

# Conditional regard, stress, and dyadic adjustment in primiparous couples: A dyadic analysis perspective

Journal of Social and  
Personal Relationships  
2021, Vol. 38(5) 1472–1494  
© The Author(s) 2021



Article reuse guidelines:  
sagepub.com/journals-permissions  
DOI: 10.1177/0265407521993561  
journals.sagepub.com/home/spr



**Alexandra Cournoyer**  
**Julie C. Laurin**   
**Marie-Ève Daspe**  
**Sophie Laniel**   
**Anne-Sophie Huppé**  
Université de Montréal, Canada

## Abstract

Many couples transitioning into parenthood are at risk for dyadic adjustment declines. It is therefore important to explore key, theory-driven deterrents of enduring relationships during this period, as well as potential underlying mechanisms. This study examined the relationship between perceived conditional negative regard (i.e. a behavior that thwarts basic psychological needs; T1), stress (T1), and dyadic adjustment (T2) during the transition to parenthood. Primiparous couples ( $N = 144$ ) were recruited to fill out an online questionnaire when their babies were 6-months (T1) and 12-months (T2). Path analysis with an Actor-Partner Interdependence Mediation Model was conducted. Results show that for each partner (actor effects), stress (T1) mediated the link between perceived conditional negative regard (T1), and later dyadic adjustment (T2). For the partner effects, while stress (T1) did not play a mediating role between these variables, other partner effects were found. Each primiparous parent's perceived conditional negative regard (T1) was associated with the other parent's later dyadic adjustment (T2). However, when examining longitudinal changes in stress and dyadic adjustment over time (T2, controlling for respective T1), no significant associations were found. Overall,

## Corresponding author:

Julie C. Laurin, Department of Psychology, Université de Montréal, Montréal, Québec, Canada H3C 3J7.  
Email: j.laurin@umontreal.ca

the findings shed light on the dyadic associations of conditional negative regard, and the mechanisms through which it is negatively tied with dyadic adjustment during the transition to parenthood.

### **Keywords**

Conditional negative regard, dyadic adjustment, dyadic study, stress, transition to parenthood

Romantic relationships can bring both joy and sorrow, and are significant contributors to one's well-being, life satisfaction (Freudiger, 1983; Proulx et al., 2007) and distress (Knee & Uysal, 2011). Dyadic adjustment (DA) is an important construct to consider when studying couple relationships, as it provides a clear indication of couple functioning. Not only is it associated with relationship stability (Bouchard, 2006), but it can also help identify couples who experience distress in their relationship (Busby et al., 1995). Typically, DA fluctuates across life cycles, but one life stage especially marked and characterized by couple hardships, and upheaval is the transition to parenthood (TTP).

### **Transition to parenthood and dyadic adjustment**

During the first year following the birth of a child, primiparous parents face this wonderful, yet difficult, life transition (Cowan & Cowan, 2012; Doss & Rhoades, 2017; Levy-Shiff, 1994). It is well documented that relationship functioning plummets for many new parents (e.g., Doss et al., 2009; Trillingsgaard et al., 2014). Thus, above and beyond the challenges of adapting to a new child and new parental roles, primiparous parents can face additional difficulties in their romantic relationship. Typically, they experience more stress (Cowan & Cowan, 2012; Doss & Rhoades, 2017; Levy-Shiff, 1999), they have more difficulty communicating (Doss et al., 2009), and their pre-existing relationship issues are amplified (Belsky & Rovine, 1990; Doss et al., 2009). They also experience diminished intimacy, lack of energy, fatigue, and irritability (Delicate et al., 2018). For some, these individual and relational strains become the "new normal" and they never recover (Feinberg et al., 2016). It is therefore paramount to further investigate the determinants of DA during this precarious period, in order to clarify key variables that may help primiparous couples facing difficulties, as well as explore their potential mechanisms.

In the TTP's literature, quality communication has been identified as a salient variable when studying couple adaptation (Doss & Rhoades, 2017; Doss et al., 2009; Trillingsgaard et al., 2014). Interestingly, self-determination theory (SDT; Deci & Ryan, 1980, 2000, 2008; Ryan & Deci, 2000, 2017), a leading humanistic-based theory that formulates key building-blocks for quality communication, has yet to be studied among couples transitioning in this fragile period.

## Self-determination theory and romantic relationships

This theory stipulates that there are three fundamental psychological needs, namely *autonomy*, *competence*, and *relatedness*, and that when those needs are supported by a romantic partner, it is associated with more individual and relational well-being (Deci & Ryan, 2014; La Guardia et al., 2000; Ryan & Deci, 2017). To promote the support of these fundamental needs within couples, it is essential to understand them and their relevance. When feeling *autonomous*, individuals wholeheartedly endorse their actions, thoughts, and emotions, which are free of tyrannical internal or external pressures (Deci & Ryan, 2014). When individuals feel *competent*, they experience a sense of efficiency in their endeavors and confidence in their ability to reach their goals (Deci & Ryan, 2014). Finally, when individuals experience *relatedness*, they feel connected to others, cared for and understood by loved ones (Ryan & Deci, 2017). In close relationships, there are several behaviors that thwart psychological needs. One of these thwarting behaviors is *conditional negative regard*, a form of poor communication. In this instance, one's relatedness and autonomy needs are set against each other. This is particularly detrimental, as they are the two most important needs with regard to quality relationships and attachment variables (La Guardia et al., 2000; Patrick et al., 2007).

### When love is conditional

Since Rogers' body of work on *unconditional regard*, i.e. accepting and valuing another person unconditionally, independently of his/her actions, thoughts or affects (Rogers, 1992), Kanat-Maymon and his colleagues have introduced the concept of *conditional negative regard* within close relationships (Kanat-Maymon et al., 2012, 2016). Conditional negative regard is defined as the withdrawal of affection, love, warmth, or esteem in a conditional way (e.g., when the partner does not comply with the demands or standards of the other partner; Kanat-Maymon et al., 2016). Conditional regard is a behavior that thwarts one's need for autonomy (Kanat-Maymon et al., 2016), as the latter must give up his/her own volition to satisfy the expectations of his/her partner and to satisfy his/her need for relatedness (Deci & Ryan, 2014; Kanat-Maymon et al., 2017). Yet, when individuals receive affection or love on condition of compliance with their partner's expectations, their need for relatedness is still not fully satisfied (Ryan & Deci, 2017); they do not feel appreciated for who they are (Moller et al., 2018). Evidently, perceived conditional negative regard is negatively linked to couple functioning (Kanat-Maymon et al., 2016, 2017). When a person perceives that their partner regards them conditionally, in their opinion, they have in fact been regarded conditionally from their partner. Indeed, studies have shown that perceived and actual autonomy support are statistically correlated (Carbonneau et al., 2019; Hanna et al., 2013). Thus, perceived conditional negative regard could elicit couple distress, as need thwarting is associated with less constructive and more destructive communication (Vanhee et al., 2018).

It is important to consider perceived conditional negative regard as a potential determinant of DA during the TTP given the likelihood of poorer communication (Doss et al., 2009), amplified irritability and stress (Delicate et al., 2018; Doss & Rhoades,

2017) during this period. Also, poor communication is an encompassing construct. Through the assessment of different subcomponents of poor communication, a clearer picture of determinants of DA during the TTP can be developed, helping to promote it. This is especially true with a theory-driven construct, thus providing a theoretical understanding for its influence on DA. Furthermore, it is also important to assess a possible mechanism explaining the link between conditional regard and DA. Feeling loved only when we satisfy the expectations of our partner can be debilitating and adds an additional pressure on our shoulders, but could it also be more stressful?

### **Stress as a mechanism linking conditional regard and dyadic adjustment**

Extensive research shows that stress is negatively associated with relationship functioning during the TTP (e.g., Belsky & Pensky, 1988; Don & Mickelson, 2014; Doss & Rhoades, 2017; Trillingsgaard et al., 2014). Yet, could it help us explain the relationship between couples' conditional negative regard and DA? When individuals believe that they are only appreciated when they abide to their partner's standards, they will likely feel pressure and perhaps more stressed. In the context of the TTP, an already difficult period, this added stress could endanger the fragile relationship of primiparous parents. Thus, stress could potentially explain why conditional negative regard is linked to less DA. Although conducted in different contexts than romantic relationships (employer-employee, coach-athlete, respectively), research has shown that the satisfaction of basic psychological needs is associated with less anxiety (Baard et al., 2004), while pressuring, controlling behavior promotes more stress (Bartholomew et al., 2011). These studies support the idea that conditional regard promotes more stress in hierarchical relationship, "superior-subordinate" contexts, but does it also happen in equal relationship (i.e. couples)?

On a similar note, the parental role within equal relationships may also be relevant for partners experiencing the TTP. Typically, in heterosexual couples, men and women experience the TTP differently, because to this day, women are still the primary caregiver of the infant. For example, women typically experience more stress than men during the TTP (Levy-Shiff, 1999). Likewise, in same-sex couples, the biological mother and her partner also experience the TTP differently (Gartrell et al., 1999; Weinstein, 2001). Congruent with heterosexual couples (Belsky & Pensky, 1988), same-sex couples also experience a relationship quality decrease across the transition (Goldberg & Sayer, 2006). It is thus important to consider and assess whether the link between perceived conditional negative regard, stress, and dyadic adjustment during the TTP are experienced similarly between partners.

### **Dyadic effects of conditional negative regard and stress**

A few SDT studies have highlighted the dyadic interdependence of both partners' need satisfaction in determining a multitude of relationship outcomes. For example, need fulfillment has mutual effects on relationship satisfaction (Hadden et al., 2014; Patrick et al., 2007). Also, autonomy support seems to be reciprocal in friendships (Deci et al.,

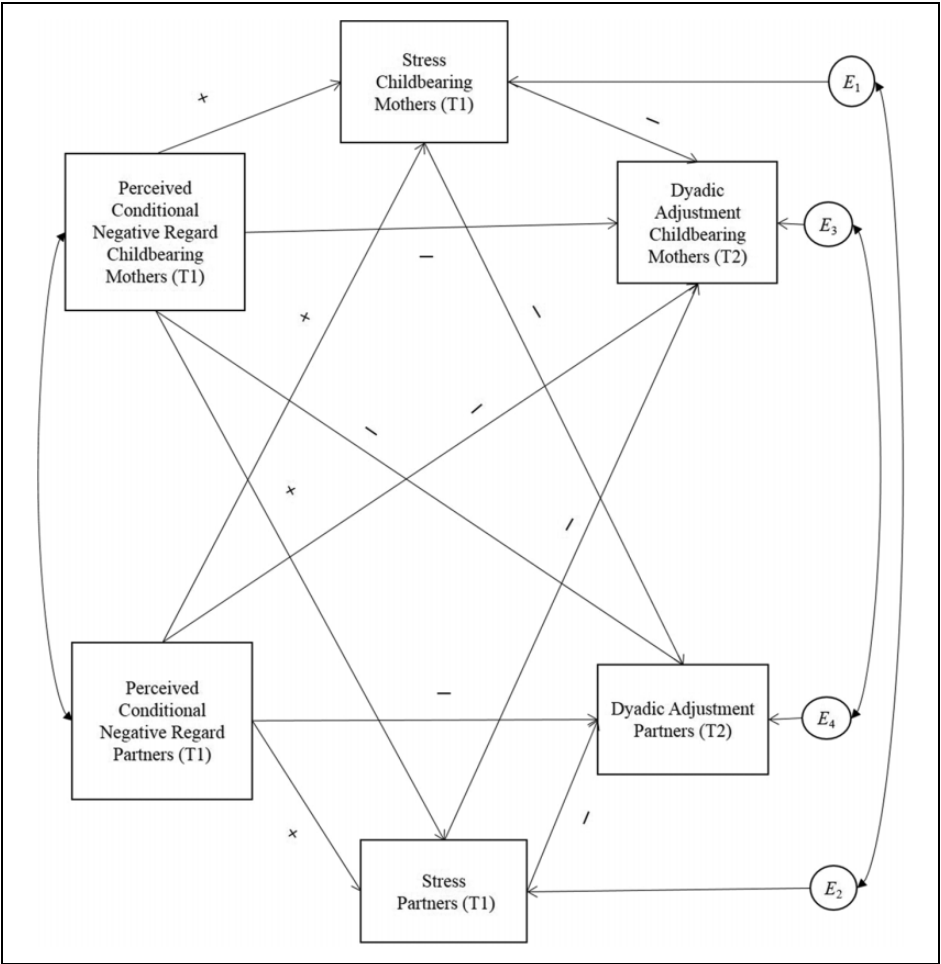
2006). Furthermore, Vanhee et al. (2018) found that one's own and one's partner's need frustration, especially relatedness, were associated with more relationship dissatisfaction for both partners. As one's need satisfaction or frustration is pivotal to the partner's relationship satisfaction, we expect that one's perceived conditional negative regard would be associated with the DA of the other partner (i.e. partner effects). To our knowledge, the dyadic partner effects of conditional negative regard on relationship adjustment has never been studied, *per se*.

Many studies in other literature domains make use of dyadic data. Most notably, much empirical evidence demonstrates that stress is a dyadic phenomenon. Indeed, in Ledermann et al. (2010)'s study, relationship stress perceived by one partner was associated with one's own marital quality report, as well as the perceived marital quality of the other partner. In another study, when mothers reported greater stress during pregnancy, their partner were more likely to experience a deeper decline of DA during the TTP, but father's stress did not have the same association (Don & Mickelson, 2014). Considering that stress is a dyadic phenomenon in romantic relationships, we expect that the stress perceived by one partner would be associated with the DA of the other partner, or at least to find a unilateral link (e.g., childbearing mother's perceived stress would be associated with her partner's DA). Also, considering that a relationship is a mutual context where inter-influences are omnipresent, it would be interesting to explore if conditional negative regard perceived by one partner is associated with the stress perceived by the other partner. To our knowledge, no studies have examined this possible relationship.

## The present study

This study examined the dyadic effects of perceived conditional negative regard (T1, 6-month baby) on DA (T2, 12-month baby) of primiparous couples during the TTP. Moreover, the present study aimed to assess whether stress (T1) had a potential mediating role in the relationship between perceived conditional negative regard (T1) and DA (T2). In assessing conditional negative regard, we specifically focused on how individuals perceive conditional regard *from their partner's actions toward them*, as it is a key determinant of how one feels in one's intimate relationship.

This research has five hypotheses (see Figure 1). We expected that (H1) partners who perceived more conditional negative regard (T1) in their relationship would experience lower DA (T2), and that (H2) this link would be explained by their own stress levels (T1; actor effects). We also suspected that (H3) parents who perceived more conditional negative regard in their relationship (T1) would also have partners who reported lower DA (T2), and that (H4) this link would be explained by the higher levels of stress experienced by their partner (T1; partner effects). According to this last hypothesis, we expected to see a mirrored, bilateral association where the conditional negative regard perceived by one partner (T1) would be positively and negatively associated with the other's stress (T1) and DA (T2) respectively, and that the other's stress (T1) would be negatively linked with one's DA (T2). Also, we expected that (H5) partners would be distinguishable based on who birthed the child. As no studies have looked at the associations between perceived conditional negative regard, stress, and DA during the TTP, we did not have specific hypotheses pertaining to the differences in actor and partner links between partners.



**Figure 1.** Proposed model. Actor-partner interdependence mediation model for perceived conditional negative regard, stress, and dyadic adjustment.

**Method**

*Participants*

Following ethics approval, we recruited 150 primiparous couples ( $N = 300$  participants) through social media, parent-baby classes, and ads in public areas (e.g., parks, community centers). It should be noted that this present study draws from a larger longitudinal study. To be eligible for this larger study, couples had to live together and had a firstborn child around 6 months of age who did not present developmental issues (e.g., no physical health problem, no birth defects, no extremely preterm birth). As lesbian and heterosexual parents experience similar realities (e.g., post-pregnancy hormones), they were eligible to participate in the study, rendering our sample more representative of the general population

transitioning into parenthood. Both French and English-speaking participants were eligible for this study. Six couples had to be excluded due to multivariate outliers (final sample:  $n = 144$  couples). As typical in Quebec (Canada), all couples of our sample, except one, had at least one partner on parental leave (Quebec Parental Insurance Plan). In our sample, 98.61% of the participants were francophones. At the first data collection (T1), babies were on average 6.20 months old ( $SD = 0.89$ ), childbearing mothers ( $M_{age} = 30.77$  years,  $SD = 3.47$ ; 95.9% Caucasian) were mostly still on parental leave (96.5%), while their partners ( $M_{age} = 32.88$  years,  $SD = 4.00$ ; 96.6% Caucasian; 141 men [97.92%], 3 women [2.08%]) were mostly back to work (77.1% vs. 18.8% still on parental leave). Also, 68.1% of childbearing mothers and 49.3% of their partner had achieved at least a bachelor's degree in their education. Couples were together for an average of 7.47 years ( $SD = 4.33$ ) and 27.1% of them were married. In our sample, 70.4% had a family income higher than \$75 000CAD, while 8.3% earned less than \$50 000CAD. At our second data collection (T2, baby age:  $M = 11.56$ ,  $SD = 2.02$ ), most of the parents had returned to work (91% vs. 1.7% stay-at-home parents). Due to provincially subsidized childcare opportunities (i.e., \$8.25CAD a day), this is typical in Quebec.

## Procedure

After seeing our study's advertisement and contacting our research laboratory, participation eligibility was assessed by phone. Once eligibility was established, participants received an electronic link to an online consent form and questionnaire. Each partner was asked to complete it independently. For the second data collection, participants received a second electronic link, which was sent based on the planned date of return to work of both parents ( $M_{T2-T1} = 4.92$  months,  $SD = 2.14$ ). At each data collection, following both parent's participation, they each received a chance to win a prize worth \$1500 as compensation.

## Measures

**Socio-demographic variables.** Socio-demographic information about the participants was collected, including gender, age, and education. Marital, socioeconomic, and parental leave/employment status were also collected.

**Perceived conditional negative regard.** The 5-item *Perceived Conditional Negative Regard Scale* (Kanat-Maymon et al., 2016) was rated on a 7-point Likert-scale ranging from 1 (*not at all*) to 7 (*very much*). Higher scores indicate higher perceived conditional negative regard (e.g., "In times when I did not meet my partner's expectations, my partner was less caring and affectionate than usual"). Both the original scale and a French translated version were used. The latter was created using the forward and backward translation method (Vallerand, 1989). The Cronbach's  $\alpha$  was .81(T1) and .90(T2) for childbearing mothers and .89(T1) and .91(T2) for their partner.

**Perceived stress.** The *Perceived Stress Scale* (Cohen et al., 1983) consists of 14 items rated on a 5-point scale, ranging from 0 (*never*) to 4 (*very often*), with higher scores indicating more stress (e.g., "In the last month, how often have you felt nervous and "stressed?").

Both the original scale and a French translated version were used (using the forward and backward translation method, Vallerand, 1989). The Cronbach's  $\alpha$  was .86(T1) and .89(T2) for childbearing mothers and .84(T1) and .84(T2) for their partner.

*Dyadic adjustment (DA)*. The 14-item version of the *Revised-Dyadic Adjustment Scale* (RDAS; Baillargeon et al., 1986; Busby et al., 1995; Sabourin et al., 2005) was used to assess DA (e.g., "How often do you and your partner quarrel?"). The items 1 to 6 were rated on a 0 (*always disagree*) to 5 (*always agree*) scale, items 7 to 10 were rated on a 0 (*all the time*) to 5 (*never*) scale, item 11 was rated on a 0 (*never*) to 4 (*every day*) scale, and items 12 to 14 were rated on a 0 (*never*), to 5 (*more often*) scale. A global score was calculated by computing the score from its three subscales, i.e. Consensus, Satisfaction and Cohesion. Higher scores indicate better DA and lower score more distress in the relationship. The Cronbach alpha was .78(T1) and .81(T2) for childbearing mothers and .84(T1) and .80(T2) for their partners.

### Statistical analysis

Because of missing data (13.09%), a Little's MCAR test was conducted and it was found that it was missing completely at random:  $\chi^2(79) = 81.41, p = .40$  (Little & Rubin, 1989). Missing data were estimated using the expectation-maximization algorithm and multiple imputations in SPSS 25. One hundred datasets were imputed and then aggregated into a single imputed dataset. An Actor-Partner Interdependence Mediation Model (APIMeM; Ledermann et al., 2011) was conducted. Dyadic analyses include actor effects (i.e., the effect of an individual's perceived conditional negative regard on one's own DA) and partner effects (i.e., the effect of an individual's perceived conditional negative regard on his/her partner's DA). Above and beyond assessing actor effects, the APIMeM makes it possible to concomitantly estimate the partner effects, while controlling for the actor effects, as well as estimate the indirect and direct relations in our proposed model. Descriptive analyses were conducted using SPSS 25 and the path analysis was run in AMOS 24. In these analyses, the childbearing mother was always set as participants 1 in our model, while her partner was systematically set as participants 2 (irrespective of gender). As lesbian couples are included in our sample, we labeled "childbearing mother" for partner 1 (i.e., parent who carried the child) and "partner" (i.e., parent who did not birth the child) for partner 2. As recommended in Kenny et al. (2006), we differentiated the partners on this meaningful variable. The selected distinguishing variable has been used in past studies with lesbian couples (e.g., biological mothers and nonbiological mothers; Smith et al., 2020).

The model fit was evaluated using multiple fit indices: Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and chi-square statistic ( $\chi^2$ ). It should be noted that the variables were standardized (Z scores) before the computation of the model, an approach suggested by Kenny et al. (2006) that permits the coefficients to be comparable across dyad members. To have sufficient statistical power for path analysis, it is recommended to have between 5 to 20 observations (i.e., couples) per parameter (Bentler & Chou, 1987; Kline, 2015). As our proposed model (without covariate) contains 21 parameters, it would be recommended to have between 105 couples and 420 couples. It is possible that our analysis will be underpowered with only 144 couples.



## Results

### Preliminary analyses

Bivariate correlation coefficients, means, and standard deviations for perceived conditional negative regard, stress, and DA (T1 and T2) of childbearing mothers and their partner are presented in Table 1. Significant small to large size correlations were found, revealing that the scores of primiparous parents covary, thus supporting the non-independence of couple members' responses. The correlations coefficients also reveal other interesting results. Correlation between perceived conditional negative regard (T1) and stress (T1), between perceived conditional negative regard (T1) and DA (T2) were significant for both partners. Stress (T1) was significantly correlated with DA (T2) for the childbearing mothers, but not for the partners. Also, partners' perceived conditional negative regard (T1) was correlated with the childbearing mother's DA (T2), but childbearing mothers' perceived conditional regard was only marginally associated ( $p = .09$ ) with their partner's DA (T2). Another interesting result is that partners' perceived conditional negative regard (T1) was marginally correlated ( $p = .08$ ) to childbearing mothers' stress (T1), but childbearing mothers' perceived conditional regard (T1) was not significantly linked to their partner's stress (T1). Also, partners' stress was correlated with the childbearing mother's DA (T2), but childbearing mothers' stress was not correlated with their partner's DA (T2). Preliminary analyses were conducted to examine potential mean differences between each dyad member on our study variables, using paired-sample  $t$  tests. Childbearing mothers perceived significantly less conditional negative regard than their partner at both data collections, T1:  $t(123) = -5.53, p < .001$ , T2:  $t(77) = -4.33, p < .001$ . In addition, childbearing mothers were significantly more stressed at T1 than their partner but not at T2, T1:  $t(131) = 4.07, p < .001$ , T2:  $t(84) = 1.07, p = .29$ . For differences between T1 and T2, only childbearing mothers underwent significant changes: they had better DA at T1 than T2,  $t(107) = 2.34, p = .02$ , and they were more stressed at T1 than T2,  $t(129) = 2.65, p = .009$ . There was no T1 vs. T2 differences for partners (DA:  $p = .51$ ; Stress:  $p = .22$ ).

When investigating the relations between the study variables and potential confounding variables (e.g., age, relationship length, education, baby's sex, baby's age, baby's temperament, income), only marital status (T1: being married [1] vs not [0]) was correlated to the DA of both partners (marginally for partner,  $p = .06$ ). Based on these results, marital status was included as a covariate, where only its significant links with endogenous variables were integrated as paths in the model (see Table 1).

### Actor-partner interdependence mediation model

**Model fit.** The proposed model (**model 1**; see Figure 1, Table 2) was initially tested, where the perceived conditional negative regard and covariate (i.e., marital status) were treated as exogenous variables, while stress and DA were treated as endogenous variables. The proposed model had good fit indices.

As recommended by Kenny et al. (2006), an omnibus test of distinguishability (i.e., chi-square difference) was conducted to verify if the dyad members were empirically distinguishable in our model (see Online Supplemental Materials for details). This

**Table 1.** Descriptive statistics and bivariate correlation coefficient for perceived conditional negative regard, stress and dyadic adjustment.

	M /																
	Frequencies	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13
1. T1-PCNR—Childbearing mothers	1.45	0.76	1.00	4.50	—	.11	.70**	.18	.23**	.07	.21*	.13	.05	-.36**	-.10	-.34**	-.20
2. T1-PCNR—Partners	2.11	1.26	1.00	6.80	—	—	.14	.56**	.15	.40**	.17	.27*	-.06	-.31**	-.52**	-.32**	-.43**
3. T2-PCNR—Childbearing mothers	1.49	0.86	1.00	6.00	—	—	—	.26*	.25**	.14	.28**	.10	.01	-.51**	-.24*	-.46**	-.24*
4. T2-PCNR—Partners	2.12	1.28	1.00	6.40	—	—	—	—	.08	.28*	.15	.21*	-.16	-.39**	-.53**	-.55**	-.69**
5. T1-Stress—Childbearing mothers	1.67	0.56	0.36	3.00	—	—	—	—	—	.31**	.72**	.29**	-.17*	-.38**	-.29**	-.50**	-.15
6. T1-Stress—Partners	1.45	0.55	0.43	3.14	—	—	—	—	—	—	.20*	.68**	-.08	-.10	-.45**	-.24*	-.15
7. T2-Stress—Childbearing mothers	1.55	0.61	0.21	3.21	—	—	—	—	—	—	—	.25*	-.11	-.36**	-.17	-.45**	-.25*
8. T2-Stress—Partners	1.39	0.55	0.43	2.71	—	—	—	—	—	—	—	—	.02	-.10	-.28*	-.13	-.12
9. T1-Marital status	<b>Not married (0): n = 210 (72.92%)</b>																
	<b>Married (1): n = 78 (27.08%)</b>																
10. T1-DA—Childbearing mothers	53.29	5.99	28.00	68.00	—	—	—	—	—	—	—	—	—	—	.41**	.76**	.52**
11. T1-DA—Partners	54.00	7.06	35.00	67.00	—	—	—	—	—	—	—	—	—	—	—	—	.46**
12. T2-DA—Childbearing mothers	52.97	6.58	32.00	65.00	—	—	—	—	—	—	—	—	—	—	—	—	.60**
13. T2-DA—Partners	53.15	6.48	35.00	65.00	—	—	—	—	—	—	—	—	—	—	—	—	—

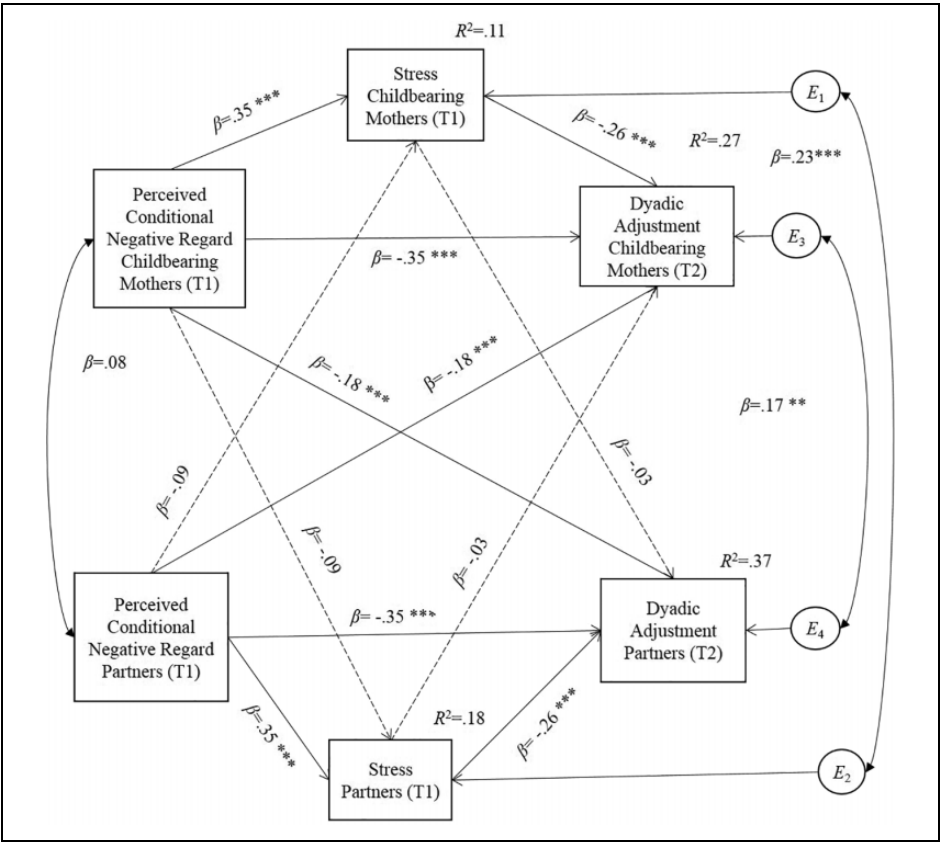
Note. \*p < .05. \*\*p < .01. DA stands for Dyadic Adjustment, PCNR stands for Perceived Conditional Negative Regard.

**Table 2.** Fit indices for the models predicting T2 dyadic adjustment.

Models	$\chi^2$	df	p	CFI	TLI	RMSEA			Omnibus Tests	
						RMSEA	95% CI	PCLOSE	$\Delta \chi^2$	p
<i>After Controlling for Marital Status at T1</i>										
Model 1	0.32	1	.57	1.00	1.09	.00	[.00; .18]	.64	—	—
Model 1a	94.24	13	.00	0.51	0.20	.21	[.17; .25]	.00	93.92	<.001
Model 1b	4.81	7	.68	1.00	1.04	.00	[.00; .08]	.84	4.49	.61
<i>After Controlling for DA, Stress and Marital Status at T1</i>										
Model 2	0.09	1	.76	1.00	1.07	.00	[.00; .15]	.80	—	—
Model 2a	72.80	13	.00	0.92	0.66	.18	[.14; .22]	.00	72.71	<.001
Model 2b	2.91	7	.89	1.00	1.04	.00	[.00; .05]	.96	2.82	.83

Note. To assert model fitness: Chi-square statistic needs to be nonsignificant; CFI & TLI: .90 for acceptable fit, > .95 for excellent fit (Hu & Bentler, 1999); RMSEA: .08 for acceptable fit, <.05: good fit & probability of close fit (PCLOSE) should be nonsignificant (Browne & Cudeck, 1992).

omnibus test was significant (**model 1a**, Table 2), indicating that childbearing mothers are empirically distinguishable from their partner. We will thus continue to refer to each parent with these meaningful labels, i.e. childbearing mothers and their partner. Furthermore, despite having statistically distinguishable dyad members, the actor and partner paths between conditional regard, stress and DA may not differ, and be equal in strength (see Online Supplemental Materials for details). In our final model, we constrained all actor effects and partner effects, as it was the best fitting and most parsimonious model (**model 1b** in Table 2; Figure 2; see Online Supplemental Materials for details). Of note, the results were equivalent with and without the inclusion of the marital status confound, as well as with and without same-sex couples ( $n = 3$ ; see Online Supplemental Materials for details), which were retained for inclusivity.



**Figure 2.** Model 1b. Actor-partner interdependence mediation model for perceived conditional negative regard, stress, and dyadic adjustment. Note. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . All variables (exogenous and endogenous) were entered as Z scores;  $\beta$  represents standardized coefficient and effect sizes. Marital status was included as confound in this model (to simplify the figure, covariate paths and confounding variable are not appearing in the model).

**Effect sizes.** According to the recommendation by Cohen (1988;  $R^2$ : small .01, medium .09, large .25), the final **model 1b** respectively explained a medium 11% and 18% of stress variance for childbearing mothers and their partner,  $R^2_{\text{Stress\_ChildbearingMothers}} = .11$ ,  $R^2_{\text{Stress\_Partners}} = .18$ . It also respectively explained a large 27% and 37% of DA variance for childbearing mothers and their partners,  $R^2_{\text{DyadicAdjustment\_ChildbearingMothers}} = .27$ ,  $R^2_{\text{DyadicAdjustment\_Partners}} = .37$ .

**Actor effects.** In this final model, the direct actor effects were all significant. When childbearing mothers perceived more conditional negative regard, they reported being more stressed (medium effect size;  $\beta_{\text{ChildbearingMothers}} = .35$ ,  $p < .001$ ; Cohen, 1988;  $\beta$ : small .10, medium .30, large .50), as well as experiencing less DA later (medium effect size,  $\beta_{\text{ChildbearingMothers}} = -.35$ ,  $p < .001$ ). In turn, when childbearing mothers perceived more stress, they also experienced less DA later (small effect size;  $\beta_{\text{ChildbearingMothers}} = -.26$ ,  $p < .001$ ). Similarly, when partners perceived more conditional negative regard, they reported being more stressed (medium effect size;  $\beta_{\text{Partners}} = .35$ ,  $p < .001$ ), as well as experiencing less DA later (medium effect size;  $\beta_{\text{Partners}} = -.35$ ,  $p < .001$ ). When partners perceived more stress, they also experienced less DA later (small effect size;  $\beta_{\text{Partners}} = -.26$ ,  $p < .001$ ).

**Partner effects.** The partner effects were all *nonsignificant*, except one. Primiparous parents' stress was not associated with the other parent's DA ( $\beta_{\text{ChildbearingMothers}} = -.03$ ,  $p = .61$ ;  $\beta_{\text{Partners}} = -.03$ ,  $p = .61$ ). When childbearing mothers perceived more conditional negative regard, their partner did not feel more stressed ( $\beta_{\text{ChildbearingMothers}} = .09$ ,  $p = .12$ ), yet they experienced less DA (small effect size;  $\beta_{\text{ChildbearingMothers}} = -.18$ ,  $p = .001$ ). Likewise, when partners perceived more conditional negative regard, childbearing mothers did not feel more stressed ( $\beta_{\text{Partners}} = .09$ ,  $p = .12$ ), but they experienced less DA (small effect size;  $\beta_{\text{Partners}} = -.18$ ,  $p = .001$ ). The covariance between the two partners' perceived stress was significant ( $p = .001$ ), meaning that if one partner is stressed, the other partner is also likely to be stressed. The covariance between the two partners' DA was significant ( $p = .003$ ), meaning that if one partner has a good DA, the other partner is likely to also have a good DA. The covariance between the two partners' perceived conditional regard was nonsignificant ( $p = .27$ ), meaning that the two partners have different level of perceived conditional negative regard.

**Indirect effects.** Stress partially mediated the link between perceived conditional negative regard and DA for each partner (actor effects). To assess the robustness of the mediation, the Monte-Carlo method (parametric) bootstrap resampling procedure was used. A bias corrected (BC) 95% confidence intervals (CI) for the direct and indirect effects were obtained based on a 5000 bootstrap samples (MacKinnon et al., 2004). There was both a direct,  $\beta_{\text{ChildbearingMothers}} = -.35$ , BC 95CI[-.46, -.24] and  $\beta_{\text{Partners}} = -.35$ , BC 95CI[-.46, -.24], and an indirect effect,  $\beta_{\text{ChildbearingMothers}} = -.09$ , BC 95CI[-.15, -.05] and  $\beta_{\text{Partners}} = -.09$ , BC 95CI[-.15, -.05], of one's own perceived conditional negative regard on one's own's DA. Perceiving more conditional negative regard is associated with feeling more stressed, which in turn is associated with experiencing less DA (actor effect mediation). Also, there was a direct,  $\beta_{\text{ChildbearingMothers}} = -.18$ , BC95

CI[-.29, -.07] and  $\beta_{\text{Partners}} = -.18$ , BC95 CI[-.29, -.07], but no indirect effect,  $\beta_{\text{ChildbearingMothers}} = -.03$  BC95 CI[-.08, .01] and  $\beta_{\text{Partners}} = -.03$ , BC95CI[-.08, .01], of one's perceived conditional negative regard on the other's DA (partner effect mediation). Perceiving more conditional negative regard is not associated with the other partner's stress and incidentally, partner's stress is not associated with the former's DA. Conversely, perceiving more conditional negative regard is associated with the other parent reporting less DA.

*Model controlling for T1 stress, DA & marital status.* We have tested a model which includes, and thus controls for, DA's and stress's initial levels at T1. When both Time 1 and Time 2 are included in the model, our outcome variable now references the longitudinal change in DA and stress between T1&T2, and not DA or stress at T2, per se. A multicollinearity problem was detected (determinant of sample covariance matrix = .000), indicating that the correlations between T1 and T2 data (see Table 1) are too high to be included in a single model. As typical with multicollinearity issues, which undermine the statistical significance of independent variables, all the paths became nonsignificant in this model ( $\beta$ s range = |.001 to .061|,  $p$ s range = .984 to .147; Model 2, Table 2; see Online Supplemental Materials for details). As such, in our sample, perceived conditional negative regard is not linked to longitudinal changes in DA between T1 and T2, and that changes in stress is not associated with DA changes.

## Discussion

Our study has shown that conditional negative regard is negatively associated with later DA, but not longitudinal changes in DA. As such, primiparous parents who perceived more conditional negative regard were later less adjusted in their relationship, thus confirming the first hypothesis. This is coherent with Kanat-Maymon et al. (2016, 2017)'s results who demonstrate that perceived conditional negative regard was negatively associated with one's own couple satisfaction and relationship quality in a non-dyadic study. Our results also support two bilateral partner effects where, for each parent, one's perceived conditional negative regard was negatively associated with the other partner's later DA, but not partners' longitudinal changes in DA. This result is consistent with previous work where need support/thwarting was linked to partners' relationship quality (Hadden et al., 2014; Patrick et al., 2007; Vanhee et al., 2018). In the context of the TTP, these results indicate that it is important for a primiparous couple's later relational well-being that either parent does not perceive conditional negative regard. Theoretically, it highlights that a healthy relationship requires that all needs are perceived as being supported, and not perceived as being set against one another.

Above and beyond confound and its direct link, stress partially mediated the link between conditional negative regard and one's own later DA, but not longitudinal DA changes. The fact that perceived conditional regard was associated with more stress supports Baard et al. (2004) and Bartholomew et al. (2011)'s results where need thwarting was associated with more stress and anxiety. Yet, the partial mediating role of stress between perceived conditional negative regard and DA is new and interesting. It clarifies one of the mechanisms by which perceived conditional negative regard is

associated with poor DA. Feeling that one's partner is trying to exert control on one's actions, feelings, or thoughts (i.e., autonomy thwarting) by undermining one's relatedness needs is associated with more stress. This in turn is negatively associated with later DA. Also, these links were found on equal relationships (couples), as opposed to hierarchical relationships, which is a novel finding. This is not surprising, as romantic relationships are one of the most important bonds in one's life.

Another important result relates to the fact that, in our sample, there were no *indirect links* of stress to the other *partner's* DA. As such, stress may hold a more internalized association (within a person) based on the link between conditional negative regard and one's later DA, as opposed to an interactional association with one's partner's later DA. The lack of indirect effect between one's conditional negative regard and partner's later DA is likely due to our lack of significant link between one's stress and partner's DA. This result seems counterintuitive as Ledermann et al. (2010) found that one's stress was associated with the other partner's relationship quality. Perhaps the difference between our studies relates to methodology discrepancies. Ledermann et al. (2010) used the *Daily Relationship Stress Scale* which is more relationship specific than our general stress construct. Also, their sample consists of Swiss heterosexual couples, whereas we sampled Quebec heterosexual and lesbian primiparous couples. As such, our results are likely specific to the TTP and may thus explain our lack of partner effect from one's stress to the others' DA, and our lack of indirect link between one's conditional regard and partner's DA. Other partner variables should be investigated to explain the underlying mechanisms in the link between one's own perceived conditional negative regard and their partner's DA.

Moreover, despite having distinguishable dyad members, the actor and partner effects were *indistinguishable*. As such, the link between one's own perceived conditional negative regard and stress on DA were *equivalent in strength* for both childbearing mothers and their partner. Similarly, the associations between one's perceived conditional negative regard and the others' DA were also *equivalent in strength* for each partner. Conversely, in our sample, childbearing mothers were found to be significantly more *stressed* than their partner (T1). This is not surprising considering that our socio-demographic data suggests that childbearing mothers are the baby's primary caretaker, mostly still on parental leave (T1). Considering how taxing having a young child is on mothers who are recovering from pregnancy and birth, who may still be nursing and/or frequently up at night, this discrepancy is coherent with the context. Levy-Shiff (1999)'s study corroborates our stress differences, with their mothers being more stressed compared to fathers. Levy-Shiff (1999) explains that fathers were less stressed because traditional/stereotypical parental roles expose mothers to different degrees of stressors than fathers. In addition, partners perceived more conditional negative regard than childbearing mothers (T1 and T2). Considering that division of domestic labor is still imbalanced, with women being the disadvantaged party (Bartley et al., 2005; Davis & Greenstein, 2004), it is possible that childbearing mothers are dissatisfied with the sharing of household or child-specific chores, which in turn exacerbate their tendency to display conditional regard. Indeed, one study found that when women report that their home's domestic labor sharing is unjust, their husband perceives more relationship conflict (Mikula et al., 2012). Interestingly, these significant differences did not reveal

themselves in our model with unilateral links, specific to each partner. Our results were mirrored for each partner, and equivalent in strength. Yet, these results may explain the distinguishable dyads in our models. Despite mirrored associations in our model, these primiparous parents live unique realities, which are not shared or alike between the parent.

### *Implications*

These findings suggest that perceived conditional negative regard is an important variable to consider when investigating both partners' later DA in intimate relationships. Our study also found that the association was partially explained by one's own stress. It is an interesting finding as it may mean that targeting the reduction of conditional regard, and perhaps promoting *unconditional* regard (e.g., couple's therapy or as an added module in prenatal classes), could potentially be associated with better relationship outcomes, and this is in part due to its negative link with one's own stress. Similarly, targeting better stress self-regulation may be associated with one's own future DA reports. As *unconditional* regard is associated with better clinical outcomes in the context of therapy (Farber et al, 2018), it is unsurprising that conditional regard is associated with poorer relationship outcomes. We thus, encourage researchers to investigate conditional negative regard and stress as targets for intervention in couple therapy.

While conditional regard is a form of poor communication, understanding how denominators of this large encompassing risk category are linked to DA is helpful to further capture unique associations. Specifically, SDT provides a theoretical ground for understanding the negative connections of conditional regard, i.e. the importance of psychological needs, and especially not setting one against another. Also, as our study was the first to investigate perceived conditional negative regard in a context of the TTP, we now have a better understanding of the dyadic effects of conditional negative regard on later DA during this sensitive period. It was important to investigate these associations in this developmental period, as it is a difficult life transition where roles are redefined and where couples must adapt or fail to. Considering that for many DA plunges following a birth (Doss et al., 2009; Trillingsgaard et al., 2014), it is important to explore key deterrents of enduring relationships, provide a theoretical rationale for its iatrogenic links and explore its potential mechanism.

### *Limits and future studies*

This study is not without limits. While both perceived conditional regard and stress are associated with later DA, our results do not support longitudinal changes in DA or stress across time points. This lack of result may be influenced by a multicollinearity issue. Conversely, with slight longitudinal changes in DA and stress for childbearing mothers (i.e., more adjusted and stressed at T1 than T2) and none for partners (see preliminary results), there was probably not enough variance between our T1 and T2 scores to be detected in our sample. Perhaps a longer longitudinal timeframe between data collection could have provided more changes in reported DA and stress across time points. It is also possible that our sample is too small to detect smaller effect sizes. Our results need to be



interpreted with caution. Despite having the necessary temporal sequence for a mediation in our research design, our results do not support longitudinal changes, with conditional regard being only associated with *later* scores in DA, but not *longitudinal changes*. Likewise, there is a possibility that our sample may be underpowered. While this typically increases the likelihood of false negatives (type 2 errors), our model only supports significant results. This potential underpower may have reduced our effect sizes and predictive paths. Moreover, our results cannot be generalized to all primiparous couples since the recruited population consists mostly of educated Caucasian parents. Similarly, only a few lesbian couples were included. According to the 2016 Canadian Census, this situation can be explained by the fact that only 12% of same-sex couples have children (Statistics Canada, 2016). Future studies should include more same-sex parents to draw an even more representative portrait of the TTP. Also, our sample consisted of Quebec families with extended parental leave, which includes exclusive partner leaves and sharable weeks between parents. Extended parental leaves and exclusive partner leaves have been shown to promote better gender equality in children socialization and family chores, to be associated with less couple conflict and more couple satisfaction and support (Almqvist & Duvander, 2014; Bünning, 2015; Feldman et al., 2004; Rehel, 2014). As such, we found results with primiparous parents positioned in a more ideal TTP context. Conversely, in the context of families who do not benefit from these types of leaves, it is very likely that the effects of conditional negative regard and stress might be stronger, as these parents probably experience more strains and difficulties. Furthermore, generalization of findings is limited to the specific population of primiparous couples with noticeably young children. Next, due to our non-experimental design, we cannot infer causality. Also, because we measure perception and not actual conditional negative regard, our measure may not accurately represent reality and be biased as some individual differences could skew these perceptions. For instances, personality traits (e.g., borderline, dependent) or attachment styles could possibly promote hypersensitivity to cues of conditional regard. Conditional regard has been linked to attachment styles (Moller et al., 2018). It would be interesting to investigate whether attachment styles are a moderator in the relationship between conditional regard and DA. Conversely, measuring actual conditional regard could also bring other biasing issues. For example, social desirability problems and certain personality traits (like narcissism or antisocial personality disorder) could influence participants in underreporting their own undesirable behaviors. In our study, in the hopes of minimizing the influence of individual differences, we assessed seven confounds in preliminary analysis. Except for marital status, the differences in these variables did not influence our key constructs. We also had empirical and theoretical grounds to pursue perceptions instead of actual actions in our study. As mentioned, actual and perceived autonomy support are highly to moderately linked (Carbonneau et al., 2019; Hanna et al., 2013). Furthermore, the SDT literature supports the importance of perceptions, or attributions, as key to motivational outcome (Ryan & Grolnick, 1986; Ryan et al., 1983). For these reasons, we took the methodological route of measuring perception rather than actual behaviors. Still, it would be interesting if future observational studies could investigate if perceptions are accurate in the case of conditional negative regard. Together, these limits need to be considered while interpreting our results.

Despite these limitations, this study has several methodological and conceptual strengths. Being the first study to investigate the links between perceived conditional negative regard, stress and DA during the TTP, our results bring 1) a novel perspective on couple's later DA during this period, 2) possible avenues for research with conditional negative regard as a target for intervention (i.e., couple therapy and/or prenatal classes), as well as 3) a theoretical framework and an underlining mechanism to understand its links. Another study strength is the use of a longitudinal design. Also, as a romantic relationship implies an interacting interpersonal relationship, it was essential to include both partners in our analyses. Doing so, provides a less biased portrait of the couple's functioning than when relying on single partner reports. Ultimately, in the name of robust science, we invite others to replicate our findings to further attest their legitimacy.

## Conclusion


Confirming our hypotheses, we found that when primiparous parents perceive more conditional negative regard in their relationship it is associated with lower DA later, as reported by both partners. This link was partially explained by one's own stress, but not partner's stress. This partially disaffirmed our stress mediation hypotheses.


The TTP represents an important and stressful challenge for DA for many couples. Doss and Rhoades (2017)'s review proposed several individual and relationship variables influencing the magnitude of post-birth changes, including poor communication. Yet, poor communication is a large construct, which can include many forms of dialogue. Studying more precise denominations of poor communication can further clarify these associations. Theoretically, SDT's construct of conditional regard also provides a rationale for its negative associations, i.e. setting two fundamental psychological needs against one another. During one's adaptation to this transition, perceiving one's partner as supportive seems to be associated with positive outcomes for the relationship, whereas feeling judged, and thus having to choose between one's psychological needs seems to be associated with more stress and poor DA later on.

## Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by grants from the Fond de recherche du Québec - Société et culture (FRQSC) and the Université de Montréal's internal grants funded by Social Sciences and Humanities Research Council, which were both awarded to Julie C. Laurin. This research was also supported by two FRQSC doctoral research scholarships awarded to Alexandra Cournoyer and Sophie Laniel. A simpler version of this paper, presenting solely data from our first data collection time (6 month old babies), was published in Alexandra Cournoyer's master's thesis, as well as being presented at the *Société Québécoise de Recherche en Psychologie* (March 2019, Canada) and the *International Self-Determination Theory Conference* (May 2019; Netherlands).

## ORCID iD

Julie C. Laurin  <https://orcid.org/0000-0003-0772-6296>

Sophie Laniel  <https://orcid.org/0000-0002-7164-8336>

## Open research statement

As part of IARR's encouragement of open research practices, the authors have provided the following information: This research was not pre-registered. The data used in the research cannot be shared with any person because longitudinal recruitment is still ongoing. The materials used in the research are available upon request by emailing: j.laurin@umontreal.ca.

## Supplemental material

Supplemental material for this article is available online.

## References

- Almqvist, A.-L., & Duvander, A.-Z. (2014). Changes in gender equality? Swedish fathers' parental leave, division of childcare and housework. *Journal of Family Studies*, 20(1), 19–27. <https://doi.org/10.5172/jfs.2014.20.1.19>
- Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology*, 34(10), 2045–2068. <https://doi.org/10.1111/j.1559-1816.2004.tb02690.x>
- Baillargeon, J., Dubois, G., & Marineau, R. (1986). Traduction française de l'échelle d'ajustement dyadique. [French translation of the Dyadic Adjustment Scale.]. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement*, 18(1), 25–34. <https://doi.org/10.1037/h0079949>
- Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011). Self-determination theory and diminished functioning: the role of interpersonal control and psychological need thwarting. *Personality and Social Psychology Bulletin*, 37(11), 1459–1473. <https://doi.org/10.1177/0146167211413125>
- Bartley, S. J., Blanton, P. W., & Gilliard, J. L. (2005). Husbands and wives in dual-earner marriages: Decision-making, gender role attitudes, division of household labor, and equity. *Marriage & Family Review*, 37(4), 69–94. [https://doi.org/10.1300/J002v37n04\\_05](https://doi.org/10.1300/J002v37n04_05)
- Belsky, J., & Pensky, E. (1988). Marital change across the transition to parenthood. *Marriage & Family Review*, 12(3–4), 133–156. [https://doi.org/10.1300/J002v12n03\\_08](https://doi.org/10.1300/J002v12n03_08)
- Belsky, J., & Rovine, M. (1990). Patterns of marital change across the transition to parenthood: Pregnancy to three years postpartum. *Journal of Marriage and the Family*, 52(1), 5–19. <https://doi.org/10.2307/352833>
- Bentler, P. M., & Chou, C. H. (1987). Practical issues in structural modeling. *Sociological Methods & Research*, 16, 78–117. <https://doi.org/10.1177/0049124187016001004>
- Bouchard, G. (2006). Cohabitation versus marriage: The role of dyadic adjustment in relationship dissolution. *Journal of Divorce & Remarriage*, 46(1–2), 107–117. [https://doi.org/10.1300/J087v46n01\\_06](https://doi.org/10.1300/J087v46n01_06)
- Browne, M. W., & Cudeck, R. (1992). Alternative ways of assessing model fit. *Sociological Methods & Research*, 21(2), 230–258. <https://doi.org/10.1177/0049124192021002005>
- Bünning, M. (2015). What happens after the 'daddy months'? Fathers' involvement in paid work, childcare, and housework after taking parental leave in Germany. *European Sociological Review*, 31(6), 738–748. <https://doi.org/10.1093/esr/jcv072>
- Busby, D. M., Christensen, C., Crane, D. R., & Larson, J. H. (1995). A revision of the dyadic adjustment scale for use with distressed and nondistressed couples: Construct hierarchy and

- multidimensional scales. *Journal of Marital and Family Therapy*, 21(3), 289–308. <https://doi.org/10.1111/j.1752-0606.1995.tb00163.x>
- Carbonneau, N., Martos, T., Sallay, V., Rochette, S., & Koestner, R. (2019). Examining the associations of autonomy and directive support given and received with relationship satisfaction in the context of goals that romantic partners have for one another. *Motivation and Emotion*, 43(6), 874–882. <https://doi.org/10.1007/s11031-019-09792-8>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Routledge.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24(4), 385–396. <https://doi.org/10.2307/2136404>
- Cowan, P. A., & Cowan, C. P. (2012). Normative family transitions, couple relationship quality, and healthy child development. In F. Walsh (Ed.), *Normal family processes: Growing diversity and complexity* (4th ed., pp. 428–451). The Guilford Press.
- Davis, S. N., & Greenstein, T. N. (2004). Cross-national variations in the division of household labor. *Journal of Marriage and Family*, 66(5), 1260–1271. <https://doi.org/10.1111/j.0022-2445.2004.00091.x>
- Deci, E. L., La Guardia, J. G., Moller, A. C., Scheiner, M. J., & Ryan, R. M. (2006). On the benefits of giving as well as receiving autonomy support: Mutuality in close friendships. *Personality and Social Psychology Bulletin*, 32(3), 313–327. <https://doi.org/10.1177/0146167205282148>
- Deci, E. L., & Ryan, R. M. (1980). Self-determination theory: When mind mediates behavior. *Journal of Mind and Behavior*, 1(1), 33–43. <https://www.jstor.org/stable/43852807>
- Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227–268. [https://doi.org/10.1207/S15327965PLI1104\\_01](https://doi.org/10.1207/S15327965PLI1104_01)
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, 49(3), 182–185. <https://doi.org/10.1037/a0012801>
- Deci, E. L., & Ryan, R. M. (2014). Autonomy and need satisfaction in close relationships: Relationships motivation theory. In N. Weinstein (Ed.), *Human motivation and interpersonal relationships: Theory, research, and applications* (pp. 53–73). Springer.
- Delicate, A., Ayers, S., & McMullen, S. (2018). A systematic review and meta-synthesis of the impact of becoming parents on the couple relationship. *Midwifery*, 61, 88–96. <https://doi.org/10.1016/j.midw.2018.02.022>
- Don, B. P., & Mickelson, K. D. (2014). Relationship satisfaction trajectories across the transition to parenthood among low-risk parents. *Journal of Marriage and Family*, 76(3), 677–692. <https://doi.org/10.1111/jomf.12111>
- Doss, B. D., & Rhoades, G. K. (2017). The transition to parenthood: Impact on couples’ romantic relationships. *Current Opinion in Psychology*, 13, 25–28. <https://doi.org/10.1016/j.copsyc.2016.04.003>
- Doss, B. D., Rhoades, G. K., Stanley, S. M., & Markman, H. J. (2009). The effect of the transition to parenthood on relationship quality: An 8-year prospective study. *Journal of Personality and Social Psychology*, 96(3), 601–619. <https://doi.org/10.1037/a0013969>
- Farber, B. A., Suzuki, J. Y., & Lynch, D. A. (2018). Positive regard and psychotherapy outcome: A meta-analytic review. *Psychotherapy*, 55(4), 411. <https://doi.org/10.1037/pst0000171>
- Feinberg, M. E., Jones, D. E., Hostetler, M. L., Roettger, M. E., Paul, I. M., & Ehrenthal, D. B. (2016). Couple-focused prevention at the transition to parenthood, a randomized trial: Effects

- on coparenting, parenting, family violence, and parent and child adjustment. *Prevention Science*, 17(6), 751–764. <https://doi.org/10.1007/s11121-016-0674-z>
- Feldman, R., Sussman, A. L., & Zigler, E. (2004). Parental leave and work adaptation at the transition to parenthood: Individual, marital, and social correlates. *Journal of Applied Developmental Psychology*, 25(4), 459–479. <https://doi.org/10.1016/j.appdev.2004.06.004>
- Freudiger, P. (1983). Life satisfaction among three categories of married women. *Journal of Marriage and Family*, 45(1), 213–219. <https://doi.org/10.2307/351310>
- Gartrell, N., Banks, A., Hamilton, J., Reed, N., Bishop, H., & Rodas, C. (1999). The National Lesbian Family Study: 2. Interviews with mothers of toddlers. *American Journal of Orthopsychiatry*, 69(3), 362–369. <https://doi.org/10.1037/h0080410>
- Goldberg, A. E., & Sayer, A. (2006). Lesbian couples' relationship quality across the transition to parenthood. *Journal of Marriage and Family*, 68(1), 87–100. <https://doi.org/10.1111/j.1741-3737.2006.00235.x>
- Hadden, B. W., Smith, C. V., & Knee, C. R. (2014). The way I make you feel: How relatedness and compassionate goals promote partner's relationship satisfaction. *The Journal of Positive Psychology*, 9(2), 155–162. <https://doi.org/10.1080/17439760.2013.858272>
- Hanna, K. M., Dashiff, C. J., Stump, T. E., & Weaver, M. T. (2013). Parent–adolescent dyads: association of parental autonomy support and parent–adolescent shared diabetes care responsibility. *Child: Care, Health and Development*, 39(5), 695–702. <https://doi.org/10.1111/j.1365-2214.2012.01373.x>
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Kanat-Maymon, Y., Argaman, Y., & Roth, G. (2017). The association between conditional regard and relationship quality: A daily diary study. *Personal Relationships*, 24(1), 27–35. <https://doi.org/10.1111/perc.12164>
- Kanat-Maymon, Y., Roth, G., Assor, A., & Raizer, A. (2016). Controlled by love: The harmful relational consequences of perceived conditional positive regard. *Journal of Personality*, 84(4), 446–460. <https://doi.org/10.1111/jopy.12171>
- Kanat-Maymon, Y., Roth, G., Assor, A., & Reizer, A. (2012). Conditional regard in close relationships. In P. R. Shaver & M. Mikulincer (Eds.), *Meaning, mortality, and choice: The social psychology of existential concerns* (pp. 235–251). American Psychological Association.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. Guilford press.
- Kline, R. B. (2015). *Methodology in the social sciences. Principles and practice of structural equation modeling* (4th ed.). Guilford Press.
- Knee, C. R., & Uysal, A. (2011). The role of autonomy in promoting healthy dyadic, familial, and parenting relationships across cultures. In V. I. Chirkov, R. M. Ryan, & K. M. Sheldon (Eds.), *Human autonomy in cross-cultural context: Perspectives on the psychology of agency, freedom, and well-being* (pp. 95–110). Springer Science + Business Media.
- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology*, 79(3), 367–384. <https://doi.org/10.1037/0022-3514.79.3.367>

- Ledermann, T., Bodenmann, G., Rudaz, M., & Bradbury, T. N. (2010). Stress, communication, and marital quality in couples. *Family Relations, 59*(2), 195–206. <https://doi.org/10.1111/j.1741-3729.2010.00595.x>
- Ledermann, T., Macho, S., & Kenny, D. A. (2011). Assessing mediation in dyadic data using the actor-partner interdependence model. *Structural Equation Modeling: A Multidisciplinary Journal, 18*(4), 595–612. <https://doi.org/10.1080/10705511.2011.607099>
- Levy-Shiff, R. (1994). Individual and contextual correlates of marital change across the transition to parenthood. *Developmental Psychology, 30*(4), 591–601. <https://doi.org/10.1037/0012-1649.30.4.591>
- Levy-Shiff, R. (1999). Fathers' cognitive appraisals, coping strategies, and support resources as correlates of adjustment to parenthood. *Journal of Family Psychology, 13*(4), 554–567. <https://doi.org/10.1037/0893-3200.13.4.554>
- Little, R. J., & Rubin, D. B. (1989). The analysis of social science data with missing values. *Sociological Methods & Research, 18*(2–3), 292–326. <https://doi.org/10.1177/0049124189018002004>
- MacKinnon, D. P., Lockwood, C. M., & Williams, J. (2004). Confidence limits for the indirect effect: distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*(1), 99–128. [https://doi.org/10.1207/s15327906mbr3901\\_4](https://doi.org/10.1207/s15327906mbr3901_4)
- Mikula, G., Riederer, B., & Bodi, O. (2012). Perceived justice in the division of domestic labor: Actor and partner effects. *Personal Relationships, 19*(4), 680–695. <https://doi.org/10.1111/j.1475-6811.2011.01385.x>
- Moller, A. C., Roth, G., Niemiec, C. P., Kanat-Maymon, Y., & Deci, E. L. (2018). Mediators of the associations between parents' conditional regard and the quality of their adult-children's peer-relationships. *Motivation and Emotion, 43*(1), 35–51. <https://doi.org/10.1007/s11031-018-9727-x>
- Patrick, H., Knee, C. R., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality and Social Psychology, 92*(3), 434–457. <https://doi.org/10.1037/0022-3514.92.3.434>
- Proulx, C. M., Helms, H. M., & Buehler, C. (2007). Marital quality and personal well-being: A meta-analysis. *Journal of Marriage and Family, 69*(3), 576–593. <https://doi.org/10.1111/j.1741-3737.2007.00393.x>
- Rehel, E. M. (2014). When dad stays home too: Paternity leave, gender, and parenting. *Gender & Society, 28*(1), 110–132. <https://doi.org/10.1177/0891243213503900>
- Rogers, C. R. (1992). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting and Clinical Psychology, 60*(6), 827–832. <https://doi.org/10.1037/0022-006X.60.6.827>
- Ryan, R. M., & Deci, E. L. (2000). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry, 11*(4), 319–338. [https://doi.org/10.1207/S15327965PLI1104\\_03](https://doi.org/10.1207/S15327965PLI1104_03)
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press.
- Ryan, R. M., & Grolnick, W. S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of individual differences in children's perceptions. *Journal of Personality and Social Psychology, 50*(3), 550–558. <https://doi.org/10.1037/0022-3514.50.3.550>

- Ryan, R. M., Mims, V., & Koestner, R. (1983). Relation of reward contingency and interpersonal context to intrinsic motivation: A review and test using cognitive evaluation theory. *Journal of Personality and Social Psychology*, 45(4), 736–750. <https://doi.org/10.1037/0022-3514.45.4.736>
- Sabourin, S., Valois, P., & Lussier, Y. (2005). Development and validation of a brief version of the dyadic adjustment scale with a nonparametric item analysis model. *Psychological Assessment*, 17(1), 15–27. <https://doi.org/10.1037/1040-3590.17.1.15>
- Smith, J. Z., Goldberg, A. E., & Garcia, R. L. (2020). Multilevel modeling approaches to the study of LGBTQ-Parent families. In A. Goldberg & K. Allen (Eds.), *LGBTQ-Parent families*. Springer. [https://doi.org/10.1007/978-3-030-35610-1\\_27](https://doi.org/10.1007/978-3-030-35610-1_27)
- Statistics Canada. (2016). Census in brief: Same sex-couples in Canada. (Catalogue no. 98-200-X2016007). <https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016007/98-200-x2016007-eng.cfm>
- Trillingsgaard, T., Baucom, K. J. W., & Heyman, R. E. (2014). Predictors of change in relationship satisfaction during the transition to parenthood. *Family Relations: An Interdisciplinary Journal of Applied Family Studies*, 63(5), 667–679. <https://doi.org/10.1111/fare.12089>
- Vallerand, R. J. (1989). Vers une méthodologie de validation trans-culturelle de questionnaires psychologiques: Implications pour la recherche en langue française [Toward a methodology for the transcultural validation of psychological questionnaires: Implications for research in the French language]. *Canadian Psychology/Psychologie canadienne*, 30(4), 662–680. <https://doi.org/10.1037/h0079856>
- Vanhee, G., Lemmens, G. M. D., Stas, L., Loeys, T., & Verhofstadt, L. L. (2018). Why are couples fighting? A need frustration perspective on relationship conflict and dissatisfaction. *Journal of Family Therapy*, 40(Suppl 1), S4–S23. <https://doi.org/10.1111/1467-6427.12126>
- Weinstein, D. (2001). It's a radical thing: A conversation with April Martin. *Journal of Gay and Lesbian Psychotherapy*, 4 (3–4), 63–74. [https://doi.org/10.1300/J236v04n03\\_05](https://doi.org/10.1300/J236v04n03_05)