closeness was added to the model. However, adolescents who reported a higher level of closeness with parents, in general, felt more loved by their parents ( $\gamma_{04} = 0.42, p < .01$ ). These two models lend support for hypotheses H1a and H1b.

In Model 3, day's parent-reported warmth by day's parent-reported conflict interaction ( $\gamma_{40} = .03, p < .05$ ) was significant above beyond the main effects. Although BIC increased when interaction terms were added in the models (i.e. a penalty for Model 3-5 due to model complexity), Model 3 exhibited the lowest AIC (10105.53) among all five models (see Table 1). Thus, it was retained as the optimal model to interpret. To understand the day's parent warmth by day's parent-reported conflict interaction, we plotted the regression lines separately for day's warmth in low (one standard deviation below the mean) and high levels (1 standard deviation above the mean) by zero (i.e. centered mean) minus and plus 1 standard deviation. As shown in Figure 2, the association between days' parent-reported conflict and how loved adolescents felt was only significant at the low level of days' warmth ( $\beta = -.07, p < .01$ ). H2 was supported: on days of high parent warmth, the association between parent-reported conflict and same-day adolescent-reported love was not significant. However, in the context of low parent warmth, on days when parent-reported conflict was high, adolescents felt less loved by their parents.

In models Model 4 and Model 5, cross-level interactions were tested in which general adolescent-reported closeness was examined as a moderator of the within-family association between day's parent warmth and adolescents' felt love (Model 4) and as a moderator of the within-family association between day's parent-reported conflict and how loved adolescents' felt (Model 5). Neither interaction term was statistically significant. Thus, no support was found for the role of general adolescent-reported closeness as a moderator of daily experiences of parent-

reported warmth or conflict in relation to how loved adolescents felt (H3).

As a post-hoc analysis, we evaluated whether parent or adolescent gender may be a factor in our pattern of results. Only 4.6% of caregivers in our sample were fathers. Thus, we dropped fathers from the sample and re-ran our analyses to see if the results changed. No substantive changes emerged, suggesting that the exclusion of fathers in the analyses presented above did not alter the results. As indicated in Tables 2 and 3, we also considered the role of adolescent gender in our results. Adolescent gender was not correlated with any study variables, nor did it exhibit a significant main effect in any of the models tested. We ran additional models testing interactions between adolescent gender and the other predictors. No adolescent gender interactions were statistically significant. In short, our results did not find any significant differences in the associations among warmth, conflict, closeness, and love between adolescent males and females.

### **Discussion**

Although love is one of the most common and important emotions, this study is the first to explain why day to day fluctuations occurred in how loved adolescents felt in relation to parent reports of warmth and conflict. In doing so, this study builds theoretical understanding (using daily rather than aggregated reports) about how daily parent-youth dynamics factor into broader emotion and attachment theory in long-term relationships. Of interest to family and developmental science, we found that there was meaningful within-person variability in how much adolescents reported feeling loved by their parents from day to day even in close relationships. Further, our findings point to a robust result of why adolescents' feelings of love fluctuated: on days when parents reported using more warmth, adolescents felt more loved; adolescents felt less loved on days of elevated parent-reported conflict. Notably, elevated parent-reported conflict was not linked to adolescents feeling loved as long as parent-reported warmth

was high on that day. Below we discuss how our findings offer new insights into affective theory and the underpinnings of adolescents' affective bonds to their caregivers that could have long-term implications for parent-adolescent relationships and adolescent well-being.

This study capitalized on several methodological strengths to provide new insights into parent-adolescent dynamics that may promote or undermine adolescents' daily experiences of feeling loved in the home. First, by using 21 days of daily diaries to examine how loved adolescents felt, we were able to disentangle within- and between-family processes; of particular value is the examination of within-family processes that a) offer more direct information about theories of change, b) avoid problems of third-variable confounds by examining within-person covariation, and c) are more directly applicable to interventions aimed at understanding the corresponding changes in parent-reported warmth or conflict in relation to fluctuations in adolescents' daily experiences of feeling loved by their parents (Hamaker, 2012; Smyth & Heron 2014). Second, as love is an emotion dependent on others, we used a multi-informant approach to help avoid problems of shared-reporter bias in our day-level analyses. Third, our study considered parent-reported warmth and conflict simultaneously, enabling tests of the relative and unique effects of each, as well as the combination of parent-reported warmth and conflict in the home (i.e., the within-day interaction of warmth and conflict). Below we detail how our findings offer a more complete picture of day-to-day parent-adolescent relations (Repetti et al., 2002).

Our findings extend theory about love as an emotion (Fredrickson, 2013) in multiple ways. First, we add to evidence indicating daily fluctuations in feeling loved are common even in long-term relationships (e.g., Trampe et al., 2015). The degree to which adolescents in our study felt loved by their parents was dynamic and points to the importance of understanding factors that account for this variability. Generally, adolescents felt loved (average of 8.4 out of 10) but

that shifted by day and some reported feeling no love on certain days. Researchers might overestimate the stability of this parent-adolescent affective bond when measuring it less frequently or using infrequent aggregated reports. Second, fluctuations in feeling loved can be linked to daily behaviors like warmth of close others such as parents. Our daily level advances are important given that feeling loved is linked to social connection, physical health, and other positive emotions. Love is unsurprisingly important for mental, physical, and social well-being (Fredrickson, 2013; Fredrickson et al., 2013; Kok et al., 2010; Shiota et al., 2014; Shiota et al., 2017). Given the expansive benefits of feeling loved (Fredrickson, 2013; Shiota et al., 2014; Shiota et al., 2017) and the daily fluctuations in love that we found within families, daily level analyses using multiple reporters are critical for establishing when and why people feel loved.

Our central study hypotheses were supported by using parent and adolescent reports: parent-reported warmth and conflict both are associated with daily fluctuations in how much love adolescents reported feeling from their parents. On days when parents were warmer (i.e., praising, understanding, and affectionate) with their adolescent than usual, adolescents felt more loved by their parents. Also, on days when parent-reported conflict was higher than usual, adolescents felt less loved by their parents. Interestingly, the overall quality of the parent-adolescent relationship did not mitigate these within-person results. That is, regardless of how close adolescents generally felt towards their parents, day-to-day warmth and conflict were related to fluctuations in how loved adolescents felt by their parents. Taken together, these findings connect daily parenting practices to adolescents' sense of security and love in the family and emphasize the ongoing importance of daily parenting behaviors in the lives of adolescents.

Our findings also echo the importance of considering both nurturance *and* conflict in families to more completely understand the role of the family in adolescent health and well-being



(e.g., Repetti et al., 2002). Beyond the independent predictive value of daily warmth and conflict, our findings suggest that the combination of warmth and conflict on a given day is particularly informative in understanding how loved adolescents feel by their parents. On days of high warmth, parent-reported conflict was not significantly related to feeling loved. However, on days of high conflict and low warmth, adolescents felt less loved by their parents than usual. These findings highlight that frequency of warmth and conflict vary from day to day, but daily parent-reported warmth can buffer against consequences of parent-reported conflicts.

### **Implications for Adolescent Well-Being**

Our results indicate daily behaviors of parents are still important for the parent-adolescent relationships even though attachment bonds are well established and moderately stable during adolescence (Bowlby, 1988; Allen, McElhaney, & Kupermine, 2007). Even in relationships adolescents perceived as close, parents reported there were days when they give more or less warmth and experience more or less conflict. These fluctuations in parenting behaviors helped explain variability in how loved adolescents felt. Over time, these daily parenting behaviors and corresponding emotional responses associated with restricting warmth or love might have other long-term consequences for adolescents' well-being (e.g., Assor et al., 2004; Larson et al., 1980; Lippold, Hussong, Fosco, & Ram, 2018). Together, the variability in parenting behaviors and shifting feelings of love might explain why there is only modest continuity in the attachment bond from early life into adulthood (Allen et al., 2004; Allen & Tan, 2016).

Related affective theory suggests that frequent emotional experiences can shape or reshape emotion regulation and behavioral patterns in adolescents that can have long-term well-being consequences (e.g., Abe & Izard, 1999; Coffey, 2018). We believe that the decreased frequency and high variability of feeling loved over extended periods might help explain some

long-term consequences such as increased mental health concerns (e.g., depression) or decreased well-being because adolescents miss chances to connect with parents and build resources central to future success and well-being (e.g., Coffey et al., 2015; Kok & Fredrickson, 2010; Lippold et al., 2016). Further, multiple theories and studies about parent-youth dynamics have linked using love (usually via aggregate report) as leverage to condition behaviors with adverse consequences such as resentment, mental health concerns, and maladaptive behaviors (e.g., Assor et al., 2004; Roth et al., 2009; Smiley et al., 2016). Thus, the daily fluctuations in how much adolescents feel loved might predict maladaptive parent-adolescent relationship shifts or adolescent behaviors.

Our daily level family findings support the parent-adolescent dynamics research suggesting that how parents and adolescents communicate and resolve conflicts might be as important as the type or frequency of the conflict (Allen & Tan, 2016; Brown, 1999). Conflicts will occur in all relationships and avoiding them can be maladaptive (e.g., Dadds, Atkinson, Turner, Blums, & Lendich, 1999; Katz & Gottman, 1993; Gottman, 2014; Fincham et al., 1990). Further, parents deal with conflicts and potential conflicts in a wide range of ways (Baumrind, 2005; Froiland, 2015), but providing warmth may be key to mitigating damage from conflicts. Notably, in our study, warmth was reported during the same day—not necessarily during the conflict event. Thus, warmth only needed to be given on the same day as the conflict (not during it). In line with other resiliency research (Fredrickson et al., 2003; Ong et al., 2006), we found positive experiences can be protective for adolescents experiencing adversity. In short, daily level warmth can help ensure adolescents still feel loved even on high-conflict days.

Additionally, our daily level findings highlight how granular level measures can capture what is missed in broader aggregate measures of family dynamics and relational love. For example, our daily examination that also included warmth may explain some inconsistencies in

theory about how harmful conflicts can be for adolescents' well-being (Repetti et al., 2002; Smetana, 1988; Weymouth et al., 2016). Accordingly, some average variables may not capture day-to-day ups and downs that could cause them to get dismissed or overlooked in research.

### **Implications for Intervention**

Taken together, our findings related to within-family effects of parent-reported warmth and conflict for how much adolescents feel loved offer valuable guidance for parents and clinicians. Our approach, explicitly modeling within-family effects more directly translate to individual cases (i.e., a clinician working with a particular family) than traditional, between-family methods (Molenaar, 2004). Family-based interventions may leverage the current findings to highlight the value of parent warmth as a protective factor for ensuring adolescents feel loved even on days involving conflict. Although conflict may be a common stressor for parents (e.g., Dekovic, 1999), parents who provide warmth by expressing affection, praising positive behavior, and working to understand their adolescents' perspective can help mitigate stressful interactions in the service of preserving strong relationships.

As warmth is particularly critical, clinicians could use daily behavior tracking to create interventions around when parents are or are not warm. Using this information provides a path for working towards unconditional love or autonomy development within the relationship (e.g., Allen & Tan, 2016; Roth et al., 2009) that parents might not recognize. Clinicians can work with families to find ways to offer warmth to mitigate conflict to enhance how loved adolescents feel. In other words, parents can be helped to understand the value of daily warmth and ways to adaptively avoid making it conditional to create more supportive family environments even when conflict occurs.

### **Limitations and Future Directions**

The limitations and future directions of this study need to be considered. Because this study was designed to enable the study of interparental conflict (Fosco & Lydon-Staley, 2019), families were only recruited if there were two caregivers in the home. Thus, the current results reflect the study of parent-adolescent relationships in the context of two-parent families that were generally moderate-to-low risk, middle-class, and largely White, reducing generalizability. We focused only on one parent-adolescent relationship (usually mother-adolescent), whereas other caregivers and people can make someone feel loved. We also did not find gender differences that might have been more detectable with more male parents. Future research should examine these processes within more diverse family structures (e.g., adolescents that split time between two homes), incomes, and cultural backgrounds with more emphasis on fathers and other non-maternal caregivers. For example, can warmth from one caregiver mitigate conflict with another caregiver or sibling? Other examinations might look at younger children or romantic friendships. Our results are also based on a 21-day period with a focus on emotional love but a longer study with additional outcomes should be done. We expect cumulative parent-adolescent interactions linked to fluctuations of feeling loved over longer periods might reshape relationships and emotion regulation that could have broader implications (e.g., mental health).

### **Conclusion**

As is suggested in the quote at the start of the manuscript, emotional love needs to be made and remade on a daily basis – even in close, long-term relationships. For parents, maintaining the parent-adolescent relationship can be complicated. Conflict is an inescapable element of parenting, but it is not necessarily a maladaptive element. Our research examining day to day family interactions suggests that even as conflicts arise, parents' offering high levels of warmth can still ensure adolescents feel loved. Frequent experiences of love and other positive

emotions are associated with greater social connection, exploration, skill development, physiological health, and other long-term well-being indicators (Fredrickson, 2013; Kok et al., 2013; Shiota et al., 2017). Thus, parents, clinicians, and researchers can work together to understand the daily sources of love (e.g., warmth, conflict) as an intervention point for families. Ultimately, being warm and addressing conflict can still leave adolescents' feeling loved while maintaining bonds with their parents that will likely have long-term benefits for adolescents and their parents.

### **Open Practice Statement**

This experiment uses data from the ongoing PSU FLOW study. As such, data have been made available in a third-party archive. Email the third author to request data.

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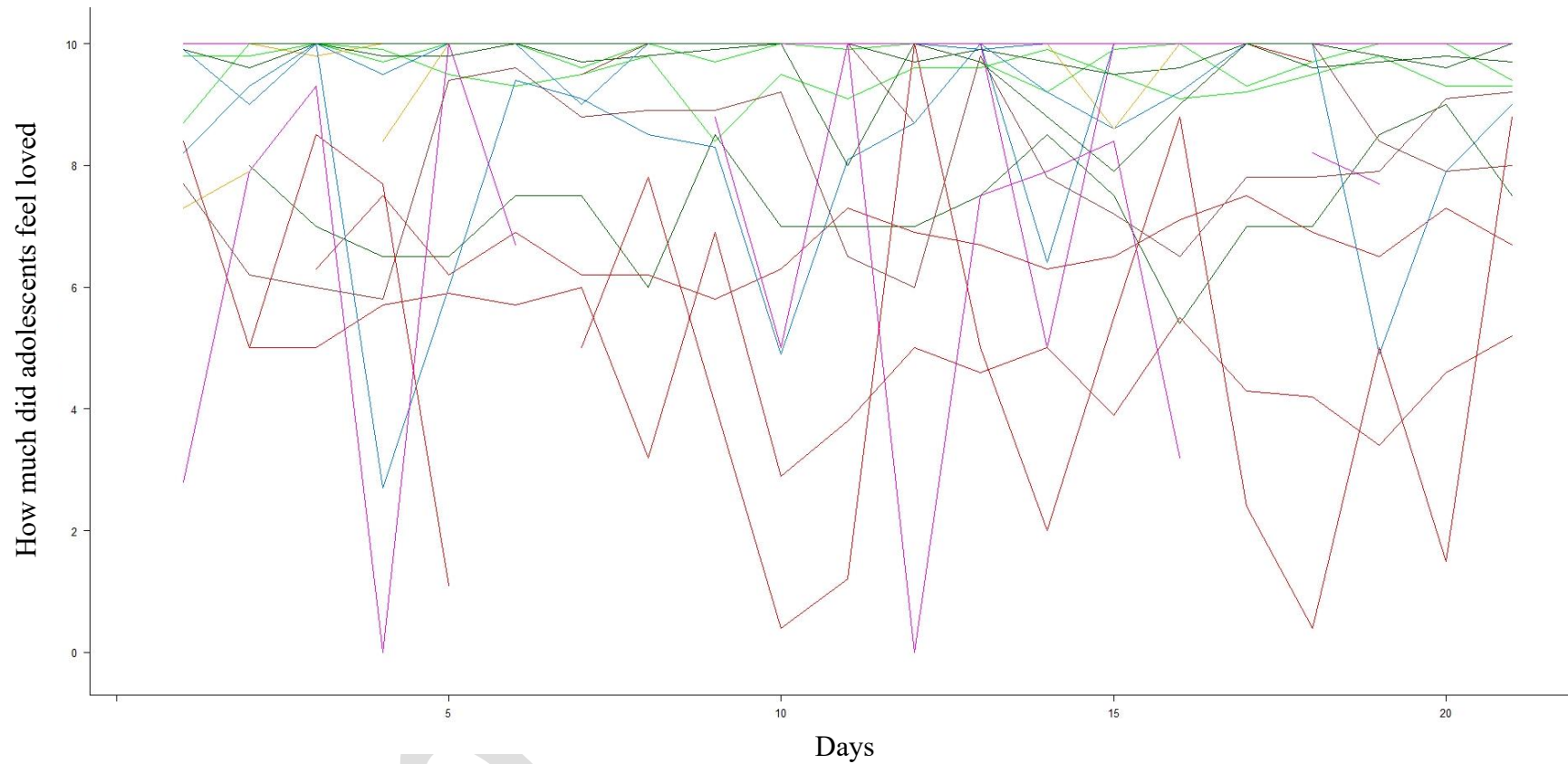
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Table 1. Equations for Systematic Model Building

Models	Equations	AIC	BIC	logLik
1	$LOVED_{ij} = \beta_{0j} + \beta_{1j} * Warmth_{wj} + \beta_{2j} * Conflict_{wj} + \beta_{3j} * Time_{ij} + \varepsilon_{ij}$ $\beta_{0j} = \gamma_{00} + \gamma_{01} * Warmth_{bj} + \gamma_{02} * Confict_{bj} + \gamma_{03} * Gender_j + \mu_{0j}$ $\beta_{1j} = \gamma_{10} + \mu_{1j}$ $\beta_{2j} = \gamma_{20} + \mu_{2j}$ $\beta_{3j} = \gamma_{30}$	10168.51	10251.62	-5070.26
2	$LOVED_{ij} = \beta_{0j} + \beta_{1j} * Warmth_{wj} + \beta_{2j} * Conflict_{wj} + \beta_{3j} * Time_{ij} + \varepsilon_{ij}$ $\beta_{0j} = \gamma_{00} + \gamma_{01} * Warmth_{bj} + \gamma_{02} * Confict_{bj} + \gamma_{03} * Gender_j + \gamma_{04} * Closeness_j + \mu_{0j}$ $\beta_{1j} = \gamma_{10} + \mu_{1j}$ $\beta_{2j} = \gamma_{20} + \mu_{2j}$ $\beta_{3j} = \gamma_{30}$	10117.47	10206.51	-5043.73
3	$LOVED_{ij} = \beta_{0j} + \beta_{1j} * Warmth_{wj} + \beta_{2j} * Conflict_{wj} + \beta_{3j} * Time_{ij} + \beta_{4j} * Warmth_{wj} * Conflict_{wj} + \varepsilon_{ij}$ $\beta_{0j} = \gamma_{00} + \gamma_{01} * Warmth_{bj} + \gamma_{02} * Confict_{bj} + \gamma_{03} * Gender_j + \gamma_{04} * Closeness_j + \mu_{0j}$ $\beta_{1j} = \gamma_{10} + \mu_{1j}$ $\beta_{2j} = \gamma_{20} + \mu_{2j}$ $\beta_{3j} = \gamma_{30}$ $\beta_{4j} = \gamma_{40} + \mu_{4j}$	10105.53	10224.26	-5032.77
4	$LOVED_{ij} = \beta_{0j} + \beta_{1j} * Warmth_{wj} + \beta_{2j} * Conflict_{wj} + \beta_{3j} * Time_{ij} + \varepsilon_{ij}$ $\beta_{0j} = \gamma_{00} + \gamma_{01} * Warmth_{bj} + \gamma_{02} * Confict_{bj} + \gamma_{03} * Gender_j + \gamma_{04} * Closeness_j + \mu_{0j}$ $\beta_{1j} = \gamma_{10} + \gamma_{11} * Closeness_j + \mu_{1j}$ $\beta_{2j} = \gamma_{20} + \mu_{2j}$ $\beta_{3j} = \gamma_{30}$	10119.20	10214.18	-5043.60
5	$LOVED_{ij} = \beta_{0j} + \beta_{1j} * Warmth_{wj} + \beta_{2j} * Conflict_{wj} + \beta_{3j} * Time_{ij} + \varepsilon_{ij}$ $\beta_{0j} = \gamma_{00} + \gamma_{01} * Warmth_{bj} + \gamma_{02} * Confict_{bj} + \gamma_{03} * Gender_j + \gamma_{04} * Closeness_j + \mu_{0j}$ $\beta_{1j} = \gamma_{10} + \mu_{1j}$ $\beta_{2j} = \gamma_{20} + \gamma_{21} * Closeness_j + \mu_{2j}$ $\beta_{3j} = \gamma_{30}$	10117.62	10212.60	-5042.81

Note.  $i$ =day  $i$ ,  $j$ =family  $j$ ,  $\beta$ =beta regression coefficient,  $\gamma$ =fixed effect parameter,  $\mu$ =random effect parameter,  $\varepsilon$ =within-person error.

Figure 1. Subsample ( $n = 25$ ) of Adolescents' Daily Reports of How Loved They Were Feeling Across the 21 Day Period

*Note.* This is a random subsample of 25 of the participants with each line representing one participant's responses across all 21 days. Generally, adolescents reported feeling moderate to high levels of love but there were some days when some reported not feeling any love. Gaps indicate missing responses. Notably, even in close relationships, feelings of love fluctuated.

Table 2. Descriptive Information and Correlation Between Main Study Variables

	1	2	3	4	5
Within-Person					
Between-Person					
1) Day's AR I Feel Loved		-0.45 ~ 0.93 ( <i>M</i> = 0.24)	-0.95 ~ 0.70 ( <i>M</i> = -0.13)	—	—
2) Day's PR Warmth	0.35**		-1.00 ~ 0.40 ( <i>M</i> = -0.25)	—	—
3) Day's PR Conflict	-0.26**	-0.41**		—	—
4) General AR Closeness	0.60**	0.28**	-0.22**		—
5) Adolescent Gender	-0.04	-0.12	0.16	-0.05	
<i>M</i>	8.36	8.01	0.95	4.22	1.38
<i>SD</i>	2.31	1.96	1.84	0.68	0.49

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

PR = Parent-reported; AR = Adolescent-reported. Lower panel = between-person correlation matrix, Upper panel = within-person correlation matrix; “—” = not applicable to calculate within-person correlation for between-person variables; For within-person correlations, the first line includes the range of correlation coefficient, and the second line is the average correlation coefficient; Mean (*M*) and Standard Deviation (*SD*) for daily variables (i.e. variable 1-3) were calculated at the daily level (level 1), and that for baseline variable (i.e. variable 4-5) were calculated at the individual level (level 2).

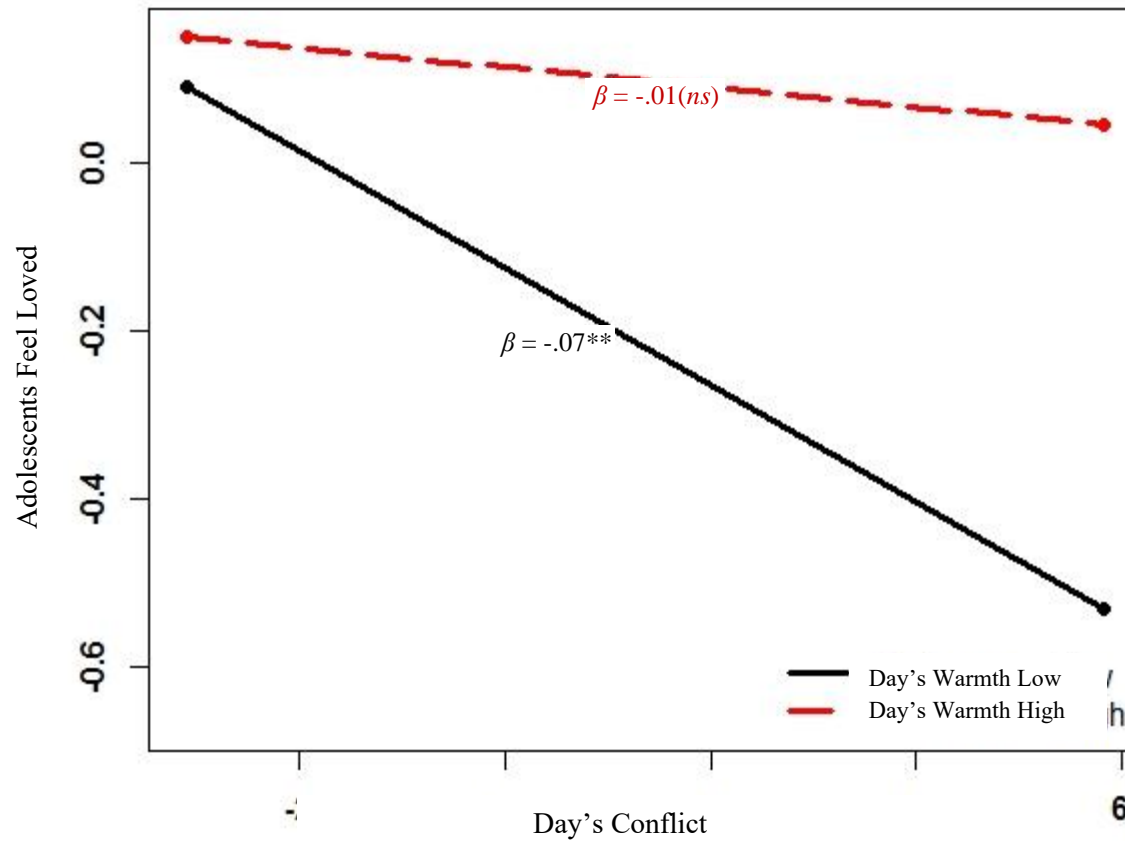


Table 3. Standardized Parameter Coefficients in Each Multilevel Model

	Model 1		Model 2		Model 3		Model 4		Model 5	
	$\beta$	95% CI	$\beta$	95% CI	$\beta$	95% CI	$\beta$	95% CI	$\beta$	95% CI
Intercept ( $\gamma_{00}$ )	-0.01	[-0.13, 0.11]	-0.01	[-0.11, 0.08]	-0.01	[-0.10, 0.09]	-0.01	[-0.11, 0.08]	-0.01	[-0.11, 0.08]
Day's PR Warmth ( $\gamma_{10}$ )	0.12**	[0.08, 0.16]	0.12**	[0.08, 0.16]	0.12**	[0.08, 0.16]	0.12**	[0.08, 0.16]	0.12**	[0.08, 0.16]
Average PR Warmth ( $\gamma_{01}$ )	0.22**	[0.10, 0.35]	0.13*	[0.02, 0.24]	0.13*	[0.01, 0.24]	0.13*	[0.02, 0.24]	0.13*	[0.02, 0.24]
Day's PR Conflict ( $\gamma_{20}$ )	-0.05**	[-0.09, -0.02]	-0.05**	[-0.09, -0.02]	-0.04*	[-0.08, -0.01]	-0.05**	[-0.09, -0.02]	-0.05**	[-0.09, -0.01]
Average PR Conflict ( $\gamma_{02}$ )	-0.10	[-0.23, 0.03]	-0.05	[-0.16, 0.06]	-0.03	[-0.14, 0.07]	-0.05	[-0.16, 0.06]	-0.05	[-0.15, 0.06]
Time ( $\gamma_{30}$ )	-0.02	[-0.04, 0.00]	-0.02	[-0.04, 0.00]	-0.02	[-0.04, 0.00]	-0.02	[-0.04, 0.00]	-0.02	[-0.04, 0.00]
Adolescent Gender ( $\gamma_{03}$ )	0.00	[-0.24, 0.25]	0.00	[-0.21, 0.21]	0.01	[-0.20, 0.21]	0.00	[-0.21, 0.21]	0.00	[-0.21, 0.20]
AR General Closeness ( $\gamma_{04}$ )	–	–	0.42**	[0.32, 0.53]	0.42**	[0.32, 0.52]	0.43**	[0.32, 0.53]	0.42**	[0.32, 0.53]
Day's Warmth * General Closeness ( $\gamma_{11}$ )	–	–	–	–	–	–	-0.01	[-0.05, 0.03]	–	–
Day's Conflict * General Closeness ( $\gamma_{21}$ )	–	–	–	–	–	–	–	–	0.03	[-0.01, 0.06]
Day's Warmth * Day's Conflict ( $\gamma_{40}$ )	–	–	–	–	0.03*	[0.00, 0.05]	–	–	–	–

*Note.* \*\* $p < .01$ , \* $p < .05$ . PR = Parent-reported; AR = Adolescent-reported. Parents reported on warmth and conflict with their adolescents for 21-days. Each day adolescents reported how loved they felt by the participating parent. Adolescents reported general closeness to parent at baseline.

Figure 2. Day's Parent-Reported Conflict and Warmth 2-Way Interaction Plot



Note. This Interaction accounts for adolescent-reported general closeness. Daily parent-reported warmth mitigated daily parent-reported conflict suggesting that when parents' daily warmth was high, conflict did not matter as much.

\*\* $p < .01$ , ns = not significant ( $p > .05$ ).