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Spouses' prenatal autonomous motivation to have a child and postpartum depression symptoms

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Abstract

Objectives Maternal postpartum depression symptoms (PDS) are linked with negative personal, family, and child developmental outcomes. However, paternal PDS, let alone dyadic process, are understudied. Grounded in the Self-Determination Theory of motivation, this longitudinal study examined whether mothers' and fathers' type of prenatal motivation to have a child predicted depression symptoms 3-6 months after birth.

Method The data (N = 90 heterosexual couples) were analyzed using the Actor-Partner Interdependence Model.

Results Dyadic analyses showed that a person's prenatal autonomous motivation to have a child significantly predicted own PDS and partner's PDS. Importantly, these finding were equivalent across genders.

Conclusions The findings highlight the importance of dyadic prenatal motivational processes as antecedents of PDS.

KEYWORDS
autonomous motivation, postpartum depression, self-determination theory

1 | INTRODUCTION

The postpartum period brings major changes in a family's life (Solmeyer & Feinberg, 2011) and is a time of increased emotional vulnerability (Cohen & Nonacs, 2005; Cowan & Cowan, 2000), with many parents experiencing varying levels of depressive symptoms, especially during the first months of the infant's life (O'Hara & McCabe, 2013). Postpartum depression (PPD) and postpartum depression *symptoms* (PDS) can have severe consequences for both parent and child. Parents with PPD are at higher risk of experiencing major depression in the future (Robertson, Grace, Wallington, & Stewart, 2004; Zelkowitz & Milet, 2001) and are more likely to have a stressful relationship with their children (Goodman & Brand, 2008; O'Hara & McCabe, 2013). In turn, a baby born to a depressed parent may experience the family environment as stressful, harming his or her emotional, social, and cognitive development (Feinberg, Kan, & Goslin, 2009; Ramchandani et al., 2008).

Much attention has been paid to the problem of PPD in women, with meta-analyses documenting PPD prevalence rates of 10%–15% (Gavin et al., 2005; Stephens, Ford, Paudyal, & Smith, 2016). As gender roles shift and paternal involvement in childcare becomes the norm, the experience of having a child requires major adjustments for men as well as women. Though receiving less attention, recent meta-analyses and reviews indicate that PPD is experienced by 10% of all fathers (Letourneau et al., 2012; Paulson & Bazemore, 2010).

Despite the high rates for men, women have higher rates of PDS in terms of both prevalence and symptoms (e.g., Edhborg, Matthiesen, Lundh, & Widström, 2005; Matthey, Barnett, Ungerer, & Waters, 2000). Moreover, the course of PPD among mothers and fathers takes a different form. For the majority of women, onset of PPD usually occurs within the first few weeks up to the third month after delivery and then gradually decreases (O'Hara & McCabe, 2013). Paternal PPD, however, tends to develop more gradually (Matthey et al., 2000). A recent meta-analysis found paternal PPD was lowest in the first 3 months after child birth and at its peak 3–6 months postnatal (Paulson & Bazemore, 2010).

Similar risk factors are associated with PPD in mothers and fathers (Bielawska-Batorowicz, & Kossakowska-Petrycka, 2006). Several meta-analyses (Beck, 2001; Gavin et al., 2005; O'Hara & Swain, 1996; Paulson & Bazemore, 2010; Robertson et al., 2004), large scale studies (Milgrom et al., 2008; Underwood et al., 2017), and literature reviews (O'Hara & McCabe, 2013) have identified a core list of risk factors with moderate to strong associations with PPD for mothers and fathers. The psychological and psychiatric factors include history of depression, depression and anxiety during pregnancy, postpartum blues, low self-esteem, and neuroticism. Poor social support and poor marital relationships are listed among the social support risk factors. Stressful life events and stressful events associated with pregnancy and childbirth are also important risk factors. Moderate risk factors include hormonal changes (e.g., estradiol, progesterone, cortisol, and prolactin) (Bloch, Schmidt, Danaceau, Murphy, Nieman, & Rubinow, 2000; Storey, Walsh, Quinton, & Wynne-Edwards, 2000), low socioeconomic status (SES), being single, unwanted pregnancy, obstetrical stressors, and difficult infant temperament.

While PPD and PDS have mostly been examined as person variables, recent work has called to view PDS from a dyadic or a family perspective (Feinberg et al., 2016; Letourneau et al., 2012). According to Family Systems Theory (Klein & White, 1996), anything that affects one member of the family affects other members, either directly or indirectly. Work adopting this approach suggests that depression in either parent increases the likelihood of the other parent developing perinatal depression symptoms (Matthey et al., 2000). Indeed, systematic reviews have shown that between 24% and 50% of all depressed women's partners will experience depressive symptoms as well (Goodman, 2004), suggesting that PDS is partly a dyadic phenomenon.

Surprisingly, given these findings, few studies have employed a dyadic perspective to determine which factors may affect a partner's PDS. Among these factors are spousal support (Deater-Deckard, Pickering, Dunn, & Golding, 1998; Dennis & Ross, 2006; Reid & Taylor, 2015), quality of the couple's relationship (Misri, Kostaras, Fox, & Kostaras, 2000; Underwood et al., 2017), the partner's personality (Dudley, Roy, Kelk, & Bernard, 2001), and the partner's level of stress and emotional state (Goodman, 2008; Morse, Buist, & Durkin, 2000). A potentially relevant factor that has remained largely unexplored is the parents' motivation for having a child, one of the most basic and universal decisions among men and women (Cowan & Cowan, 2000; Purewal & van den Akker, 2007; Langdridge, Connolly, & Sheeran, 2000). Although there have been calls to examine the role of motivational processes in the transition to parenthood (e.g., Brenning, Soenens, & Vansteenkiste, 2015; Nelson, Kushlev, & Lyubomirsky, 2014), longitudinal research on this topic is scarce (Gauthier, Guay, Senecal, & Pierce, 2010), let alone research using a dyadic perspective. Clearly, however, the motivation of one spouse paints only half the picture. Accordingly, drawing on the Self-Determination Theory (SDT) of motivation (Ryan & Deci, 2017), this study examined in what ways prenatal parental motivation to have a child predicts PDS.

SDT (Deci & Ryan, 2000) is a macro-theory of human motivation which distinguishes between different types of motivation quality. That is, the parental decision to have a child may differ in terms of the type or quality of motivation. While some individuals may fully endorse the decision to have a child, thereby experiencing a sense of ownership of the decision, others may feel pressured and conflicted (Brenning et al., 2015; Deci & Ryan, 2000; Ryan & Deci, 2017).

According to SDT, the types of motivations can be placed along a continuum of decreasing autonomy or volition. Intrinsic motivation located at the upper end. Intrinsic motivation refers to the engagement in a certain activity for the

sake of the activity itself, because the activity is perceived as enjoyable and interesting (Deci & Ryan, 2000). As such, it represents the fullest experience of autonomy or self-determined motivation. For example, a person may choose to have a child to experience the pleasure and joy of raising a child (Brenning et al., 2015). One step further along the SDT continuum is identified regulation. This regulation represents the identification with the importance of the action and its suitability to a person's values and life goals (Deci & Ryan, 2000). For example, a person may choose to have a child because he or she perceives parenthood as an important life goal (Brenning et al., 2015). A less autonomous form is introjected regulation, in which the individual is motivated to avoid feelings of anxiety, guilt, or shame, or to gain self or other approval (Vansteenkiste & Ryan, 2013). For example, people may aspire to have a child because they will feel worthy only if they become parents (Brenning et al., 2015). Finally, at the other end of the continuum, the least autonomous is external regulation, a sense of coercion and control from the outside that usually involves threats, penalties, or material sanctions (Ryan & Connell, 1989). For example, a person may aspire to have a child to please the partner or to meet the expectations of family members or friends (Brenning et al., 2015).

Consistent with the idea that these regulations fall along a continuum, several studies have found that neighboring ones (e.g., external and introjected) are more strongly correlated than those situated farther apart (e.g., external and identified) (Kanat-Maymon, Benjamin, Stavsky, Shoshani, & Roth, 2015; Roth, Assor, Kanat-Maymon, & Kaplan, 2006; Ryan & Connell, 1989; Sheldon, Osin, Gordeeva, Suchkov, & Sychev, 2017). Based on this ordered pattern of associations, different weights can be assigned to a regulation depending on its location on the continuum, yielding a composite score known as the relative autonomy index (RAI; e.g., Ryan & Connell, 1989).

A large number of studies over the past three decades have shown that more autonomous motivation leads to greater psychological health (Deci & Ryan, 2002). For example, autonomous motivation predicts overcoming depression (Zuroff et al., 2007), smoking cessation (Williams, Gagné, Ryan, & Deci, 2002), improved dental hygiene (Halvari, E., Halvari, Bjørnebekk, & Deci, 2012), and better fitness (Thøgersen-Ntoumani, Shepherd, Ntoumanis, Wagenmakers, & Shaw, 2016).

According to SDT, the beneficial effect of autonomous motivation derives from its satisfaction of basic psychological needs (Kanat-Maymon, Antebi, & Zilcha-Mano, 2016; Ryan & Deci, 2017). SDT identified three basic psychological needs, which are universal and essential ingredients for psychological health (Deci & Ryan, 2000): the need for autonomy (a sense of volition and self-endorsement of one's activities), competence (the experience of effectiveness when interacting with one's environment), and relatedness (the experience of reciprocal care and concern for others). Motivation contributes to need satisfaction because people with different levels of autonomous motivation may self-select different activities or extract different levels of need satisfaction from the same activities (Vansteenkiste & Ryan, 2013). This suggests that highly autonomously motivated people may extract a greater sense of need satisfaction from the decision to have a child and this, in turn, may result in better psychological health (Brenning et al., 2015).

To the best of our knowledge, only two published studies within the framework of SDT have examined the relationship between PDS and motivations to have a child. In the first, Brenning, Soenes, and Vansteenkiste (2015) found prenatal maternal autonomous motivations to have a child to be negatively related to prenatal maternal depressive symptoms. In the second, Gauthier, Guay, Senecal, and Pierce (2010) found that prenatal maternal autonomous motivations to have a child predicted the maternal PDS at 2 months.

Despite this empirical support for the association between a woman's motivation to have a child and PDS, no study has taken a dyadic approach to examine whether one person's motivation to have a child has any impact on his or her partner's PDS. This is surprising because spouses are cited as the most important and available sources of social support after childbirth (Logsdon, Birkimer, & Barbee, 1997; Reid & Taylor, 2015) and have consistently been found to be a significant protective factor against PPD in both women and men (Castle, Slade, Barranco-Wadlow, & Rogers, 2008; Dennis, Janssen, & Singer, 2004; Dennis & Letourneau, 2007; Dennis & Ross, 2006). Spouses who are autonomously motivated to have a child are likely to experience a greater sense of personal volition and identify more personally meaningful reasons for having a child (Brenning et al., 2015; Gauthier, Guay, Senécal, & Pierce, 2010). Thus, they may provide more support, put greater effort into taking care of the child, be more enthusiastic, and express more care. Consequently, their partners are likely to benefit from having a lesser burden, buffering against PDS and psychological ill-being more generally. Although not considering childcare *per se*, Weinstein and Ryan (2010) found that

caretaking for autonomous reasons facilitated the recipient's well-being, in part because the caretaker's style or quality of engagement elicited a sense of closeness and was more effective and had more impact. Similarly, Wild and Enzle (2002) showed that patients reported higher outcome expectations when they perceived the support of their providers to be more autonomously motivated.

Our study was designed to further investigate the motivation to have a child as an antecedent of PDS. In doing so, we have made two main contributions to the literature. First, unlike personality and biological factors, motivational processes are amenable to manipulation and can inform prevention and intervention programs, so the study's findings have implications for practitioners. Second, we took a new approach to the topic by examining motivation and PDS within a dyadic perspective, as the decision to have a child is typically made in the context of a dyadic partner relationships. Specifically, we hypothesized that: (H1) own prenatal autonomous motivation to have a child would inversely predict PDS; (H2) one partner's autonomous motivation to have a child, before the birth of the baby, would inversely predict the other partner's PDS. In examining these two hypotheses, we employed a dyadic data analysis approach, which unlike multivariate statistics is not biased by the nested nature of the data (Kenny, Kashy, & Cook, 2006), and can address potential gender differences.

2 | METHOD

2.1 | Participants and procedure

The sample was composed of 90 heterosexual married couples ($N = 180$) recruited via social networks (e.g., Facebook, Email, and WhatsApp) and measured at two time points. Ethical approval that complied with the Declaration of Helsinki was obtained from the institutional ethical committee, and informed consent was obtained from the participants. The women's ages ranged from 21 to 41 (mean [M] = 29.2, standard deviation [SD] = 3.92), and the men's ages ranged from 21 to 51 ($M = 31.4$, $SD = 4.9$). The mean duration of marriage was 3.78 years ($SD = 2.77$). In terms of level of education, 56.7% of the men and 77.8% of the women had a university degree, 22.2% of the men and 13.3% of the women had a technical certificate, and 21.1% of the men and 8.9% of the women had a high school diploma. For SES, 34% reported an above-average level of income.

At Time 1, the women were 10–40 weeks pregnant ($M = 31.4$, $SD = 5.31$); 48.3% were pregnant with their first child, 36.1% with their second child, and 15.6% with their third or fourth child. In 21.7% of the couples, the pregnancy was considered high risk, and 12% of the couples reported an unplanned conception. At Time 1, the participants were asked to report demographic and pregnancy measures, as well as their motivation to have a child and their level of depressive symptoms.

At Time 2, the participants were 10–24 weeks postpartum ($M = 15.6$, $SD = 2.79$). The babies were born between weeks 35 and 42 of pregnancy ($M = 39.56$, $SD = 1.57$), and 60% of the babies were females. At this time point, participants were asked to report baby and birth measures, as well as their levels of depressive symptoms.

2.2 | Measures

2.2.1 | Prenatal motivation to have a child

To measure the participants' motivational orientation for having a child, we used the Motivation to Have a Child Scale (MCS; Brenning et al., 2015). This is a 5-point self-report Likert scale composed of 16 items. Each item is presented with the following introduction: "An important reason for me to have a child is…" The questionnaire is made up of four different types of motivation, each with four items: intrinsic motivation (e.g., "For the pleasure of having a child"), identified motivation (e.g., "Having a child is one of the valuable ways to realize my goals"), introjected motivation (e.g., "I would feel I had failed as a person if I did not have children"), and external motivation (e.g., "To please my social network (partner, family, friends)").

To examine the internal structure of the MCS, we performed a confirmatory factor analysis (CFA), using AMOS21 (Arbuckle, 1994). The CFA included four latent factors (intrinsic, identified, introjected, and external motivations),

TABLE 1 Means, standard deviations, and correlations among the MCS regulation

	Mean	SD	1	2	3
1. Intrinsic	5.70	1.12			
2. Identified	5.98	1.22	.31***		
3. Introjected	3.60	1.49	.56***	.22*	
4. External	2.59	1.38	.27**	.03	−.10

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

with each factor indicated by four items. The hypothesized four-factor solution provided an adequate fit to the data, $\chi^2(98) = 183.83$, CFI = .94, TLI = .93, RMSEA = .07, SRMR = .07. Good fit indices were also obtained for both mothers, $\chi^2(98) = 187.52$, $p < .001$, CFI = .90, TLI = .89, RMSEA = .07, SRMR = .08, and fathers, $\chi^2(98) = 133.06$, $p = .011$, CFI = .95, TLI = .94, RMSEA = .06, SRMR = .07. For fathers, Cronbach's alphas were .70, .89, .77, and .83 for intrinsic, identified, introjected, and external motivations, respectively. For mothers, Cronbach's alphas were .77, .85, .77, and .88 for intrinsic, identified, introjected, and external motivations, respectively.

Table 1 presents descriptive statistics and correlations among the four MCS motivations. A simplex pattern is evident among the subscales, such that types of motivations adjacent on the underlying continuum of autonomy (e.g., intrinsic and identified) are more highly correlated than those situated further apart on the continuum (e.g., intrinsic and external). The magnitude of the correlations between the motivations decreases progressively and eventually grows negative as a function of the distance separating them on the continuum. Following Brenning et al. (2015), Deci and Ryan (1989), and Roth et al. (2006), an overall Relative Autonomy Index (RAI) was computed by weighting the subscales according to where they fell on the relative autonomy continuum (intrinsic weighted +2, identified weighted +1, introjected weighted −1, and external weighted −2), with higher scores indicating more autonomous motivation.

2.2.2 | Depressive symptoms

Participants' level of depressive symptoms was assessed using the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). The CES-D has been widely used to assess PDS and PPD in women and men (Boyd, Le, & Somberg, 2005). The scale is composed of 20 self-report items, with participants asked to rate their level of cognitive, somatic, and psychological depression during the previous week. The scale has four levels, ranging from 1 ("Not at all or less than 1 day last week") to 4 ("Most/all of the time, 5–7 days last week"). Cronbach's alpha coefficient of internal consistency was adequate for Time 1 (fathers: $\alpha = 0.85$, mothers: $\alpha = 0.90$) and Time 2 (fathers: $\alpha = 0.87$, mothers: $\alpha = 0.90$).

2.2.3 | Basic demographic, pregnancy, and baby measures

The prenatal measures were: age, gender, county of birth, years of education, level of religious observance, SES, number of years of marriage, and number of children. The participants also answered a few questions about their present pregnancy: week of pregnancy, planned or high-risk pregnancy, and the couples' willingness and the timing of the pregnancy. The postpartum measures were: the baby's age, week of birth, nature of birth, baby's gender, birth weight, and type of feeding.

2.3 | Analytical strategy

The data on partners were considered to be nested (i.e., partners nested with couples) because individuals in a relationship influence each other's cognitions, emotions, and behaviors; thus, their scores are likely to be more similar to each other than to scores of other individuals (Kanat-Maymon, Sarid, Mor, Mirsky, & Slonim-Nevo, 2016). These dependencies are known to bias multivariate significance tests (i.e., regression) and produce biased test estimates (Cook & Kenny, 2005; Kenny et al., 2006). The actor–partner interdependence model (APIM) for dyadic relationships integrates

TABLE 2 Means, standard deviations, and correlations among the variables

	1	2	3	4	5	6
1. T1 M-RAI						
2. T1 M-Depression	−.25*					
3. T2 M-Depression	−.25*	.25*				
4. T1 W-RAI	.27*	−.10	−.23*			
5. T1 W-Depression	−.19	.05	.03	−.27*		
6. T2 W-Depression	−.30*	.02	.42**	−.39**	.47**	
Mean	8.67	1.40	1.43	9.35	1.63	1.52
SD	4.11	.33	.36	3.89	.45	.44

Note. M = men, W = women, RAI = relative autonomy index, T1 = prenatal, T2 = postpartum.
*$p < .05$, **$p < .01$.

a conceptual view of interdependence in two-person relationships with the appropriate statistical techniques for measuring and testing them, accounting for the clustering effects within a couple (Cook & Kenny, 2005; Kenny & Kashy, 2011). In this approach, an *actor effect* occurs when a person's own score on a predictor variable predicts his or her own score on the criterion. For example, a person's prenatal motivation to having a child predicts his or her PDS. A *partner effect* occurs when one partner's score on a predictor predicts the one's score on the criterion. For instance, maternal prenatal motivation to having a child predicts paternal PDS or paternal motivation as predictor of maternal PDS. In this way, the partner effects directly model the mutual influence between individuals in a dyadic relationship (Campbell & Kashy, 2002). The APIM examines the actor and partner effects simultaneously while accounting for shared variance and can include gender as a moderator to test for the equivalence of the effects between women and men.

3 | RESULTS

3.1 | Preliminary univariate analysis

The correlations between the main variables are presented in Table 2. As expected, in both men and women, RAI at Time 1 was related negatively to PDS at Time 2. Furthermore, there was a positive correlation between men and women's PDS at Time 2. This correlation emphasizes the importance of using a dyadic analysis when examining the hypotheses.

Univariate analyses were conducted to examine differences in the research variables in terms of demographic, pregnancy and baby measures. No significant correlations were found between participants' age and RAI ($r = .00$, *n.s.*), prenatal depressive symptoms ($r = -.08$, *n.s.*) or PDS ($r = -.06$, *n.s.*). None were found between level of education and RAI ($t = -.58$, *n.s.*), prenatal depressive symptoms ($t = -.81$, *n.s.*), or PDS ($t = -.53$, *n.s.*), or between SEC and RAI ($r = .02$, *n.s.*), prenatal depressive symptoms ($r = -.05$, *n.s.*), or PDS ($r = -.08$, *n.s.*). However, significant gender differences were found in prenatal depressive symptoms ($t = 3.91$, $p < .00$), indicating that women had more depressive symptoms ($M = 1.63$, $SD = .45$) than men ($M = 1.40$, $SD = .33$). Gender differences were also found in PDS ($t = 2.94$, $p < .005$), with women showing higher levels ($M = 1.52$, $SD = .43$) than men ($M = 1.43$, $SD = .36$), but there were no gender differences in RAI ($t = 1.33$, *n.s.*).

No significant correlations were found between week of pregnancy and RAI ($r = -.03$, *n.s.*), prenatal depressive symptoms ($r = -.02$, *n.s.*) and PDS ($r = -.03$, *n.s.*), or between high-risk pregnancy and RAI ($t = .72$, *n.s.*) and prenatal depressive symptoms ($t = -1.64$, *n.s.*), but there was a significant association of high-risk pregnancy and PDS ($t = 2.21$, $p < .05$), indicating that participants experiencing high-risk pregnancy had less PDS ($M = 1.35$, $SD = .31$) than those who did not ($M = 1.51$, $SD = .42$). Unplanned conception was not related to prenatal depression ($t = 1.29$, *n.s.*), PPD ($t = 0.59$,

TABLE 3 Dyadic effects of predicting postpartum depressive symptoms

	T2 Depression				
	B	SE	t	p	95% CI
Actor RAI	−.02**	.01	−2.87	.005	−.03, −.01
Partner RAI	−.01*	.01	−2.37	.019	−.03, −.00
Gender	.03	.02	1.43	.156	−.01, .07
Actor RAI × Gender	−.01	.01	−1.26	.208	−.02, .05
Partner RAI × Gender	−.00	.01	−.22	.826	−.01, .01
Actor RAI × Partner RAI	.00	.00	.62	.534	−.00, .00
T1 Actor depression	.29**	.06	5.18	.000	.18, .41
High-risk pregnancy	.07	.07	1.00	.320	−.07, .21

Note. RAI = relative autonomy index. *$p < .05$, **$p < .01$.

n.s.), or RAI ($t = .60$, *n.s.*). The baby's age at Time 2 did not correlate significantly with PDS ($r = .03$, *n.s.*), and the baby's gender did not associate with RAI ($t = -.49$, *n.s.*), prenatal depressive symptoms ($t = .17$, *n.s.*), or PDS ($t = 1.68$, *n.s.*).

3.2 | Dyadic analysis

A dyadic analysis was conducted to examine whether RAI would predict PDS. In the analysis, we controlled for gender and high-risk pregnancy due to their covariance with PDS. As shown in Table 3, a person's prenatal RAI negatively predicted his or her PDS. In other words, the more autonomous the parent's motivation to have a child, the fewer depressive symptoms he or she experienced in the postpartum period. Furthermore, one partner's RAI negatively predicted the person's PDS. In other words, the more autonomous one partner's motivation to have a child, the fewer depressive symptoms the other partner experienced in the postpartum period. Furthermore, gender did not emerge as a significant predictor of PDS, indicating that after accounting for prenatal gender differences in depressive symptoms, gender did not further affect PDS. There were nonsignificant statistical effects for high-risk pregnancy and for the interactions between one person's (i.e., the actor's) RAI, the partner's RAI, and gender.

4 | DISCUSSION

The study used a dyadic approach to examine whether prenatal maternal and paternal motivations to have a child could be a determinant of PDS. The motivation to have a child was conceptualized in terms of autonomous motivation as defined by SDT. As hypothesized, for both mothers and fathers, a person's autonomous motivation to have a child predicted his or her own level of PDS above the prenatal baseline depression symptoms. In other words, when a parent or parent-to-be decides to have a child out of pleasure and/or from choice rather than making this decision based on internal or external pressures, he/she experiences less PDS. This finding is consistent with Gauthier et al. (2010) and expands previous work by Brenning et al. (2015) by demonstrating that the effect of prenatal autonomous motivation to have a child on depressive symptoms can extend into the first months of the postpartum period. In particular, we found the effect of motivation above and beyond the individual base level of depression in pregnancy, a well-known antecedent of PDS.

Although there have been many attempts to predict PDS, only a few studies have focused on motivations to have a child as a potential antecedent. The findings of this study, along with a few previous ones, stress the role of the type of motivation to have a child in the development of PDS. Vansteenkiste and Ryan (2013) recently suggested that when autonomous people regulate their behavior based on their interests, authentic preferences, and integrated

values, they experience more need satisfaction, and display less defensiveness. This readiness to openly experience and deliberately process events represents a critical resource that may buffer the harmful effects of stressful events as, for example, in the postpartum period. Following the pattern of other successful motivational intervention programs, such as smoking cessation (Williams et al., 2002) and fitness (Thøgersen-Ntoumani et al., 2016), then, professionals can design interventions to enhance the awareness of autonomous motivation in the life-changing decision to have a child.

Importantly, we have responded to the call by Wynter, Rowe, and Fisher (2014) and adopted a dyadic approach to the investigation of PDS. This has opened up a more comprehensive view of the association between motivation and PDS by going above and beyond the actor or own effect and shifting the focus to the partner effect. To the best of our knowledge, this is the first empirical work to look at the effect of one person's autonomous motivation to have a child on his or her partner's PDS. The study found that PDS is positively correlated between partners. In addition, we found that a parent's PDS is not solely a function of that person's motivation to have a child but also a function of the spouse's motivation. Specifically, PDS is lower among parents where one partner has more autonomous motivation to have a child. The correlation between parents PDS, along with the finding that one parent's motivation uniquely affects the other's PDS, firmly establishes PDS as a dyadic phenomenon.

Although we did not examine the mechanism by which one parent's motivation affects the other parent's PDS, Weinstein and Ryan (2010) have showed that when people provide care and support for autonomous reasons, they make more effort and are more attuned in their behaviors, resulting in a higher level of well-being in the recipient. This resonates with the literature on support and PDS (Reid & Taylor, 2015). It is well established that social support, especially spousal support, is a vital factor in shielding against PDS (Dennis & Letourneau, 2007; Dennis & Ross, 2006; Dennis et al., 2004; Reid & Taylor, 2015). Spousal support can come in the form of emotional support, i.e., demonstrations of love, esteem, empathy, and encouragement (Thoits, 2011), or in the form of instrumental support, i.e., the offer and/or supply of assistance with responsibilities and problems, such as help with babysitting or household chores (Beck, 2002). It is possible that the support received from the autonomously motivated partner is more effective (i.e., instrumental) and attuned (i.e., emotional), and hence, PDS is lower. Further research should investigate this more fully.

Motivation to have a child may be well integrated with the "diathesis-stress" model (Beck, 2001). This model suggests that stress alone is not sufficient for the development of a pathological reaction such as PDS (O'Hara, Neunaber, & Zekoski, 1984), and a predisposing factor should be identified. Low autonomous motivation could be identified as such a predisposing factor. Thus, the arrival of a newborn, with all the related changes, might lead to stress sufficient enough to evoke an intensive negative reaction, such as depression, for parents with low autonomous motivation for having a child. However, scant research has considered the possible buffering role of autonomous motivation in the stress–health link (Trépanier, Fernet, & Austin, 2013; Weinstein, & Ryan, 2011). Its application to the fields of PDS and PPD may be a promising avenue for future research.

Furthermore, our investigation was unique in its inclusion of fathers. This inclusion proved justified, as prenatal autonomous motivation to have a child buffered PDS across partners and across gender. Although there were gender differences in depressive symptoms in the prenatal period and in the postpartum period indicating greater depressive symptoms for women (as found in previous research), gender did not moderate the link between motivation and PDS. This indicates that the buffering effects of autonomous motivation on PDS are similar across gender, despite the mean differences. The lack of gender differences is congruent with SDT, which describes autonomous motivation as universal and essential for psychological well-being and, therefore, as independent of gender (Deci & Ryan, 2000).

The findings have important practical implications. First, future parents' reasons for having a child can be easily screened in antenatal care services to identify partners at higher risk of PDS. Because motivation, unlike personality, is amenable to intervention, professional health care counselors can assist parents to adopt their new or additional role. Second, knowledge from previous work on enhancing and maintaining autonomous health-related motivation (Mata et al., 2011; Williams et al., 2002) may be used to develop motivational interventions in the postpartum period.

4.1 | Limitations and future research

Although the study has important implications, there are a number of limitations to consider. First, the research variables were assessed by self-report measures and therefore may be exposed to common method variance and social desirability bias. Future studies could overcome this limitation by using more diverse data sources and measurement tools, such as the use of observations. Second, this study has a limited ability to infer causality because of its design; its longitudinal design strengthens the causal direction of the findings, but causality cannot be fully deduced. Third, the convenience sampling methodology via social networks sites (SNS) yielded an overeducated and technology friendly sample; the results may not generalize to less-educated or less SNS-oriented persons. Future studies may seek to use more representative samples of couples expecting a child. Fourth, the motivations to have a child were measured at a time when the participants were already expecting the child. It is possible that the pregnancy and the imminent birth influenced the way participants reported their motivational orientation. However, it is important to note that in the data, week of pregnancy was not correlated with motivation to have a child. Future research should attempt to overcome this limitation by monitoring couples from an earlier stage, before pregnancy, and for several years after the child is born.

In addition to addressing these limitations, follow-up studies could examine the role of intergenerational transmission on the motivation to have children, such as grandparents' motivations to have and raise children. Future research could also examine the long-term effects of motivation to have a child. For example, participants could be monitored long after birth to examine whether prenatal motivation is associated with later PDS. A follow-up study could look for other domains of parental adjustment, even parental behaviors, which can be predicted by the motivation to have a child.

In conclusion, this study has sought to shed light on motivations for having children and their effects on PPD by examining the motivational process from pregnancy until shortly after birth. It is the first to examine the motivations of both parents and to look for possible effects on their PDS. The findings suggest that using the SDT framework and exploring PPD as a dyadic phenomenon is a useful approach. The results underscore the importance of autonomous motivation and suggest this motivation is a strength factor when parents are facing a challenging period in their lives. The conclusions may help develop greater social and clinical awareness of motivational orientations so that couples can act more autonomously as they make one of the most important decisions of their lives.

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