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**RECALL OF PARENTING DURING THE TRANSITION TO FIRST-TIME
PARENTHOOD: A MEASUREMENT MODEL AND A CONTEXTUAL PERSPECTIVE**

A Thesis in

Psychology

by

Eran Auday

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The thesis of Eran Shlomo Auday was reviewed and approved* by the following:

Ginger A. Moore

Associate Professor of Psychology

Thesis Adviser

Koraly Perez-Edgar

Associate Professor of Psychology

Brian Rabian

Associate Professor of Psychology

Mel M. Mark

Professor of Psychology

Head of the Department of Psychology

*Signatures are on file in the Graduate School.

Abstract

The current study focused on the transition to first-time parenthood as a period in development most likely to be sensitive for identifying salient dimensions of recalled parenting. Recall of parenting behaviors is linked to the emotional context in which parenting behaviors were experienced and consolidated in memories. The transition to parenthood is also suggested to be an emotionally-laden period associated with changes in mood and marital satisfaction and, therefore, might contribute to reevaluations of emotionally-laden past relationships and experiences. Wives and husbands ($N = 160$ couples) one year into first-time parenthood reported recall of parenting they experienced during adolescence using the PBI. A three-dimensional model of RP was found, identifying a Care dimensions and two other dimensions that distinguished between two types of perceptions of parental Overprotection (found in prior research) - Dependence and Control. A three-level hierarchical model using actor-partner interdependence model (APIM) was utilized to incorporate both wives' and husbands' experiences (termed actor- and partner-effects) and, therefore, accounted for the non-independence of their reports. Results indicated that husbands with higher levels of depression recalled their parents as promoting greater dependence on them. Having a spouse with higher levels of depression was associated with recall of parents as more dependence-promoting. Greater marital satisfaction was associated with recalling parents as more caring during adolescence. The more satisfied one's partner was in the marital relationship, the fewer dependence behaviors were recalled by the individual.

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Introduction

Several developmental theories, including attachment theory, propose that parenting is transmitted across generations. Empirical studies have supported these theories, finding that both supportive, positive parenting behaviors (Chen & Kaplan, 2001; Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003) and negative, harsh parenting behaviors (Belsky, 1978; Spinetta & Rigler, 1972), are linked across generations. These studies have examined intergenerational transmission by: (1) examining associations between retrospective recall of parenting received in childhood and current parenting or (2) using prospective-longitudinal study designs (Belsky & Jaffee, 2006), with the majority of research relying on retrospective recall due to difficulties in conducting longitudinal studies that can sometimes span decades.

Retrospective recall of parenting received in childhood, hereinafter referred to as recall of parenting (RP), theoretically assesses actual experiences of parenting by primary caregivers during childhood and adolescence. To understand the impact of parenting on development in adulthood, measures of RP have been typically used to examine associations between parenting received and adult outcomes (e.g., parenting behavior, psychological well-being, marital relationships) focusing on (recalled) parenting dimensions of *care/warmth* and *overprotection/control* (e.g., Parker, Tupling, & Brown, 1979). Findings from this line of research have indicated that a pattern of low care and/or high overprotection during childhood is associated with adult depression (e.g., Parker et al., 1979; Plantes, Prusoff, Brennan, & Parker, 1988), anxiety (e.g., Silove, Parker, Hadzi-Pavlovic, Manicavasagar, & Blaszczynski, 1991), and eating disorders (Gomez, 1984). However, conclusions based on this work should be considered in terms of: (1) conceptual models of parenting dimensions (i.e., which dimensions are being recalled) and (2) concurrent factors that can influence RP (i.e., what is the context in which RP is

being examined). Thus, RP assesses current perceptions of actual experiences and how those past experiences are currently organized along dimensions that represent theoretical models of parenting.

One line of research, discussed further below, has explored the dimensional organization of RP by examining the factor structure of a widely used measure, the Parent Bonding Instrument (PBI; Parker, et al., 1979). These studies have used samples that vary widely in age and in parenting status (e.g., no children, grown children) and assessed period of childhood (e.g., asking to recall one's entire childhood, asking to recall only adolescence). As a result, the derived dimensions of RP may not be sensitive to possible perceptual differences that are likely to be highly salient during different developmental stages of life. One developmental stage that is likely to be critical to understanding dimensional organization of RP is the transition to first-time parenthood. Changes during this period could have an effect on RP through experiences in current relationships with spouses (or co-parents), infants, and parents.

RP may be influenced by respondents' current experiences and psychological well-being. The transition to first-time parenting, a period associated with increased depressive mood for both women and men (Atkinson & Rickel, 1984; Goodman, 2004; Letourneau, Dennis, Benzies, Duffett-Leger, Stewart, Tryphonopoulos, & Watson, 2012; Paulson, Dauber, & Leiferman, 2006) and decreased satisfaction in marital relationships (Cowan, Cowan, Heming, & Miller, 1991; Perren, Von Whl, Burgin, Simoni, & von Klitzing, 2005), could influence RP in its various dimensions (e.g., care, overprotection). It has also been reported that most of the changes in depressive symptoms and the quality of marital relationships that occur during the transition to parenthood occur between the birth of a baby and his/her first birthday (Belsky & Kelly, 1994). Thus, to contribute to a larger literature on intergenerational transmission of parenting that has

primarily relied on retrospective recall, the current study examined RP in a sample of couples who have gone through the first year of first-time parenthood. This sample highlighted key factors that may have been obscured in prior research with samples that were heterogeneous in age, parenting status, and marital status.

Little prior research has examined possible gender differences in RP, which may occur if women and men have different experiences of becoming a parent, which, in turn, influences their current recall of past parenting. Furthermore, very little research has accounted for the effects that members of a marital dyad have on each other's psychological states and well-being. Studies have shown that individuals in close relationships affect each other's thoughts and behaviors over time and also affect their perceptions of others (Deutsch & Mackesy, 1985; Kenny & Kashy, 1994). Therefore, the present study examined RP in a sample of wives and husbands, allowing for examination of gender differences, and also affording the unique opportunity to assess RP in married (or co-habiting) couples who were co-parents while examining whether and to what extent an individual's concurrent experience affected his or her spouse's RP (Figure 1).

The following sections discuss the dimensions of parenting as measured by the PBI, concurrent contextual factors that may affect RP and the relevance of those links during the transition to first-time parenthood, and interdependence between spouses.

The Dimensions of Recalled Parenting (RP)

Psychological research introduced a variety of definitions and ways to measure parenting behaviors resulting in different constructs that fall into two main frameworks: typological and dimensional. A seminal example for the typological framework is Baumrind's Parenting Styles (1978), which identified four types of parenting: Authoritative, Authoritarian, Permissive, and Neglectful. Other researchers conceptualized dimensional theories of parenting behaviors

ranging from two to six dimensions (Klahr & Burt, 2014), where a two-dimensional factor structure of warmth and control has been the most commonly used.

A widely used measure of RP is the PBI (Parker et al., 1979). When it was first published, the PBI was reported to capture two dimensions of RP: Care and Overprotection. The Care dimension evaluated the expression of affection, emotional warmth, empathy, and closeness, as contrasted with themes of rejection such as emotional coldness, indifference, and neglect (e.g., “Spoke to me with a warm and friendly voice” vs. “Did not help me as much as I needed”). The Overprotection dimension evaluated themes such as control, overprotection, intrusion, excessive contact, infantilization, and prevention of independent behavior, as opposed to allowance of independence and autonomy. Using these two dimensions, Parker and his colleagues (1979) identified four possible types of ‘parent-child bonds’ on four quadrants: high care-low overprotection (“optimal bonding”), low care-low overprotection (“absent or weak bonding”), high care-high overprotection (“affectionate constraint”), and low care-high overprotection (“affectionless control”), thus integrating a dimensional and typological model of (recalled) parenting.

The PBI was originally developed to examine a theoretical model of the influence of parenting on the development of depression, finding that low levels of parental Care and high levels of parental Overprotection (“affectionless control”) were linked to an increased risk for developing depression and anxiety disorders (Parker et al., 1979; Parker, 1993; Parker & Gladstone, 1996). Since then, other research has found that these dimension of parenting reflecting warmth/care and control/rejection are associated with adult depression, anxiety disorders, and eating disorders (see Table 1). Furthermore, the PBI’s two dimensions have been associated with attachment security with caregivers (e.g., Manassis, Owens, Adam, West, &

Sheldon-Keller, 1999) and offspring's parenting as adults (e.g., Belsky, Hertzog, & Rovine, 1986; Cox, Owen, Lewis, Riedel, Scalf-McIver, & Suster, 1985; van IJzendoorn, 1992).

As seen in Table 1, the PBI has been used to explore associations between parenting dimensions and psychological outcomes in samples that vary in respondent characteristics (e.g., age range, sex of respondents) and in cross-cultural research, including Japan, Hong Kong, Greece, Spain, and one large sample within 6 European Union countries (Belgium, France, Germany, Italy, Netherlands, & Spain), with the majority of these studies utilizing three-factor structures. While most studies replicated Parker et al.'s (1979) Care dimension (labeled Care or Affection; see Table 2), there has been little agreement on the Overprotection factor (see Table 2 for factor structures proposed and a list of items loadings on each factor). Parker and his colleagues (1979) theorized one dimension that accounts for parental protective behaviors, where high levels of protection are associated with offspring depression in adulthood. Other studies theorized models of parenting with distinct dimensions of parental protectiveness and reported associations with adult functioning. For example, sons and daughters (together) recalled their mothers as more caring and more personally intrusive than fathers, but when analyzed separately, relative to sons, daughters recalled their fathers as more personally intrusive and their mothers as less socially controlling and much more caring (Cubis, Lewin, & Dawes, 1989); a low affect-high restraint pattern of perceived parenting was theorized to be a risk factor for postpartum depression in women (Gomez-Beneyto, Pedros, Tomas, Aguilar, & Leal, 1993); and differences in reported levels of denial of psychological autonomy were theorized to explain gender differences in perceived overprotection by offspring (Murphy, Brewin, & Silka, 1997).

In summary, dimensions of parenting (i.e., factor structures) vary when tested from different theoretical perspectives and when sample characteristics vary (age range and stage in

human development, i.e., individuals in various developmental stages across the life span may have different perceptions of items on the PBI). While samples with a wide age-range and/or samples with a wide range of parenting status (non-parents, new-parents, grandparents) aimed to find commonalities among individuals, perceptions of received parenting might be influenced by concurrent life experiences, especially during a major and relevant life transition like the transition to first-time parenthood. The salient changes experienced during this period might have an effect on representations of parenting experienced in childhood and, therefore, influence RP. Consequently, new parents might experience shifts in RP through experiences in current relationships with spouses and infants. One study, examining the 20-year stability of RP using the PBI (Wilhelm, Niven, Parker, & Hadzi-Pavlovic, 2005), reported that recall of fathers' Overprotection decreased over the first 10 years of adulthood (between ages 23-33 years), and then increased at 20-year follow-up (when the mean age was 43 years and most parents had at least one teenage child). This suggested that significant change in at least some dimensions of RP may occur as a function of developmental stage and provides support for examining RP in a narrower age range of individuals to identify dimensions of recalled parenting that are most salient to those who are becoming parents for the first time.

Recalled Parenting and Depression

Representations of significant relationships are often emotionally laden, as are many autobiographical memories (Howe, 2000; Rubin, 1996; Schacter & Scarry, 2001). Affective experiences in parent-child relationships, particularly in negatively charged relationships, may be encoded and retained as part of current representations of past parent-child relationships. These affective experiences may be reactivated in the emotional context of the transition to first-time parenthood, and may influence current relationships with spouses and infants by contributing to

the affective environment of the family. Therefore, affective processes involved in RP may be transmitted across generations through emotionally laden representations of significant others that influence family relationships in the next generation.

Research has found links between RP and depression, some using the PBI (e.g. Parker, 1993; Parker, 1984, cited in Blatt & Hoffman, 1992). Beyond empirical support for theories that propose a relationship between early, negative parenting and the development of depression in adulthood, it is possible that concurrent depressive states might affect RP. A number of studies indicated that current depression is associated with negative RP (Bower, 1981; Hammen, Marks, deMayo, & Mayol, 1985; Isen, Shalker, Clark, & Karp, 1978; Kuiper & MacDonald, 1982; Teasdale, Taylor, & Fogarty, 1980). Similarly, a meta-analysis by Gerlsma and colleagues (Gerlsma, Emmelkamp, & Arrindell, 1990) reported that individuals with phobic disorders or depression recalled the parenting they experienced as less affectionate and more controlling than controls. One study using a large community sample found that depressed individuals reported more negative RP than did individuals who had experienced prior episodes of depression, but who were not currently depressed (Lewinsohn & Rosenbaum, 1987), suggesting that depression does bias RP. Findings from that study also indicated that currently depressed individuals and those with prior episodes of depression differed only on level of recalled parental warmth and not parental control. One study exploring the dimensions of the PBI provided support for differences in other parenting factors where women who were more depressed recalled their fathers, but not mothers, as less encouraging of behavioral freedom (one of three dimensions reported; Murphy et al., 1997).

In contrast to empirical evidence in support of depression biasing RP, several studies have reported that RP was not influenced by current depressed mood (Abrahams & Whitlock,

1969; Gotlib, Mount, Cordy, & Whiffen, 1988; Parker, 1981). In one study, a model that parenting experiences during childhood predicted depression better fit the data than a model specifying depression as a cause of adults' ratings of parenting received in childhood (Neale, Walters, Heath, Kessler, Perusse, Eaves, & Kendler, 1994). In addition, longitudinal investigations have reported stability in RP (for a review, see Brewin, Andrews, & Gotlib, 1993), short- and long-term test-retest reliabilities in depressed individuals (Gotlib et al. 1988; Parker et al., 1979; Wilhelm et al., 2005), and stability in RP at 30- and 60-month follow-ups in individuals who experienced at least a 50% reduction in symptoms levels of depression (Gotlib et al., 1988; Lizardi & Klein, 2005).

As reviewed above, there are mixed reports in the literature regarding the relationship between depression and RP; however, little research has examined associations between depressive symptoms and RP in a sample of first-time parents during the postpartum period. During pregnancy, most new parents hold optimistic expectations about parenthood despite the challenges, and expectations of many new parents are met or exceeded by their parenting experiences (Harwood, McLean, & Durkin, 2007; Nazarinia, Schumm, & White, 2007). When those expectations are unfulfilled, both parents show greater depression symptomology and poorer relationship adjustment (Hackel & Ruble, 1992; Harwood et al. 2007; Kalmuss, Davidson, & Cushman, 1992; Nazarinia et al., 2007). Unfulfilled expectations have been associated with poor mental health and depression in both wives (Goldberg & Perry-Jenkins, 2004; Gremigni, Mariani, Marracino, Tranquilli, & Turi, 2011) and husbands (Bielawska-Batorowicz & Kossakowska-Petrycka, 2006). Representations of affectively-laden past relationships with caregivers may be activated in the context of the affective and relational changes during the transition to parenthood, a period associated with higher levels of depressive

symptoms, making this a unique time at which to examine associations between depression and RP.

Recalled Parenting and Marital Relationships

Research has used RP to investigate the relation between rearing histories in one's family-of-origin and satisfaction in intimate relationships later in life, but has rarely studied that relation within married couples (Sabatelli & Bartle-Haring, 2003). The few studies that have investigated these links reported strong relationships between family-of-origin patterns of interaction and satisfaction in marriage in various stages of marriage (e.g., Canfield, Hovestadt, & Fenell, 1992; Cohn, Silver, Cowan, Cowan, & Pearson, 1992; Lane, Wilcoxon, & Cecil, 1988; Lustenberger et al., 2008; Whitton, Waldinger, Schultz, Allen, Crowell, & Hauser, 2011). It was also found that the more similar the couple's family-of-origin experiences, the more satisfied they were in their marriages (Wilcoxon & Hovestadt, 1985). Of importance for the current study, researchers have found that recall of family-of-origin experiences was not related to marital adjustment prior to the birth of first child, but was after the birth of a child (Cowan, 1988; Lane et al., 1988). Therefore, marital quality during the transition to first-time parenthood is a salient factor that might have associations with RP during this transition.

The transition to parenthood brings major changes that are often stressful and may influence the quality of marital relationships (Hakulinen, Paunonen, & Laippala, 1997; Perren et al., 2005; Tomlinson, White & Wilson, 1990), and, as a result, the nature of RP. RP was reported to predict changes in wives' and husbands' self-reports of marital quality from pregnancy to 9-months (Belsky & Isabella, 1985) and at 1-year postpartum (Perren et al., 2005). Another study found that women who reported declines in recall of their relationships with their

fathers over a 4-year period also reported more dissatisfaction with their husbands' parenting than did other women (Lewis & Tresch-Owen, 1995).

Conversely, Shulman and colleagues (Shulman, Kalnitzki, & Shahar, 2009) reported that supportive relationships may facilitate successful transitions to roles in adulthood; when an individual perceives getting support in close and intimate relationships it might promote emotional well-being and satisfaction. Studies have reported that supportive marital relationships can promote positive parenting three years after birth despite mothers' recalled negative past relationships with their own parents (measured during last trimester of pregnancy) (e.g., Belsky, Youngblade, & Pensky, 1989). However, Curran and colleagues (Curran, Hazen, Jacobvitz, & Feldman, 2005) found that individuals who reported the greatest decline in maintenance (a concept that captures how couples communicate with each other to sustain intimacy; Braiker & Kelley, 1979) at 24 months postpartum also reported the most positive memories of their families-of-origin (e.g., memories of low conflict, high affection, and communication). These mixed findings may be because individuals are more likely to use maintenance strategies when they perceive a decline in their overall marital quality, but it might also be that different stages in the transition to parenthood (first-year versus later-years) are associated with different perceptions of marital quality and perceptions of RP.

A possible contributor to mixed evidence linking between RP and marital satisfaction is that some studies used reports from both members of the marital relationship while others used only wives' reports. Prior research has suggested that the transition to parenthood affects wives and husbands differently in physical aspects (e.g., demands of pregnancy and delivery), parental roles, career, and household tasks (Cowan et al., 1985; Hackel & Ruble, 1992; Katz-Wise, Priess, & Hyde, 2010; McHale & Huston, 1985; Perry-Jenkins, Goldberg, Pierce, & Sayer, 2007;

Ruble, Fleming, Hackel, & Stangor, 1988). These differences were also reported to lead to marital dissatisfaction during the transition to parenthood (Cowan & Cowan, 1992, Reichle, 1996). Gender differences in marital satisfaction have also been studied in the context of early experiences in families-of-origin. One study found that wives' family-of-origin experiences influenced both their own and their husbands' marital adjustment, whereas husbands' family-of-origin experiences influenced only their own marital adjustment, that is, there was no cross-over from husband to wife (Sabatelli & Bartle-Haring, 2003). A study that examined hostile behaviors in families-of-origin reported that, for men, family-of-origin hostility predicted poorer marital adjustment, an effect that was mediated through hostility in marital interactions (Whitton, Waldinger, Schultz, Allen, Crowell, & Hauser, 2011).

These inconsistencies call for further examination of the association between RP and marital relationships that focuses on a specific time-period and uses reports of both wives and husbands. Changes in marital relations due to the transition to first-time parenthood primarily occur between the baby's birth and his/her first birthday (Belsky & Kelly, 1994), therefore, the current study examined relations between RP and marital satisfaction when infants were 12 months of age. Empirical evidence for gender differences in the experience of the transition to parenthood and empirical evidence for gender differences in associations between RP and marital satisfaction suggest that experiences in families-of-origin are linked to differences in later-life relational functioning between wives and husbands. Therefore, the current study assessed both wives' and husbands' RP and marital satisfaction, and examined gender differences in recalled parenting: gender of person reporting RP and gender of parent recalled.

Interdependence of Contextual Factors between wives and husbands

Individuals in close relationships may affect each other's thoughts and behaviors over time and also affect their perceptions of others (Deutsch & Mackesy, 1985; Kenny & Kashy, 1994). Theory and empirical studies suggest that emotions can evoke both complementary emotions in others (e.g., resentment in response to indifference) and similar emotions in others (e.g., sadness in both wife and husband) (Keltner & Kring, 1998).

The first contextual factor discussed in this document, depression, is a psychological state that is conceptualized to lie primarily within the individual. However, depression experienced by one individual has been found to have effects on social partners, a process of emotion contagion (Coyne, 1976; Howes, Hockanson, & Lowenstein, 1985). Furthermore, there is empirical evidence that individuals rely on their experience of emotions to assess their relationships with others (for a review, see Keltner & Kring; 1998). In line with this empirical evidence, experiencing depressive symptoms during the transition to first-time parenthood might have a direct effect on an individual's RP, and family members' depressive symptoms could also influence an individual's RP through processes of emotion contagion.

The second contextual factor, marital satisfaction, is inherently thought of as a relational experience. The vulnerability-stress-adaptation (VSA) model of marital development (Karney & Bradbury, 1995) conceptualized marital satisfaction or dissatisfaction through incorporating individual and dyadic elements. One study that employed this model reported that spousal similarity increased the likelihood of marital satisfaction (Gonzaga, Campos, & Bradbury, 2007), suggesting that the individual's characteristics as well as their partner's characteristics contributed to marital satisfaction.

Together with aforementioned empirical evidence for both beneficial and detrimental effects of emotional expression by individuals on their partners this indicates that accounting for both partners' reports of marital satisfaction is warranted in examining effects of marital satisfaction on RP. This way, partners' depression and marital satisfaction are seen as contextual variables in the same way that individuals' own depression and marital satisfaction are considered contextual variables that may have an effect on RP.

The Current Study

Aim 1. The first aim of this study was to use exploratory factor analysis (EFA) to examine structural dimensions of RP at a point in development (one year into the transitioning to first-time parenthood) when the affective quality of parenting received in childhood is highly likely to be activated. Furthermore, this study aimed to examine differences in RP within the sample's subgroups (i.e., RP by wives and husbands and RP of mothers and fathers) in terms of (a) structural dimensions of RP and (b) levels of those dimensions (e.g., do wives recall parents as more Caring than husbands do or do first-time parents recall fathers as more Protective than mothers). Therefore, a confirmatory factor analysis (CFA) was used to confirm that RP by wives and husbands and RP of mothers and fathers fit the EFA model. Once factor structure was determined, the current study examined whether there were differences in levels of RP's factors between RP by wives and husbands and between RP of mothers and fathers. Since previous investigations of dimensions of parenting did not focus on the transition to first-time parenthood, the following questions were exploratory.

Question 1.1. What are the dimensions of RP using PBI reports of first-time parents after one year of parenting?

Question 1.2. Is RP a construct that manifests similar underlying factors across respondent gender (i.e., wives and husbands) and recalled parent (i.e., mothers and fathers)? That is, does RP reported by wives and by husbands and RP of mothers and of fathers fit the factor structure determined in this study's previous question?

Question 1.3. Based on the factor structure determined above, are there mean differences in PBI factor scores as reported by wives and husbands and scores of mothers and fathers?

Aim 2. The second aim of this study was to address discrepancies in the existing literature regarding associations between RP and contextual factors during the transition to parenting, focusing on depressive symptoms and satisfaction in marital relationships and taking into account the relatedness of spousal reports (Kenny, Kashy, & Cook, 2006).

Once a factor model was determined, this study examined to what degree contextual factors (individuals' and their partners' concurrent depressive symptoms and marital satisfaction after the first year of parenthood) were associated with individuals' levels of RP. Since previous investigations of dimensions of parenting did not focus on the transition to first-time parenthood, or, importantly, on the effects that spouses could have on each other's RP, the following questions were exploratory.

Question 2. Are self-report measures of depression or marital quality by a spouse significantly associated with her (or his) *own* PBI-subscales scores? Are self-report measures of depression or marital quality by a spouse significantly associated with her (or his) *partner's* PBI-subscales scores?

Consistent with prior research finding that depressive symptoms were negatively associated with levels of recalled Care and positively associated with levels of Control for men and women (Parker et al., 1979; Parker, 1993; Parker & Gladstone, 1996), I expected that wives' and husbands' levels of depressive symptoms would be significantly associated with their levels of RP. Specifically, since women experience higher levels of depressive symptoms during the transition to parenthood (e.g., Escribà-Agüir & Artazcoz, 2011; Goodman, 2004), I expected differences in associations of depressive symptoms with the PBI's factors between wives and husbands where wives' depressive symptoms would show larger effects on RP.

Based on prior research (e.g., Canfield et al., 1992; Cohn et al., 1992; Lane et al., 1988; Lustenberger et al., 2008; Whitton et al., 2011), I expected that greater marital satisfaction would be linked to positive dimensions of RP (e.g., Care) and lower marital satisfaction would be linked to negative aspects of RP (e.g., Overprotection). Furthermore, since prior research has suggested that the transition to parenthood affects wives and husbands differently (Cowan et al., 1985; Hackel & Ruble, 1992; Katz-Wise et al., 2010; McHale & Huston, 1985; Perry-Jenkins et al., 2007; Ruble et al., 1988), I expected that marital satisfaction would have greater effects on RP for wives than for husbands.

This study's major contribution was in exploring cross-relations between an individual's levels of depressive symptoms or marital satisfaction on his or her spouse's RP during the transition to first-time parenthood. Since there is little prior work (Sabatelli & Bartle-Haring, 2003: using a sample of married couples with a mean marriage length of 23 years) that has investigated wife-husband cross-links between depressive symptoms or marital satisfaction and RP and no prior work during the transition to parenthood, no specific hypotheses were made. As discussed earlier, emotion spillover theories propose that depression and the quality of marital relationships could affect perceptions of other relationships (Keltner & Kring, 1998). Therefore, I expected that both the individual's contextual factors (self-report of depressive symptoms and of marital satisfaction) and the individual's partner's contextual factors would have an effect on the individual's RP.

Methods

Participants

Participants for the current study were women and men in two-parent families with a 12-month old infant. The majority of couples were married (88%) and all were cohabitating. Female and male participants will be referred to as wives and husbands for simplicity. Couples were selected from a larger study on infant development ($N = 160$; Infant Development Study (IDS); P.I.s: Lewinsohn, Cohn, & Allen). There were 157 wives who provided PBI reports on at least one parent (151 on both parents), and 143 husbands who provided PBI reports on at least one parent (133 on both parents). Out of 160 couples in the study, 127 couples provided complete data for both wives and husbands on both parents.

Participants were primarily Caucasian (94% of wives and 87% of husbands). The average age of wives was 26 years ($SD = 2.42$, range 20-37 years) and the average age of husbands was 28 years old ($SD = 3.33$, range 22-40 years). Thirty percent of wives and 34% of husbands had a high school degree or less, an additional 35% of wives and 30% of husbands had a 2- or 4-year college degree. There was a broad range of family income level, and sixty percent of families had an annual household income of \$30,000 or greater.

Measures

RP of parenting. RP was assessed at infant age 12 months using the PBI (Parker et al., 1979). The PBI is a 25-item self-administered questionnaire designed to evaluate recalled parenting separately for mothers and fathers or other primary caregivers. Individuals using a four-point response scale (1 = very unlike, 4 = very like) were asked to rate treatment received from their parents specifically during adolescence (see Appendix). Wives and husbands in this study completed a set of two questionnaires each, one for recall of mother and one for recall of

father. Thus, RP in this study was nested within spouse, which, in turn, was nested within the couple.

Based on a review of 14 questionnaires measuring RP (Gerlsma et al., 1990), the PBI was 1 of only 3 instruments that met the authors' criteria of satisfactory reliability, discriminative and predictive validity, and a replicated factor structure. Overall, the PBI has been consistently shown to have good to excellent test-retest reliability (Mackinnon et al. 1989; Plantes et al. 1988; Richman & Flaherty, 1987; Wilhelm et al., 2005; Wilhelm & Parker, 1990). Moreover, scores on the PBI have been reported to be independent of respondents' sex and social class or education and age (Parker, 1990). PBI scores also demonstrate good sibling concordance (Parker, 1990) and concordance between children's descriptions of their mothers' parenting and mothers' descriptions of their own parenting (Parker, 1984, cited in Blatt & Hoffman, 1992), indicating reliability of the PBI and convergent validity.

Depression symptoms. The Center for Epidemiological Studies – Depression Scale (CES-D; Radloff, 1977), a standardized self-report measure of depression symptoms widely used in research to screen for depression, was used to assess current depressive symptoms in wives and husbands. Twenty items were rated on a 4-point scale based on the frequency with which the item had been experienced in the previous two weeks. Scores were then summed to create an overall depression rating. A score of 16 or higher signifies the risk of clinical depression (Radloff, 1977). The CES-D has good established reliability, with an alpha of .85 in a general community sample (Radloff, 1977) and good validity. Wives and husbands completed the CES-D separately.

Marital satisfaction. Marital quality was assessed using the Dyadic Adjustment Scale (DAS; Spanier, 1976). Wives and husbands completed the DAS separately. The DAS assesses

the quality of spouses' and other similar dyads' relationships. It is made up of 32 items comprising four subscales: dyadic consensus, dyadic satisfaction, dyadic cohesion, and affectional expression. The reliability estimates for the four subscales range from .73 to .94. A total adjustment score was calculated for each wife's and each husband's report and was used in the current study, with a possible range of 0-151, with higher scores indicating better adjustment. A clinical cutoff of below 107 has been used to classify couples as "maritally dissatisfied". The total scale has excellent reliability ($\alpha = .96$) and validity (Spanier, 1976).

Results

PBI-Item Recoding

Item scores were recoded to a 0 to 3 scale (from a 1 to 4 scale). It has been recommended that items be reverse-coded prior to factor analyses (DeVellis, 1991; Hatcher, 1994; Hatcher & O'Rourke, 2014). Therefore, items 1, 5, 6, 8, 9, 10, 11, 12, 13, 17, 19, 20, and 23 were reverse coded in compliance with the original PBI factor analysis (Parker et al., 1979).

Missing Data

Not all marital members reported PBI data on both parents. Out of possible 640 PBI data records (160 couples reporting on two parents), 151 wives and 133 husbands reported on both their parents (a total of 568 PBI data records), and 6 wives and 10 husbands reported on one parent only. Therefore, 584 PBI data records were available in this study.

Some PBI data records were missing only a few out of the 25 items on the PBI (partially missing items); Thirteen members (4 husbands) had one missing item, 3 husbands had 2 missing items, 2 wives has 3 missing items, and 2 husbands had 4 missing items. To retain data for analysis, partially missing items were replaced with the group mean for that item (e.g., item 15 missing in a husband's report of his father was replaced with item 15's mean across all husbands' reports on their fathers).

Question 1.1: What are the dimensions of RP using PBI reports of first-time parents?

To determine the number of RP dimensions, an exploratory factor analysis (EFA) was conducted with all 25 items of the PBI using IBM SPSS Statistics for Windows, Version 22.0 (SPSS, Inc., 2013). Since this study used reports of husbands and wives on both of their parents, the EFA was conducted so that each spouse contributed two data records and, therefore, each

marital dyad contributed four data records; after accounting for missing data, a total of 584 data records were used.

In EFAs, orthogonal rotation is a method that produces factors that are uncorrelated and, therefore, more interpretable; however, constructs in the social sciences are rarely neatly partitioned. Therefore, an EFA with Principal Axis Factoring (PAF) extraction method and oblique rotation (oblimin) was utilized. Extraction of factors was based on Eigenvalues greater than 1.

The EFA analysis resulted in three factors with eigenvalues over Kaiser's criterion of 1 and, in combination, explained 58.82% of the variance (39.5% by Factor 1, 13.91% by Factor 2, and 5.41% by Factor 3). Parker et al. (1979) reported that in their original factor analysis, Care accounted for 28% of the total variance and Overprotection accounted for 17% more, totaling in 45% of accounted variance, while more recent EFAs have reported factor structures that accounted for variance that ranged from 40% to 61% (Cubis et al., 1989; Gomez-Beneyto et al., 1993; Murphy et al., 1997). Due to arguments in the literature regarding the accuracy of eigenvalues in determining the number of factors in a model (Costello & Osborne, 2005), a scree plot was also used, to examine where the data-points "break," as this is a better indication of distinct factors. The scree plot for this model supported a three-factor solution. Table 3 shows item loadings on each factor after rotation.

Items 3, 7, 9, and 15 had substantial loadings on more than one factor. Costello and Osborne (2005) cite a cutoff point of 0.32 or higher as a good rule of thumb to determine whether an item is cross-loading. Therefore, and since after removal of these four items there were several strong item loadings (.50 or higher) on each factor, these four items were dropped and a final EFA was conducted utilizing the remaining 21 items. Table 4 shows the final model's

item loadings on each factor after rotation. Eigenvalues and the scree-plot for a 21-item EFA still supported a three-factor solution that in combination explained 59.53% of the variance. The third factor had only three items loading on it; however, it meets the 3-item minimum recommendations by Costello and Osborne (2005).

There are various ways to ensure that an EFA produces a reliable model. Sample size considerations have been addressed in the literature to assure a reliable EFA. Many researchers recommend a sample as large as possible, with benchmark sample sizes of between 250 (Field, 2009) and 300 (Costello & Osborne, 2005; Field, 2009). Other researchers suggested examining item communalities (a measure computed for each item that indicates how much of the item's variance is explained by all extracted factors in the model); communalities of .4 to .7 are considered common in the social sciences (Costello & Osborne, 2005). Yet another method is to use the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO). Sampling Adequacy predicts whether the data collected are likely to "factor well". The KMO represents the ratio of the squared correlation between variables to the squared partial correlation between variables. A value close to 1 indicates smaller correlation patterns and more reliable factors (values above .9 are considered superb; Field, 2009). In the current study's final EFA, sample size was well above 300 ($N = 584$), all communalities were .4 or higher (only 5 were below .5), KMO was in the 'superb' range ($KMO = .935$), and all KMO values for individual items were $> .74$, which is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity, $\chi^2(210) = 7985.873$, $p < .001$, indicated that correlations between items that loaded on the same factor were sufficiently large for PAF.

Given the large sample size, the convergence of the scree plot, and Kaiser's criterion, these three factors were retained and used in subsequent analyses. The items that loaded on

Factor 1 represented expressions of care and warmth from the parent (hereinafter referred to as Care); sample items included: “Appeared to understand my problems and worries” (item 5; a reversed item), “Enjoyed talking things over with me” (item 11; a reversed item), and “Did not praise me” (item 24). Items that loaded on Factor 2 represented parental behaviors that promoted dependence on parents (hereinafter referred to as Dependence); sample items included: “Did not want me to grow up” (item 8; a reversed item), “Tended to baby me” (item 13; a reversed item), and “Tried to make me feel dependent on her/him” (item 19; a reversed item). Items that loaded on Factor 3 represented controlling parental behaviors (hereinafter referred to as Control): the three items were: “Gave me as much freedom as I wanted” (item 21), “Let me go out as often as I wanted” (item 22), and “Let me dress in any way I pleased” (item 25). Table 5 presents Pearson product-moment correlation coefficients that were produced by the EFA model.

Question 1.2: Is the factor structure found in the EFA supported for wives’ and husbands’ RP and for RP of mothers and of fathers?

To explore the validity of the three-factor model that was established in the EFA for subgroups within the larger sample, a confirmatory factor analysis (CFA) was conducted. This CFA aimed to indicate whether there is a consensus or difference in the way that individuals perceive parenting experiences across reporter-gender (wives and husbands) and gender of parent who is being reported on (mothers and fathers).

One CFA model with four subgroups was tested, based on the factor structure established in the above EFA, using AMOS for Windows, Version 22.0 (AMOS, Inc., 2013). The subgroups were: reports by wives ($N = 308$), reports by husbands ($N = 276$), reports of mothers ($N = 300$), and reports of fathers ($N = 284$). In the model, each PBI factor was modeled as a latent variable that predicts the observed variables (PBI items that were loading on it; arrows go from latent

variable to observed variable). Error terms were defined for each observed variable. Lastly, all PBI factors were modeled to correlate with each other, as was indicated by the EFA. The default (and widely used) estimation approach in CFAs, maximum likelihood (ML), was utilized. Model estimation indicated how all four subgroups, together, fit the hypothesized factor model.

Many fit indices are used in the literature to estimate model fit. Chi-square/df is an absolute index of model fit computed by dividing the chi-square statistic by its degrees of freedom. A value that is close to unity represents better fit: in the literature, values that range from 2 to 3 are considered good fit (Carmines & McIver, 1981; Marsh & Hocevar, 1985). The comparative fit index (CFI; Bentler, 1990) is a widely reported measure of fit. A value close to unity indicates a very good model fit, preferably greater than .95, but a value above .90 is acceptable (Bentler, 1990). The AGFI (adjusted goodness of fit index) takes into account the degrees of freedom available for testing the model. The AGFI is bounded above by one, which indicates a perfect fit. Hair et al. (Hair, Anderson, Tatham, & William, 1998) suggested an AGFI of equal to or greater than 0.9 indicates a good fit and an AGFI that is greater than 0.8 is a sign of marginal fit. RMSEA (Root Mean Square Error of Approximation) is an absolute measure of fit based on the non-centrality parameter. Browne and Cudeck (1993) suggested not to employ a model with a RMSEA greater than 0.1.

Model fit for the 3-factor EFA structured determined in Question 1.1 presented a significant chi-square test ($\chi^2(744) = 2069.44, p < .001$). A significant chi-square indicates that the model has a poor fit with the data. However, this statistic is reported to be biased in large sample sizes as in the case of the current study (Kenny, Kashy, & Cook, 2006). Other fit indices (AGFI = .81; CFI = .92; PCFI = .81; RMSEA = .04) indicated that the hypothesized factor model met the acceptable thresholds reported earlier. Therefore, the three-factor PBI model established

in the EFA was confirmed for the four subgroups (i.e., wives recalling parents, husbands recalling parents, recall of mothers, and recall of fathers).

Moreover, the CFA model provided measures for reliability and validity. Reliability was measured using the CR (composite reliability) statistic to assess how well the items within a factor were inter-correlated. The CR should be greater than 0.70 (Chin, 1998). All factors met this threshold (Care: .95; Dependence: .82; Control: .89). To establish discriminant validity, a measure that evaluates whether the items loading on a factor can be distinguished from items of another factor, the square root of the AVE (average variance extracted) statistic for each factor should be larger than any correlation with another factor (Chin, 1998). All factors achieved this criterion. To establish convergent validity, a measure that evaluates the degree that items of theoretical construct relate to each other, the AVEs should be greater than 0.50 (Kline, 2011). All factors meet this threshold except Dependence (Care: .62; Dependence: .45; Control: .72). Although Dependence was slightly below the recommended threshold, I retained the factor because it met criteria for discriminant validity and reliability. Therefore, as indicated by fit indices, the three-factor PBI model established in the EFA was reliable and valid for each subgroup (i.e., wives, husbands, mothers, and fathers).

Next, PBI factor scores were computed for each dyad member by adding up the Likert-scale responses for items that loaded on the respective three PBI factors. These computations resulted in RP dimensional scores for Care, Dependence, and Control for each spouse (wives/husbands) separately for each parent (mothers/fathers). For Care, a higher score meant that a parent was rated as exhibiting warmer behaviors, for Dependence a higher score meant that a parent was rated as exhibiting more behaviors that promoted dependence on them, and for Control a higher score meant that a parent was rated as exhibiting more controlling behaviors

towards their adolescent child. The PBI's subscale scores were low- to moderately-correlated with each other (Care with Dependence: $-.37, p < .001$; Care with Control: $-.20, p < .001$; Dependence with Control: $.46, p < .001$). Table 6 provides mean PBI subscale scores split by husbands' and wives' reports on mothers and fathers.

Question 1.3: Are there mean-differences in PBI subscale scores as reported by wives and husbands and between PBI subscale scores of fathers and mothers?

To examine mean differences in wives' and husbands' RP and in RP of mothers and fathers, hierarchical linear models were tested. These were 3-level models (a separate model for each PBI factor identified in the EFA and confirmed in the CFA) using the HLM program, Version 7 (Raudenbush, Bryk, & Congdon, 2011). This way interdependence of RP hierarchical data reported by wives and husbands of their mothers and fathers was accounted for.

Figure 2 illustrates RP's hierarchical model design. In each HLM model, PBI factor scores of mothers and fathers were nested within the spouse (wife or husband) who reported them (i.e., each spouse completed the PBI twice, once for mother and once for father). Also, each spouse is nested within the dyad (i.e., there is a wife and a husband in each dyad). Therefore, in each HLM model, the top level (Level-3) represents the Dyad level, the subordinate level (Level-2) represents the Spouse level (i.e., the wife and husband in the dyad), and the bottom level (Level-1) represents the Parent level (i.e., the PBI subscales of the dyad member for mother and for father).

To examine mean level differences in RP scores between spouses (i.e., wives and husbands) and between reports of mothers and fathers, gender was included in all HLM models; since parents were represented in Level-1 of each HLM model, Parent Gender (variable GP) was included as a Level-1 predictor, and since dyad members were represented in Level-2 of each

HLM model, Spouse Gender (variable GS) was included as a Level-2 predictor. Parent Gender and Spouse Gender variables were contrast coded (-1 = female, 1 = male). In HLM, having only two items per group in any level of the hierarchy (e.g., husbands and wives in a dyad) requires that the slopes are constrained to be equal across all dyads (i.e., the model was constrained to include only a fixed effect, rather than a random effect, for the effect of a predictor on the outcome measure without biasing the models; Kenny et al., 2006). Each model was represented by the following mixed-model regression equation:

$$PBI-Factor_{ijk} = \gamma_{000} + \gamma_{010} * GS_{jk} + \gamma_{100} * GP_{ijk} + \gamma_{110} * GP_{ijk} * GS_{jk} + r_{0jk} + u_{00k} + e_{ijk} ,$$

where e_{ijk} is Level-1's random error term, r_{0jk} is Level-2's residual error term, and u_{00k} is Level-3's random error term.

Model estimations for the three separate PBI factor models are presented in Table 7. Parent Gender (GP) had a significant effect on Care and Dependence, and a marginally significant effect on Control. These fixed effects indicated that fathers were rated lower than mothers on all PBI factors, controlling for other variables in the model.

The effect of Spouse Gender (GS) was significant for Dependence and Control. This indicates that husbands' ratings of their parents, on average, on Dependence and Control were lower than their wives' ratings of their parents on these two PBI factors.

Spouse Gender had a significant interaction with Parent Gender (GP*GS) for Dependence and Control. Simple effects analyses were conducted to follow-up on these interactions (see Figure 4 and Figure 5, respectively, for GS*GP interaction term plots). For both Dependence and Control, husbands rated their mothers higher than they rated their fathers. On Dependence, there was a significant difference between husbands' and wives' ratings of their fathers; husbands rated their fathers lower than their wives did. On Control, husbands and wives

differed significantly on ratings of both their parents, where wives rated both parents higher than their husbands did.

The above 3-level models (i.e., HLM models for Care, Dependence, and Control that included Parent Gender and Spouse Gender as predictors) will be referred to in all following analyses as null (baseline) models.

Question 2: Are individuals' and their partners' self-report measures of depression and marital satisfaction significantly associated with individuals' PBI's subscale scores?

To examine effects of contextual factors (individuals' and spouses' depressive symptoms and marital quality) on RP, this study utilized the Actor-Partner Interdependence Model (APIM; Kenny et al., 2006). APIM is a statistical method used in dyadic data analysis when independent variables are mixed, i.e., the variables are free to vary both within dyad members and between dyads. The independent variables in this analysis were individuals' and their spouses' self-report measures of depressive symptoms and marital satisfaction. Generally, scores on these self-report measures are free to vary between a wife and her husband and also between dyads (couples). When predicting a wife's RP, for example, her self-report satisfaction in marriage (DAS score) was referred to as an actor variable (e.g., actor-DAS or ADAS) and her husband's self-report satisfaction in marriage score was referred to as a partner variable (e.g., partner-DAS or PDAS). Similarly, when analyzing a husband's RP, his DAS score was an actor variable and his wife's DAS score was a partner variable. Table 8 provides descriptive statistics for CES-D and DAS scores, separately for wives and husbands. Table 9 provides Pearson product-moment correlation coefficients between CES-D, DAS, and PBI factors.

These variables were added as predictors to each of the HLM null-models described above (Care, Dependence, and Control). Since these variables are self-reports by wives and

husbands they were added as Level-2 (i.e., Spouse level) predictors. Refer to Figure 3 for an illustration of the actor and partner effects that are hypothesized for wives and husbands in this study's HLM models.

The method of adding the actor and partner predictors to each PBI subscale's null-model was done in three stages. In Stage 1, CES-D predictors were added to the null model as predictors of intercept (to estimate effects on mean values of the PBI factor) and predictors of slope (Parent Gender; to estimate effects on scores between mothers and fathers): the actor's CES-D score (variable ACESD), the partner's CES-D score (variable PCESD), and the interaction terms for ACESD and PCESD with Spouse Gender (variables GS*ACESD and GS*PCESD). In Stage 2 – the same procedure described in Stage 1 was carried out with DAS variables; the variables were added to the null model as predictors of intercept and slope: actor's DAS score (variable ADAS), the partner's DAS score (variable PDAS), and the interaction terms for each DAS score with Spouse Gender (variables GS*ADAS and GS*PDAS). In Stage 3, the Final Model was constructed using only significant predictors that were found in Stage 1 and Stage 2. Table 10 presents null-model and Stage-1 through Final-model's deviance statistics (-2LL) for each PBI factor. Results are reported for final models only separately for each PBI factor.

Care subscale analyses. The likelihood ratio test for Care's final model indicated a significant improvement compared to the null model (Table 10). In the Final model, two predictors were significant, actor-DAS and Parent Gender (Table 11).

Dependence subscale analyses. The likelihood ratio test for Dependence's final model indicated a significant improvement compared to the null model (Table 10). This model resulted in three significant predictors and three significant interaction terms (Table 12). Spouse Gender

(GS) was a significant predictor indicating that, overall, husbands rated their parents lower on Dependence than wives did. Partner DAS (PDAS) score was a significant predictor of Dependence indicating that Dependence score reported by an individual decreased as their spouse's DAS score increased, controlling for other variables. Parent Gender (GP) was a significant predictor indicating that, overall, fathers were rated lower than mothers on Dependence.

Simple effects analyses of the significant Spouse Gender by Parent Gender interaction (Figure 6) revealed that husbands rated their fathers lower on Dependence than they rated their mothers and that husbands rated their fathers lower on Dependence than wives did.

Simple effects analyses of the Spouse Gender by actor-CES-D interaction (Figure 7) revealed that husbands' Dependence ratings were significantly lower than their wives' ratings at low levels of ACESD only. Simple effects further indicated that an increase in a husband's CES-D score significantly increased his Dependence rating, controlling for other variables.

Simple effects analyses of the Parent Gender by partner-CES-D interaction (Figure 8) revealed that Dependence ratings of fathers were significantly lower than ratings of mothers at low levels of PCESD. Simple effects further indicated that a person's Dependence ratings of his or her father increased as their spouse's depression score increased, controlling for other variables.

Control Subscale analyses. The likelihood ratio test for Stage 1 and Stage 2 models indicate that compared to the null model no significant improvements were made (Table 10). Therefore, the null model for Control was retained as Control's Final model.

Discussion

To date, research utilizing retrospective recall of parenting behaviors has largely focused on how parenting behaviors influence the child's own parenting behaviors in adulthood and psychological functioning in adulthood. However, recall of parenting behaviors is the recall of emotionally laden experiences and, therefore, is influenced by the emotional context in which those memories were formed, i.e., RP is a representation, rather than exact accounts, of parental behaviors experienced.

To investigate contextual influence on RP, the current study sought to contribute to existing research in two ways. First, by examining recall of parenting in wives and husbands (co-parents) who were one year into the transition to first-time parenthood, a time when affectively-charged representations of parenting in one's family of origin may be activated. Second, after exploring and confirming a three-factor structure of parenting found in prior research (Cubis et al., 1989; Kendler, 1996; Mohr et al., 1999; Murphy et al., 1997; Narita et al., 1998; Qadir et al., 2005; see Table 2), I explored relations between participants' recall of their parents and factors that are highly salient during the transition to parenting, depressive symptoms and marital satisfaction.

Recognizing that the emotional climate of the family can influence recall of parenting, an innovative aspect of this study was that the effects of spouses' depression and marital satisfaction on individuals' recall were also assessed. This was performed by utilizing the APIM (Kenny et al., 2006), a method for analyzing dyadic data that accounts for inter-dependence of information gathered from individuals who are in a marital relationship.

Dimensions of RP

Many parenting models have conceptualized parenting using two orthogonal dimensions: Care/Warmth and Control/Overprotection (e.g., Baldwin, 1955; Baumrind, 1965; Becker, 1964; Parker et al., 1979; Schaefer, 1959). However, this study presented support for a three-factor model that provides distinction between controlling/overprotective behaviors.

One factor, Care, represented recalled parental behaviors of warmth and affection, empathy, and approval toward the adolescent. A second factor, Dependence, represented recalled parental behaviors that promoted dependence of the adolescent on his or her parent. A third factor, Control, represented parental behaviors that kept the adolescent from making autonomous decisions and venture out into the world. As expected and in agreement with previous studies, Care was negatively correlated with Dependence and with Control. Although Dependence and Control were moderately, positively correlated, the recalled parenting behaviors that loaded on these factors were distinct. Although Dependence and Control both included behaviors that suggested overprotection, the distinction between them lay in the relational context in which parents' overprotective behaviors occurred. Compared to childhood, parenting behaviors are perceived differently during adolescence, a time when young individuals are developing self-identity and independence, a pivotal theoretical construct called separation-individuation (e.g., Blos, 1967; Steinberg & Silverman, 1986). In line with this construct, Dependence represented behaviors of the parent toward the adolescent in regards to the parent-child relational context and Control represented parenting behaviors that limited adolescents' behaviors.

This three-factor model was similar to previously proposed and confirmed factor structures (Cubis et al., 1989; Kendler, 1996; Mohr et al., 1999; Murphy et al., 1997; Narita et al., 1998; Qadir et al., 2005; see Table 2 for detailed item loadings on each factor). Those models

identified the following factors: (1) Care, (2) Encouragement of behavioral freedom / Protection - personal domain, and (3) Denial of psychological autonomy / Protection - social domain. Cubis and colleagues (1989) described *Protection - Personal Domain* as the extent to which adolescents felt dominated and treated as a child. This factor was parallel to the current study's Dependence where it is conceptualized to capture parental behaviors that are promoting dependence on the parent and did not allow for separation-individuation. *Protection - Social Domain* was described as assessing how much the adolescent perceives that their freedom is restricted, particularly in day-to-day decisions. This factor paralleled the current study's Control, which conceptualized to capture parental behaviors that control or restrict the adolescent's behaviors and actions.

Although women and men may experience the first year of parenting differently (e.g., Cowan et al., 1985; Hackel & Ruble, 1992; Katz-Wise et al., 2010) and mothers and fathers may be recalled differently, this did not alter the dimensional structure of recalled parenting; the factor structure of parenting recalled by wives and husbands (as respondents) and of mothers and fathers all supported a three dimensional model of parenting. Because the current study asked participants to recall parenting when they were adolescents, it is possible that the Dependence/Control distinction is particularly relevant to parenting in adolescence.

Beyond the conceptual and structural dimensional distinction in recalled parental behaviors that this model provides, the following section discusses how it also allowed identification of significant differences in the ways women and men differ in RP on aspects that may have been obscured if the Dependence and Control factors were subsumed into one Overprotection dimension.

Mean Differences in PBI Subscales

Although the factor structure of parenting did not vary between wives and husbands or between recall of mothers or fathers, there were notable differences in the degrees of parental Care, Dependence, and Control that were recalled. The participants in this study completed recall of parenting during the late 1990's when they were, on average, in their mid to late twenties. They were asked to recall the parenting they received between the ages of 13-18, i.e., during the 1980s. Therefore, findings should be interpreted in light of parenting norms during the 1980s in the United States.

The first-time parents in this study (both wives and husbands) generally rated their mothers higher on all three dimensions of RP than they did their fathers. This indicated that they viewed their mothers as more warm and caring, but also as promoting more dependent behaviors and being more controlling than fathers. This is consistent with evidence that mothers were involved in parenting to a greater degree than fathers, including during adolescence (e.g., Harris, Furstenberg, Marmer, 1998; Waizenhofer, Buchanan, & Jackson-Newsom, 2004), and especially in work-related rather than leisure activities (Montemayor & Brownlee, 1987).

Although wives and husbands did not differ between each other in how caring they recalled their parents, wives recalled more dependence-promoting and controlling behaviors from both of their parents during adolescence than did husbands. This indicated that parents were more protective of their adolescent daughters than of their adolescent sons, thus allowing sons more room for behavioral freedom. Furthermore, wives recalled their mothers and fathers as being equal with respect to Dependence and Control, however, husbands recalled their fathers as showing less Dependence and Control behaviors than their mothers.

Again, this must be interpreted in light of parenting norms of the 1980s and may have changed in more recent cohorts. Parker and his colleagues (1979) conducted their study during the 1970s (i.e., asked respondents to recall parenting behaviors from the 1900s to the 1960s using a norming sample of respondents ages 12 to 74). In that study no differences were found in how caring/warm and controlling/overprotective women and men recalled their parents. Later studies have reported significant respondent-gender differences in RP. A study conducted in the late 80s (Cubis et al., 1997), which also reported a factor structure similar to the current study's model, used a sample of adolescent respondents (recalling parenting behaviors from late-1970s to late-1980s); females recalled their parents as more caring and higher on a factor that paralleled the current study's Dependence factor. A more recent study also reported gender differences (Murphy et al., 1997). In that study RP was recalled by adolescents and undergraduate students in the UK and the United States (of parental behaviors during early-1980s to mid-1990s). Findings indicated that female respondents recalled their parents significantly more caring than did male respondents. Furthermore, gender differences were also reported on the two Overprotection factors and were primarily associated with the factor that paralleled the current study's Dependence factor, where females reported higher scores than males.

Put together, the current study's findings and prior research suggested that women's and men's perceptions of parental behavior indicated a significant distinction between parental behaviors that promote dependence on the parent (i.e., Dependence) and behaviors that control the child's/adolescent's behavioral autonomy (i.e., Control). Females, compared to males, recall relatively more caring and warm behaviors but also more dependence-promoting and more controlling behaviors from their parents. Further examinations that take into account additional contextual factors are needed to assess contextual links with these RP trends; parenting norms

have changed over the years, mothers have become increasingly more involved in the working force and therefore spend less time than they previously did with their children (Gatrell, 2012), fathers are taking on greater roles in rearing their children (although mothers still spend approximately twice as much time in childcare as fathers) (Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000), rising divorce rates (Lewis, 2001), and increasing rates of single-parent families (McLanahan, & Percheski, 2008) are a few examples of contextual factors that might provide a path to understanding gender differences in RP.

Effects of Depression and Marital Satisfaction on RP

The robust factor structure of the PBI suggested that it is a valid measure of perceptions of parenting received during adolescence for the wives and husbands in this study. Even so, autobiographical memories are emotionally laden (Howe, 2000; Rubin, 1996; Schacter & Scarry, 2001) and may be influenced by current emotional experiences and relationships with others. The current study examined links between depressive symptoms and marital satisfaction and recall of parenting. Extensive literature examining wives and husbands going through the transition to first-time parenthood, which can be challenging for some individuals and couples, has provided empirical evidence for elevations in depressive symptoms and decreases in marital satisfaction (e.g., Harwood et al. 2007; Kalmuss et al., 1992; Nazarinia et al., 2007). Both depressive mood and marital satisfaction are emotionally laden experiences, as are recollections of early relationships with one's parents while growing up. Moreover, marital satisfaction is a direct assessment of individuals' perceptions of emotionally-laden focal relationships, especially during the transition to parenthood. Therefore, this study examined the emotional and relational effects that the transition to parenthood might have on couples and might underlie a process of

change where early schemas that have been formed regarding emotionally-laden past relationships with parents may be activated and reevaluated.

One of the current study's major innovations was in accounting for interdependence between wives' and husbands' experiences. Married individuals affect each other's feelings, emotions, and behaviors (Kenny et al., 2006). Furthermore, empirical evidence supports the hypothesis that spouses can affect each other's perceptions of others (Deutsch & Mackesy, 1985). Therefore, spouses' depressive symptoms and marital satisfaction were also considered to be possible influences on each other's recall of parents in the current study. Specifically, self-reports of depressive symptoms and marital satisfaction for both spouses were included in models that examined mean differences in wives' and husbands' recall of parental Care, Dependence, and Control.

Actor and partner effects of depression on RP. Depression was found to have significant actor- *and* partner-effects only on the Dependence subscale of the PBI, which represents the degree of dependence-promoting behaviors experienced in relationships with parents during adolescence and can be conceptualized as the degree to which parents enabled them to separate-individuate from their parents at this time in development when young individuals are experiencing increasing need for psychological and behavioral autonomy. Specifically, the current study found that husbands who experienced higher levels of depressive symptoms during the transition to parenthood recalled greater dependence-promoting behaviors from their parents during adolescence. Theory (Gnaulti & Heine, 2001) and empirical research (Lopez & Gover, 1993) suggest that, broadly speaking, adolescent boys, compared to adolescent girls, typically evidence greater independence. The current study was not able to examine the direction of effect of depression on husbands' recall. One possible interpretation in line with

existing empirical evidence (e.g., Parker & Hadzi-Pavlovic, 1992; Sato et al., 1997), is that parent overprotective behaviors during adolescence lead to higher risk for developing depression later in adulthood. Therefore, it may be that parental restrictions put on teenage boys during the process of forming their independence may be associated with elevated depressive symptoms when they transitioned to parenthood. Alternatively, autobiographical memories may be influenced by current emotional symptoms. Studies in the field of memory report that, generally speaking, memories are stored in conjunction with other memories and integrated into complex associative networks (e.g., Levy & Anderson, 2002). Retrieval of consolidated memory may become susceptible to the emotional state during retrieval and be reintegrated and reconsolidated in the new associative context (Forcato, Burgos, Argibay, Molina, Pedreira, & Maldonado, 2007). Put another way, and in the context of the current study, depression could influence recalled dependence-behaviors. Extensive theoretical and empirical literature indicates that memories formed between the ages of 10 and 30 (referred to as the reminiscence hump, a period in the human lifecycle associated with an increase in frequency of recollection; Conway & Pleydell-Pearce, 2000) may be more readily available than memories from other periods due to their close associations with personal goals (e.g., gaining more independence as an adolescent) and their central role in organization of autobiographical knowledge (for a review see Conway & Pleydell-Pearce, 2000). In other words, individuals are spontaneously and constantly retrieving and reconsolidating salient memories and, therefore, may be constantly “updating” their life stories. Reports of RP one-year into parenthood may have been collected in the midst of an ongoing “updating” that was influenced by an individual’s own level of depression, the individual’s emerging experiences as a parent, and the individual’s changing relationships with his or her spouse.

Consistent with this, spouses' depressive symptoms (partner-effect) were also found to be related to individuals' recall of their parents' dependence-promoting behaviors, independent of the individual's own depressive symptoms. As reported earlier, wives and husbands both recalled their mothers as being more Dependence-promoting. However, when individuals' partners experienced higher levels of depressive symptoms individuals recalled their mothers and fathers as equally high on dependence-promoting. This cross-spousal effect is difficult to interpret, but it could be that higher levels of depression in one's partner may change the nature of how one experiences dependency in the current marital relationship, which may extend to recall of autonomy and dependence in relationships with parents, irrespective of gender.

Although an association between individuals' own depressive symptoms and RP cannot tell us whether parenting in the past influences later depression or whether current depression influences recall, the association between spouses' depressive symptoms and RP lends support to the theory that concurrent emotional states can affect RP. Nevertheless, it is possible that having a more dependency-promoting parent during adolescence could be involved in later mate selection.

Actor and partner effects of marital satisfaction on RP. Actor- and partner-effects of marital satisfaction on subscales of the PBI were also found. Marital satisfaction has been conceptualized as a construct that incorporates two separate dimensions of positive and negative evaluations by spouses (Bradbury, Fincham, & Beach, 2000). Expressing satisfaction in a marriage reflects one's more positive and less negative attributions about and behaviors from a spouse while dissatisfaction shows an opposite trend. Feelings of satisfaction expressed by one partner are likely to be reflected in the spouse's report of marital satisfaction. Consistent with

this, wives' and husbands' DAS scores were highly correlated, indicating wife-husband concordance.

The actor-effect found for Care indicated that greater marital satisfaction (i.e., more reports on the positive dimension) was positively associated with a dimension of parenting that represents positively valenced behaviors of warmth and caring. This may provide support in favor of the hypothesis that current relational experiences are associated with perceptions of past relationships. However, as with depression, a causal and directional effect cannot be determined due to study design and an alternative interpretation could be that people with more caring parents go on to have happier marriages.

As with depressive symptoms, though, a partner-effect was found for recall of Dependence. Individuals' partner's levels of marital satisfaction were significantly associated with individuals' recall of parents' dependence-promoting behavior; the more satisfied one's partner was in the marital relationship, the fewer dependence behaviors were recalled by the individual, above and beyond the effects of the individual's own marital satisfaction. As mentioned above, marital satisfaction was highly correlated between spouses. As with depression, it is not clear whether having parents who were not dependency promoting influenced mate selection, or whether having a spouse who was more satisfied in the marriage influenced recall of parents' dependence-promoting. However, the effect of spouses' marital satisfaction on individuals' recall, above and beyond the individuals' satisfaction, again, supported the theory that the current emotional climate of the family affected RP, particularly in the dimension of dependence-promoting.

General Discussion

This study has focused on the transition to first-time parenthood as an emotionally-laden period in development and, therefore, most likely to be sensitive for identifying salient dimensions of recalled parenting, as well as contextual associations with RP. In fact, this study found that a three-dimensional model of RP that distinguished between two types of perceptions of parental Overprotection, Dependence and Control. This distinction during adolescence accounted for gender differences (reporter-gender and recalled-parent gender) and explained relations of spouses' contextual factors (depression and marital satisfaction), their partners' contextual factors, and RP, especially in relation with one factor, Dependence.

First, prior studies using a two-dimensional structure of Care and Overprotection reported associations between depression and a low-care high-overprotection pattern. However, the current study has found no associations of individuals' or spouses' depression with Care or with Control once marital satisfaction was controlled for in the model. Rather, one's feelings of satisfaction in their marriage were closely related to perceptions of caring behaviors, which might be due to stronger links of mood with marital satisfaction during the transition to parenthood, where experiences of strain on the relationship rather than depressive mood are better accounting for recalled experiences of supportive and warm behaviors from parents during adolescence.

Second, Dependence was the only PBI dimension linked with Depression. That is, elevated feelings of depression while becoming a parent were found to be closely related to parental behaviors that do not support or do not promote the adolescent's need for individuation and separation. This might suggest that of the three dimensions of RP, Dependence is a factor more closely linked to the emotional context in which past experiences with parents were consolidated and, therefore, most sensitive to effects of one's mood in adulthood. Successful

separation-individuation has been shown to have links with separating emotional adjustment from one's parents during adolescence (Meeus, Iedema, Maassen, & Engels, 2005). Therefore, emotional aspects of an unsuccessful or disruptive process of separation-individuation during adolescence consolidated in one's memory could have reemerged in the emotional context of the transition to parenthood.

Third, marital satisfaction and recall of parenting are both measures of relationships. Recalling memories of relationships while experiencing salient changes in the marital relationship in the context of a new role of parenting might contribute to previously discussed memory processes of retrieval, integration, and reconsolidation that were mentioned earlier. One study found that marriage has an effect on perceptions of control through decreasing sense of autonomy and freedom (e.g., Ross, 1991), providing further evidence for the current study's findings that experiences of marital dissatisfaction in one's spouse lead to higher recall of Dependence during adolescence.

Aside from associations between marital satisfaction and recall of parental Care (that can be explained through a process of mate-selection), all significant associations of depression and marital satisfaction were found with Dependence. That is, no substantial associations were found for Care and Control during adolescence. It is possible that measuring other aspects of the marital relationship might reflect greater associations with recall of parental controlling behaviors during the transition to parenthood. Since Control represents parental behaviors that limited the adolescent's behaviors, it is possible that aspects of the marital relationship that theoretically capture perceptions of controlling behavior from one's spouse might be associated with Control. It is also possible that Dependence is the only dimension in recall of parenting that is sensitive to current contextual factors, while Care and Control are more stable in nature.

Limitations and Future Directions

The current study attempted to investigate links of concurrent contextual factors during the transition to first-time parenthood on recall of parenting in adolescence. However, several limitations are of note.

First, this study did not examine changes in levels of mood or marital satisfaction across the transition to parenthood at multiple time points. Although studies have shown that most of the changes experienced by parents who transition to first-time parenthood happen by the end of the first year (Belsky & Kelly, 1994), investigation of stability and change in contextual factors across multiple times during this transition could shed further light on aspects that influence wives' and husbands' mood and relationship and their associations with perceptions of past relationships. Future studies should consider integrating a time-dimension into the study design to better investigate how these changes are linked to RP.

Second, the current study utilized a sample that was limited in its nature. All respondents were Caucasian and predominantly middle class. Therefore, this creates a challenge in the generalizability of the findings to other populations that differ on demographic characteristics such as race and socioeconomic status. Future studies need to utilize samples that better represent other cultural and racial groups in and outside the United States to examine whether and to what extent mood and marital satisfaction are linked to recall of parenting during the transition to parenthood. Furthermore, this sample included individuals with frequency of clinical levels of depression that are, although at the lower end of the range, comparable to the frequency reported in the general population, one-year postpartum (in this study 10.2% of women and 13.4% of men reported clinically significant levels of depression on the CES-D,

compared to previous reports; Goodman, 2004; Paulson & Bazemore, 2010). Future studies are encouraged to use sample that have higher representation of individuals with clinical depression.

Third, as discussed earlier, current findings need to be considered in the context of parenting norms when recall of parenting was assessed. In the current study, participants would have been recalling experiences of parenting during the 1980s in the United States. Many changes have been happening over recent decades in parenting practices as well as societal changes that shape adolescents' expectations for separation and individuation while establishing independence. Therefore, effects of contextual factors on perceptions of RP need to be evaluated with cohorts that went through adolescence and transition to parenthood in more recent decades.

Fourth and last, additional contextual factors could be considered in future research that examines recall of parenting. Beyond changes in mood and marital satisfaction during the transition to parenthood, parenting stress and sense of competence in parenting would be salient factors that affect for new parents. Furthermore, the infant's / toddler's characteristics have also been shown to affect the quality of the relationship between parent and child (yet another relationship that can influence reevaluation of past relationships with parents). Related to child characteristics, perceptions of parenting experiences need to be evaluated through a more life-long perspective that characterizes a person's general attitudes, i.e., personality traits. Individuals who, for example, are closer to the analytical/detached pole of the Agreeableness factor of the Big Five or Five-Factor Model (FFM; Digman, 1990; Costa & McCrae, 1992) might perceive normative parental behaviors during adolescence more negatively compared to their peers, therefore consolidate this memory in a stronger negatively-laden emotional context. Similarly, the might perceive spousal need for support or comfort as invasive and controlling, therefore

negatively influencing their perception of current relationship. Therefore, including spouses' personality traits could be a consideration in future studies.

Conclusions

To our knowledge no prior study has simultaneously examined both actor- and partner-effects on RP one-year into the transition to first time parenthood. This study provided a first glimpse at whether and the extent to which a spouse's experience of contextual factors affect an individual's RP. The findings confirmed that beyond the effects of one's own depressed mood and marital satisfaction, one's spouse's depressive symptoms and marital satisfaction was related to the way in which participants recalled their parents' dependency-promoting behaviors during adolescence. This provided support for the idea that RP during a period in time where current relationships are going through changes might provide a different view on how RP interacts with current life circumstances. Researchers have used retrospective recall of parenting behaviors to investigate links between parenting experienced in childhood and outcomes of these children in adulthood. Findings from the current study contributed to existing literature by reporting links between early parent-adolescent experiences on well-being and functioning in adulthood through actor- and partner-effects of depression and marital satisfaction.

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Appendix A: Tables and Figures

Table 1
Summary of Studies Using the PBI (Two or Three) Dimensional Structure

Study	Sample Characteristics	<i>N</i>	PBI Factor Structure Used	Recalled Parent	Findings
Asano et al. (2013)	<ul style="list-style-type: none"> • Japanese sample • Age: 37.1 +/- 11.5 years (range, 22–65 years) 	20 (14 female)	Warmth, Overprotection	Mother and Father	When a patient's maternal overprotection score of the PBI was lower, a better outcome of CBT was expected.
Heider et al. (2005)	<ul style="list-style-type: none"> • 6 EU countries • Adult community sample. Age: 47.3 (16.8) 	8,232 (4,703 female)	Care, Overprotection, Authoritarianism	Mother and Father	<p>The relationship between parental child-rearing styles and mood disorders was mostly homogeneous across the six countries.</p> <p>The PBI dimensions maternal and paternal care had the strongest associations with mood disorders.</p> <p>A significant association of overprotection was observable only for the mother. There was no significant relationship between authoritarianism and the occurrence of mood disorders.</p>

Study	Sample Characteristics	<i>N</i>	PBI Factor Structure Used	Recalled Parent	Findings
Joyce et al. (1984)	<ul style="list-style-type: none"> Age range: 18-65 	58 Bipolar affective disorder patients (33 female)	Care, Overprotection	Mother and Father	<p>No difference was found in reports of parental characteristics between bipolar affective disorder patients and general practice patients.</p> <p>For the female bipolar patients suggests that poor bonding (i.e. low care high protection) relates to an increased number of hospitalizations for both mania and depression.</p>
Kalaitzaki & Birtchell (2013)	<ul style="list-style-type: none"> Greek sample 487 undergraduate students (134m) 287 high school students (94m) <p>Age: ~20</p>	774	Care, Overprotection	Mother and Father	<p>Recall of parenting has an indirect impact on IA, through the mediating role of negative relating to others or sadness in later life.</p> <p>Negative relating to others was found to fully mediate the effect of both the father's optimal parenting and affectionless control on IA, whereas sadness was found to fully mediate the effect of the mother's optimal parenting on IA.</p>
Lai & McBride-Chang (2001)	<ul style="list-style-type: none"> Hong-Kong urban sample of adolescents Age: 15-19 ($M = 16.1$, $SD = 1.6$) 	121 (45 males, 75 females)	Care, Overprotection	Mother and Father	Suicidal ideation was found to be significantly associated with perceived low parental warmth and high maternal overcontrol.

Study	Sample Characteristics	<i>N</i>	PBI Factor Structure Used	Recalled Parent	Findings
Parker & Hadzi-Pavlovic (1992)	<ul style="list-style-type: none"> • Predominantly Caucasian • Community sample 	65 melancholic 84 non-melancholic depressed patients	Care, Overprotection	Mother and Father	<p>Evidence of additive effects with the risk to non-melancholic depression being raised by exposure to 'anomalous parenting' (i.e. low care high protection) from two parents.</p> <p>Low parental care from both parents provided the highest risk to non-melancholic depression (being 4-7 time higher in one sample and 13-27 times higher in the other)</p>
Plantes et al. (1988)	<ul style="list-style-type: none"> • Predominantly Caucasian <p><u>Depressed group</u></p> <ul style="list-style-type: none"> • mean age 38 (range: 20-59) <p><u>Control group</u></p> <ul style="list-style-type: none"> • mean age 32.8 (range: 32-78) 	37 clinical (11 male) 416 control (91 male)	Care, Overprotection	Mother and Father	<p>One third of depressed patients, compared to 62% of the non-psychiatric controls, reported 'optimal bonding' on the PBI from one or both parents.</p> <p>By contrast 62% of depressed and 27% of controls reported exposure to 'affectionless control' from one or both parents.</p>
Sato et al. (1997)	<ul style="list-style-type: none"> • Japanese urban sample • Mean age 39.6 (range: 18-66) 	239 (146 male)	Care, Overprotection	Mother and Father	<p>Subjects with lifetime MDD reported a significantly lower 'maternal care' score than did those without lifetime MDD.</p> <p>Subjects who reported a lower 'maternal care' score were at a significantly higher risk for lifetime MDD.</p>

Study	Sample Characteristics	<i>N</i>	PBI Factor Structure Used	Recalled Parent	Findings
Sato et al. (1997)	<ul style="list-style-type: none"> • Japanese sample • 51 matched controls • Age mean 43.4 	51 depressed (26 female) 51 matched sample controls	Care, Overprotection	Mother and Father	Low care and high protection scores were associated with non-melancholic depression. Subjects exposed to dysfunctional parental styles demonstrated a high risk for non-melancholic depression.
Silove et al. (1991)	<ul style="list-style-type: none"> • Outpatient anxiety program in UK • Diagnosed with Panic Disorder or GAD • Age- and sex-matched controls 	80	Care, Overprotection	Mother and Father	Adverse parental behavior may be relevant to the pathogenesis of GAD, while parental 'affectionate constraint' may be a parental response to early manifestations of Panic Disorder.
Yoshida et al. (2005)	<ul style="list-style-type: none"> • Japanese sample Age: ~40 years	200	Care, Overprotection	Mother and Father	Depressive patients with severe obsessive traits and the OCD patients have similar paternal controlling and interfering rearing attitudes. Lower levels of care were associated with high levels of distress to their caregiver role. Paternal protection scores in the depressive patients with severely obsessive traits and the OCD patients were significantly higher than those in the depressive patients with mildly obsessive traits and healthy volunteers.

Table 2
Factor Models Proposed for the PBI (Ordered by Year Published)

Study	Sample Characteristics	N	Method of Analysis	Factors of Best Fit (No. of Items)	Items in Each Factor
Parker et al. (1979)	<ul style="list-style-type: none"> ◦ Australian adolescents and adults. ◦ Age range: 17-40 (mean 25). 	150 (79 female)	EFA	Care (12) Overprotection (13)	1, 2, 4, 5, 6, 11, 12, 14, 16, 17, 18, 24 3, 7, 8, 9, 10, 13, 15, 19, 20, 21, 22, 23, 25
Cubis et al. (1989)	<ul style="list-style-type: none"> ◦ Australian adolescents. ◦ Age range: 13-17 (mean 15.4). 	2,147 (1,063 female)	PCA	Care (12) Protection—social domain (8) Protection—personal domain (5)	1, 2, 4, 5, 6, 11, 12, 14, 16, 17, 18, 24 3, 7, 9, 15, 20, 21, 22, 25 8, 10, 13, 19, 23
Go´mez-Beneyto et al. (1993)	<ul style="list-style-type: none"> ◦ Spanish first-time mothers. ◦ No age information available. 	205 (all female)	PCA	Affection (11) Overprotection (6) Restraint (6)	1, 2, 4, 5, 6, 11, 12, 14, 17, 18, 23 8, 9, 13, 19, 22, 25 3, 7, 15, 20, 21, 24
Kendler (1996)	<ul style="list-style-type: none"> ◦ US female-female twin families. ◦ Age range: 17-55 (mean 30.1) 	936 female-female twin pairs.	EFA	Care (7) Protectiveness (5) Authoritarianism (4)	1, 4, 5, 11, 12, 17, 18 8, 9, 13, 19, 23 7, 15, 21, 25

Study	Sample Characteristics	<i>N</i>	Method of Analysis	Factors of Best Fit (No. of Items)	Items in Each Factor
Murphy et al. (1997)	◦ Sample 1: US undergraduates (mean age 20.2).	Sample 1: 583 (280 female).	PCA	Care (12)	1, 2, 4, 5, 6, 11, 12, 14, 16, 17, 18, 24
	◦ Sample 2: UK high-school students (mean age 17.7).	Sample 2: 117 (58 female).		Encouragement of behavioral freedom (6)	3, 7, 15, 21, 22, 25
	◦ Sample 3: UK medical school students (mean age 20.5).	Sample 3: 119 (76 female).		Denial of psychological autonomy (6)	8, 9, 13, 19, 20, 23
Narita et al. (1998) ⁺	◦ Japan adults.	418 (221 female)	EFA and CFA	Care (11)	1, 2, 4, 5, 6, 11, 12, 14, 17, 18, 24
	◦ Age range: 18-66 (mean 39.2).			Encouragement of behavioral freedom (6)	3, 7, 15, 21, 22, 25
Mohr et al. (1999)	◦ French families.	486 (283 female)	CFA	Care (12)	1, 2, 4, 5, 6, 11, 12, 14, 16, 17, 18, 24
	◦ Mean age 40 (female), 42 (male).			Encouragement of behavioral freedom (6)	3, 7, 15, 21, 22, 25
				Denial of psychological autonomy (7)	8, 9, 10, 13, 19, 20, 23

Study	Sample Characteristics	<i>N</i>	Method of Analysis	Factors of Best Fit (No. of Items)	Items in Each Factor
Qadir et al. (2005)	<ul style="list-style-type: none"> ◦ Pakistan Women. ◦ Age range: 20-35 (mean not available). 	86	PCA	Care (12) Encouragement of behavioral freedom (8) Denial of psychological autonomy (6)	1, 2, 4, 5, 6, 11, 12, 14, 16, 17, 18, 24 3, 7, 9, 10, 15, 21, 22, 25 7, 8, 13, 19, 20, 23
Uji et al. (2006)	<ul style="list-style-type: none"> ◦ Japanese families. ◦ Mean ages: fathers (44), mothers (41.5), and children (12). 	1,549 families (mother, father, and child)	EFA and CFA	Care (6) Indifference (6) Overprotection (7) Autonomy (6)	1, 5, 6, 11, 12, 17 2, 4, 14, 16, 18, 24 8, 9, 10, 13, 19, 20, 23 3, 7, 15, 21, 22, 25
Liu et al. (2011)	<ul style="list-style-type: none"> ◦ Chinese mothers report on their own parenting. ◦ Age range: 23-48 (mean 31.4). 	1,290 (all female)	EFA and CFA	Care (6) Indifference (6) Overprotection (6) Autonomy (6)	1, 5, 6, 11, 12, 17 2, 4, 14, 16, 18, 24 8, 9, 10, 19, 20, 23 3, 7, 15, 21, 22, 25

Study	Sample Characteristics	N	Method of Analysis	Factors of Best Fit (No. of Items)	Items in Each Factor
Tsaousis et al. (2012)	<ul style="list-style-type: none"> ◦ Greek adults and children. ◦ Adult mean age 21.7 (range unavailable). ◦ Children age range 11-14 (mean 11.9). 	<p>Adults sample: 300 (209 female).</p> <p>Children sample: 400 (216 female).</p>	CFA	<p>Care (7)</p> <p>Protectiveness (5)</p> <p>Authoritarianism (4)</p>	<p>1, 4, 5, 11, 12, 17, 18</p> <p>8, 9, 13, 19, 23</p> <p>7, 15, 21, 25</p>

Note. EFA = exploratory factor analysis; CFA = confirmatory factor analysis; PCA = principal components analysis.

+ Available in Japanese only.

Table 3

EFA Pattern Matrix with 25-items and Oblique Rotation*

Item	Factor		
	1	2	3
1	0.78	0.05	0.10
2	0.73	-0.06	-0.12
3 ⁺	-0.37	0.17	-0.37
4	0.85	0.03	-0.03
5	0.80	-0.06	-0.01
6	0.87	0.18	0.03
7 ⁺	-0.33	0.34	-0.36
8	0.03	0.63	-0.01
9 ⁺	-0.33	0.50	-0.19
10	-0.27	0.52	-0.13
11	0.81	0.03	0.07
12	0.81	0.10	0.05
13	0.20	0.70	0.12
14	0.67	-0.18	-0.08
15 ⁺	-0.28	0.32	-0.46
16	0.61	-0.07	-0.02
17	0.82	0.06	0.03
18	0.81	-0.02	-0.03
19	-0.18	0.69	-0.04
20	-0.18	0.63	-0.08
21	0.09	-0.04	-0.94
22	0.08	-0.03	-0.93
23	0.11	0.61	-0.30
24	0.79	0.00	-0.06
25	0.01	0.03	-0.62

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization. Significant item loadings are in bold face.

* Rotation converged in 7 iterations.

⁺ Items 3, 7, 9, and 15 are highly cross-loading on more than one factor.

Table 4

EFA Pattern Matrix^a with 21-items^b and Oblique Rotation

Item	Factor		
	1	2	3
1	.78	-.04	-.10
2	.72	.07	.11
4	.84	-.02	.01
5	.80	.07	.01
6	.86	-.17	-.03
8	-.01	.62	-.03
10	.29	.48	-.14
11	.81	-.02	-.07
12	.80	-.09	-.06
13	-.17	.70	.11
14	.67	.18	.05
16	.61	.07	.02
17	.81	-.05	-.03
18	.81	-.03	-.02
19	.21	.68	-.06
20	.21	.64	-.10
21	.04	.00	.92
22	.03	.00	.94
23	-.07	.61	-.30
24	.78	.01	.05
25	-.03	-.05	.60

Note. Extraction Method: Principal Axis Factoring. Rotation Method: Oblimin with Kaiser Normalization.

Significant item loadings are in bold face.

a. Rotation converged in 6 iterations.

b. Items 3, 7, 9, and 15 were removed.

Table 5

21-Item EFA - Factor Correlation Matrix

Factor	1	2	3
1	--	-.22	-.24
2		--	.35
3			--

Table 6

Mean PBI Factor Scores by Spouse and Parent

PBI Factor	Spouse	Mother			Father			<i>t</i> -value ^a
		<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>	
Care								
	Wife	157	26.24* ^b	8.26	151	22.81	9.38	4.00***
	Husband	143	28.00* ^b	7.41	133	23.80	9.20	5.711***
Dependence								
	Wife	157	4.73	3.60	151	3.99** ^b	3.46	2.642**
	Husband	143	4.25	3.55	133	2.78** ^b	2.83	4.91***
Control								
	Wife	157	4.17* ^b	2.55	151	4.11*** ^b	2.84	.78
	Husband	143	3.43* ^b	2.44	133	2.92*** ^b	2.32	2.70**

Note. ^a *t*-value and significance for mean differences between spouses' scores of their mothers and fathers.

^b significance for mean differences between wives' and husbands' on same-gender parent factor scores.

* $p < .05$. ** $p < .01$. *** $p < .001$ (2-tailed).

Table 7

Hierarchical Models – Estimation of Fixed Effects for Null Models

PBI Factor	Fixed Effect	β	SE	t-ratio	d.f.	p-value
Care						
	Intercept, γ_{000}	24.85	0.49	50.98	118	< 0.001***
	GS, γ_{010}	0.69	0.45	1.51	117	0.133
	GP, γ_{100}	-2.00	0.32	-6.22	103	< 0.001***
	GP* GS, γ_{110}	-0.16	0.32	-0.51	103	0.609
Dependence						
	Intercept, γ_{000}	4.07	0.20	20.39	118	< 0.001***
	GS, γ_{010}	-0.47	0.18	-2.54	117	0.012*
	GP, γ_{100}	-0.55	0.12	-4.64	103	< 0.001***
	GP* GS, γ_{110}	-0.24	0.12	-2.05	103	0.043*
Control						
	Intercept, γ_{000}	3.65	0.16	23.05	118	< 0.001***
	GS, γ_{010}	-0.55	0.15	-3.68	117	< 0.001***
	GP, γ_{100}	-0.14	0.07	-1.95	103	0.054
	GP*GS, γ_{110}	-0.16	0.07	-2.28	103	0.024*

Note. * $p < .05$. ** $p < .01$. *** $p < .001$ (2-tailed).

Table 8

Descriptive Statistics for CES-D and DAS Scores

Measure	Spouse	<i>N</i>	Minimum	Maximum	<i>M</i>	<i>SD</i>
CES-D						
	Wives	157	0	39	7.74	6.52
	Husbands	142	0	37	6.82	7.59
DAS						
	Wives	157	0	136	107.46	21.00
	Husbands	142	14	137	107.46	17.63

Table 9

Pearson product-moment correlation for CES-D and DAS Scores with RP's Dimensions

Measure	Spouse	1	2	3	4	CARE	DPND	CTRL
CES-D								
1. Wives	--	--	.21*	-.22**	-.15	-.12*	-.01	-.05
2. Husbands	--	--	--	-.34**	-.47**	-.19**	.25**	.01
DAS								
3. Wives	--	--	--	--	.74**	.17**	-.09	-.13*
4. Husbands	--	--	--	--	--	.24**	-.21**	-.12

Note. DPND = Dependence, CTRL = Control.

* $p < .05$. ** $p < .01$. *** $p < .001$ (2-tailed).

Table 10

Likelihood Ratio Test: Parameters for Model Comparison

PBI Factor	Model	Predictor		No. of Estimated		χ^2	<i>d.f.</i>	<i>p</i> -value
		Group	Deviance	Parameters				
Care								
	Null	--	3265.41	7	--	--	--	
	Stage 1	CES-D	3249.75	15	15.66	8	.0474*	
	Stage 2	DAS	3240.17	15	25.23	8	< .01**	
	Final	--	3241.63	11	23.78	4	< .001***	
Dependence								
	Null	--	2396.16	7	--	--	--	
	Stage 1	CES-D	2373.03	15	23.13	8	0.0032**	
	Stage 2	DAS	2379.68	15	16.48	8	0.0359*	
	Final	--	2366.08	15	30.08	8	<.001***	
Control								
	Null	--	2060.30	7	--	--	--	
	Stage 1	CES-D	2054.18	15	6.12	8	0.63	
	Stage 2	DAS	2049.25	15	11.04	8	.12	
	Final ⁺	--	--	--	--	--	--	

Note.⁺ The null model for Auth was retained as the final model.

p* < .05. *p* < .01. ****p* < .001.

Table 11

Care: Estimation of Fixed Effects for the Final Model

Fixed Effect	β	SE	t-ratio	d.f.	p-value
Intercept, γ_{000}	24.82	0.45	54.79	118	< 0.001***
GS, γ_{010}	0.70	0.44	1.58	116	0.116
ACESD, γ_{020}	-0.12	0.07	-1.81	116	0.073
ADAS, γ_{030}	0.097	0.03	3.60	116	< 0.001***
GP slope, γ_{100}	-1.98	0.32	-6.17	100	< 0.001***
GP*GS, γ_{110}	-0.16	0.32	-0.50	100	0.614
GP*ACESD, γ_{120}	-0.01	0.05	-0.19	100	0.852
GP*ADAS, γ_{130}	-0.002	0.02	-0.13	100	0.895

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

Table 12

Dependence: Estimation of Fixed Effects for the Final Model

Fixed Effect	β	SE	t-ratio	d.f.	p-value
Intercept, γ_{000}	4.11	0.19	21.91	118	< 0.001***
GS, γ_{010}	-0.45	0.18	-2.49	113	0.014*
ACESD, γ_{020}	0.02	0.03	0.73	113	0.464
GS*ACESD, γ_{030}	0.059	0.02	2.30	113	0.023*
PCESD, γ_{040}	0.02	0.03	0.75	113	0.452
PDAS, γ_{050}	-0.03	0.01	-2.84	113	0.005**
GP slope, γ_{100}	-0.55	0.12	-4.73	99	< 0.001***
GP*GS, γ_{110}	-0.29	0.13	-2.43	99	0.017*
GP*ACESD, γ_{120}	-0.03	0.02	-1.53	99	0.128
GP*GS*ACESD, γ_{130}	0.01	0.02	0.64	99	0.525
GP*PCESD, γ_{140}	0.046	0.02	2.63	99	0.010**
GP*PDAS, γ_{150}	0.004	0.01	0.55	99	0.580

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

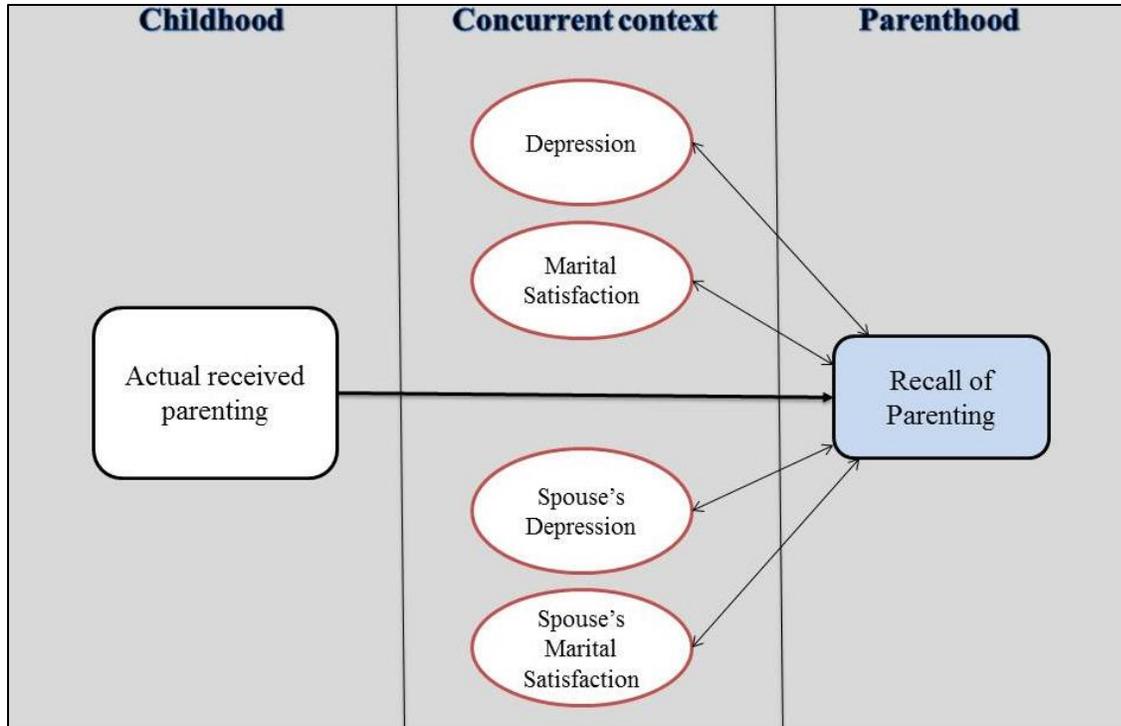


Figure 1. A contextual perspective: RP is the representation of actual parenting experiences in the context of current experiences (i.e., depression and marital satisfaction).

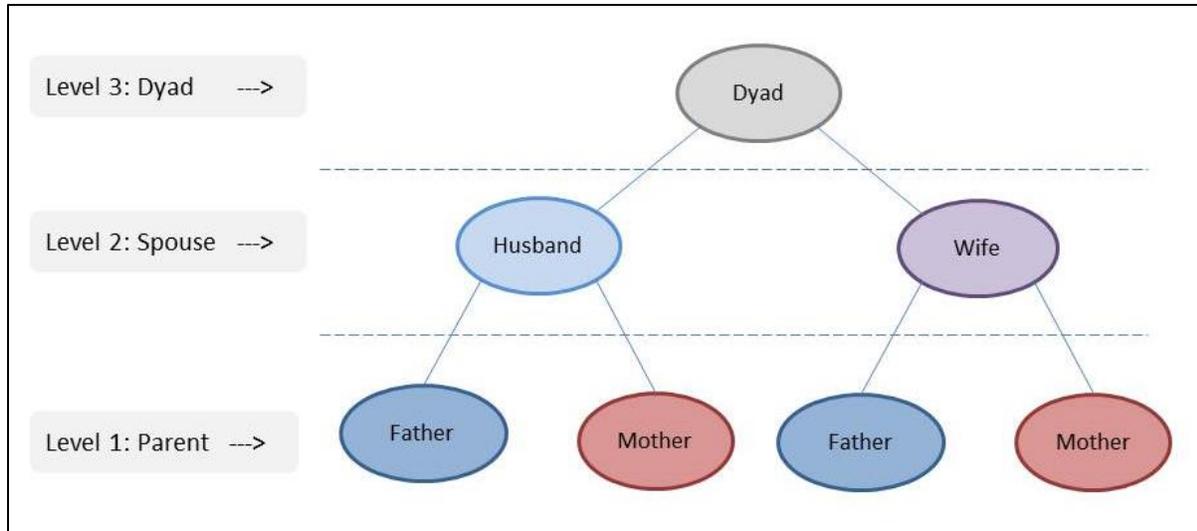


Figure 2. RP's Hierarchical Model

Note. PBI factor scores are the outcome variable in the Parent level.

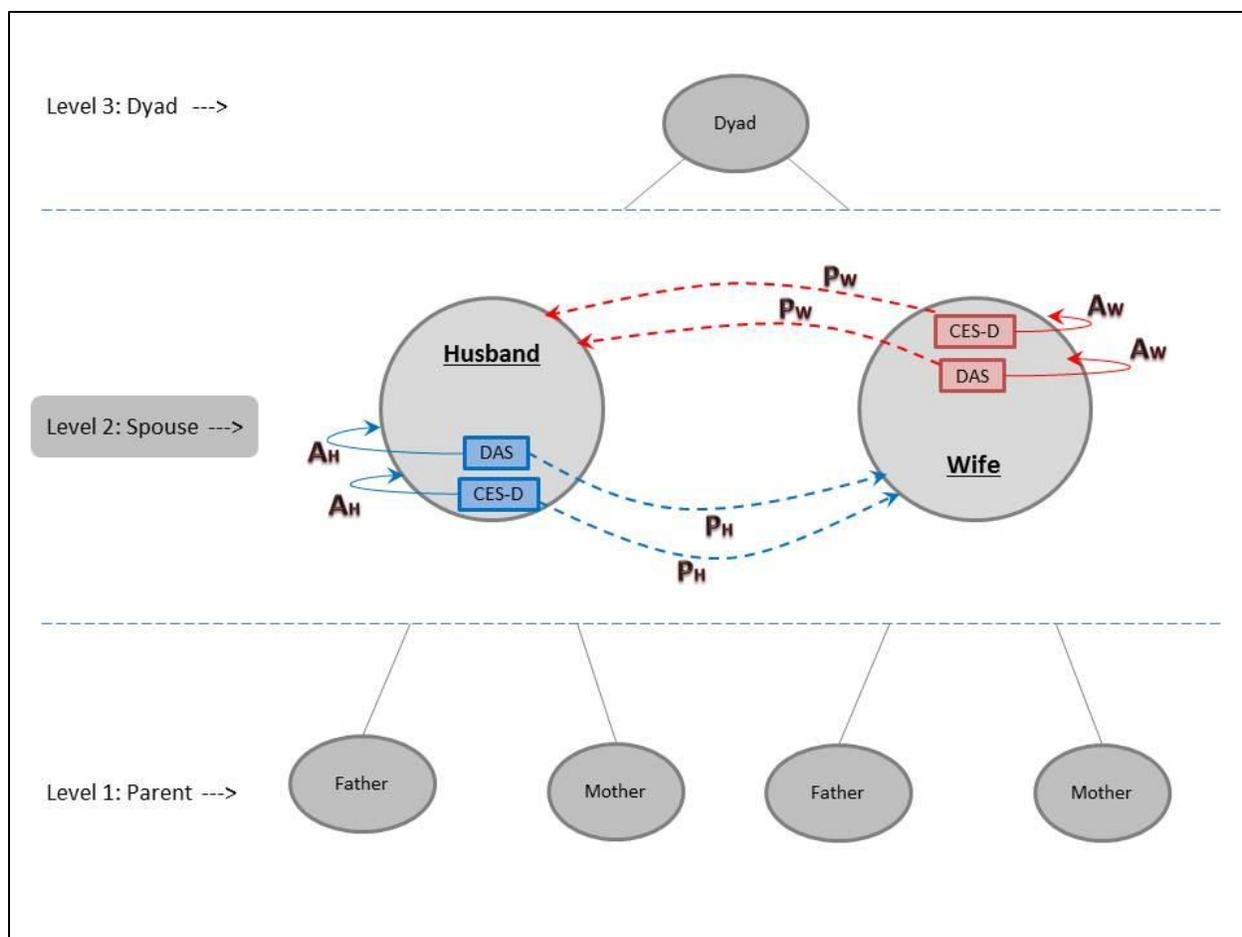


Figure 3. Spouse level Actor and Partner effects of DAS, and CES-D in Level-2.

Note. A_H = husband's actor effect; A_W =wife's actor effect; P_H =husband's partner effect on wife; P_W =wife's partner effect on husband. Solid lines represent Actor effects and dashed lines represent Partner effects.

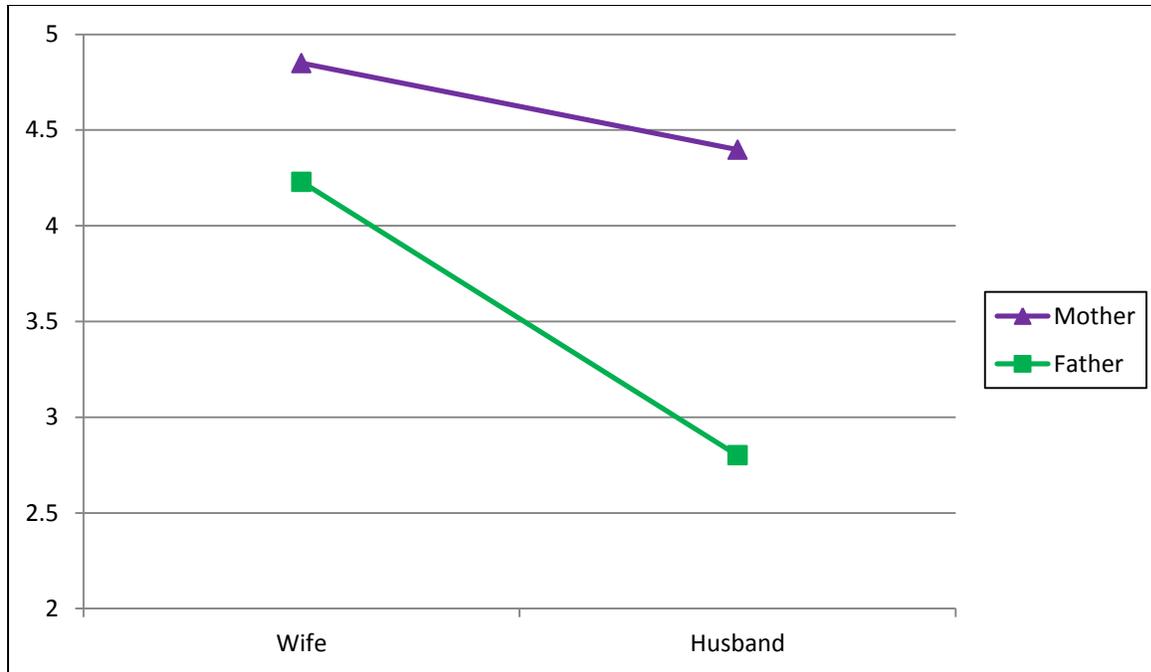


Figure 4. Simple effects plot of GS*GP Interaction term in the Null Model for Dependence.

Note. Two significant differences: (1) husbands' ratings of their mother and father ($\gamma = -.80$, $t(103) = -4.668$, $p < .001$), and (2) father ratings by wives and by husbands ($\gamma = -.71$, $t(117) = -3.207$, $p < .01$).

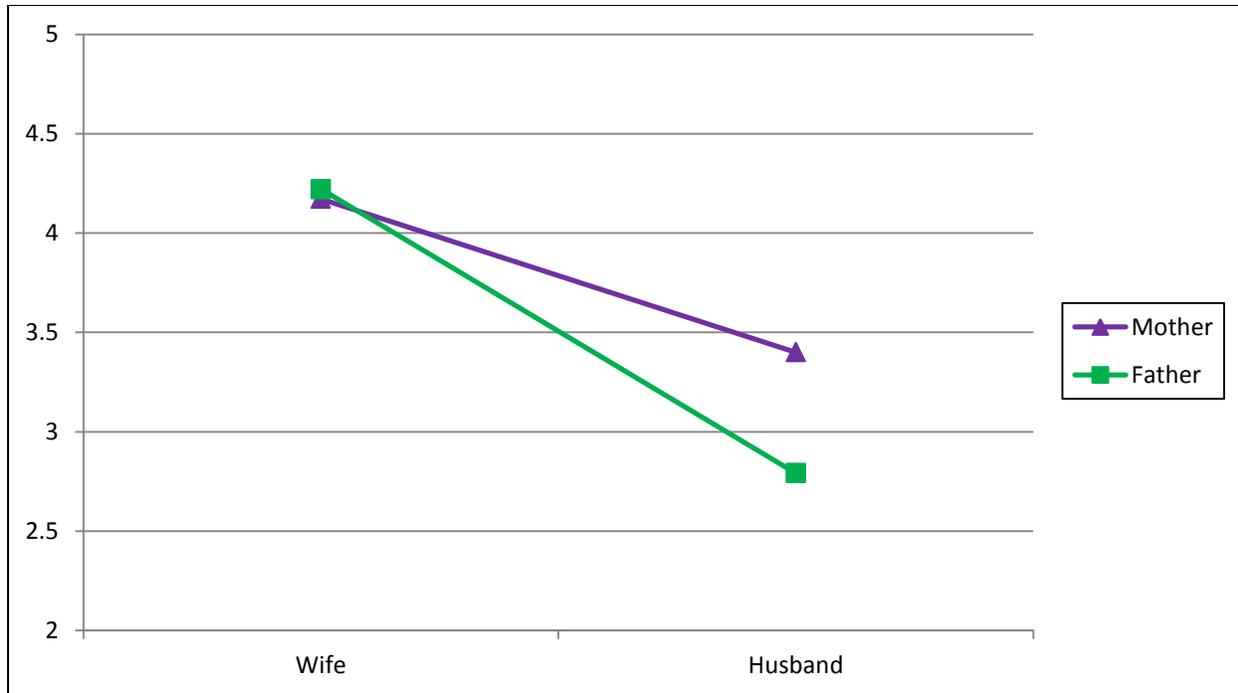


Figure 5. Simple effects plot of GS*GP Interaction term in the Null Model for Control.

Note. Three significant differences: (1) husbands' ratings of their mother and father ($\gamma = -.30$, $t(103) = 2.950$, $p < .01$), (2) mother ratings by wives and by husbands ($\gamma = -.38$, $t(117) = -2.338$, $p < .05$), and (3) father ratings by wives and by husbands ($\gamma = -.71$, $t(117) = -4.273$, $p < .001$).

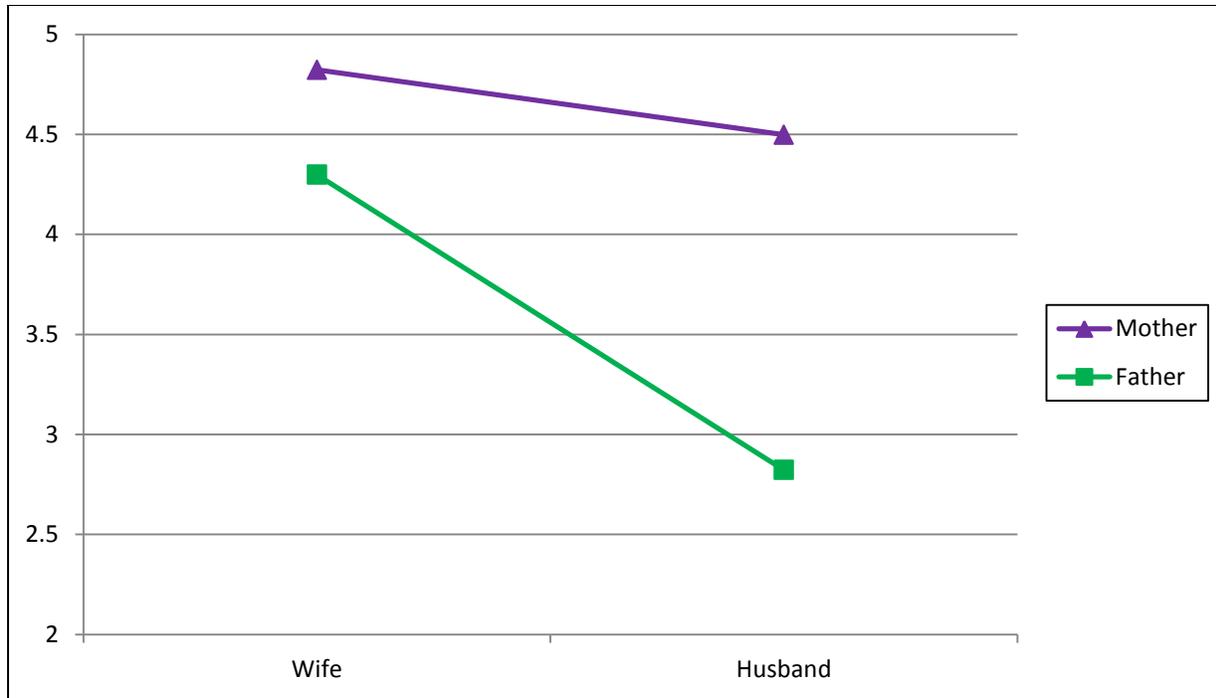


Figure 6. Simple effects plot of GS*GP Interaction term in the Final Model for Dependence.

Note. Two significant differences: (1) husbands' RP ratings of their mother and father ($\gamma = -.84$, $t(114) = -4.989$, $p < .001$), and (2) fathers' ratings by wives and by husbands ($\gamma = -.74$, $t(114) = -3.376$, $p = .001$).

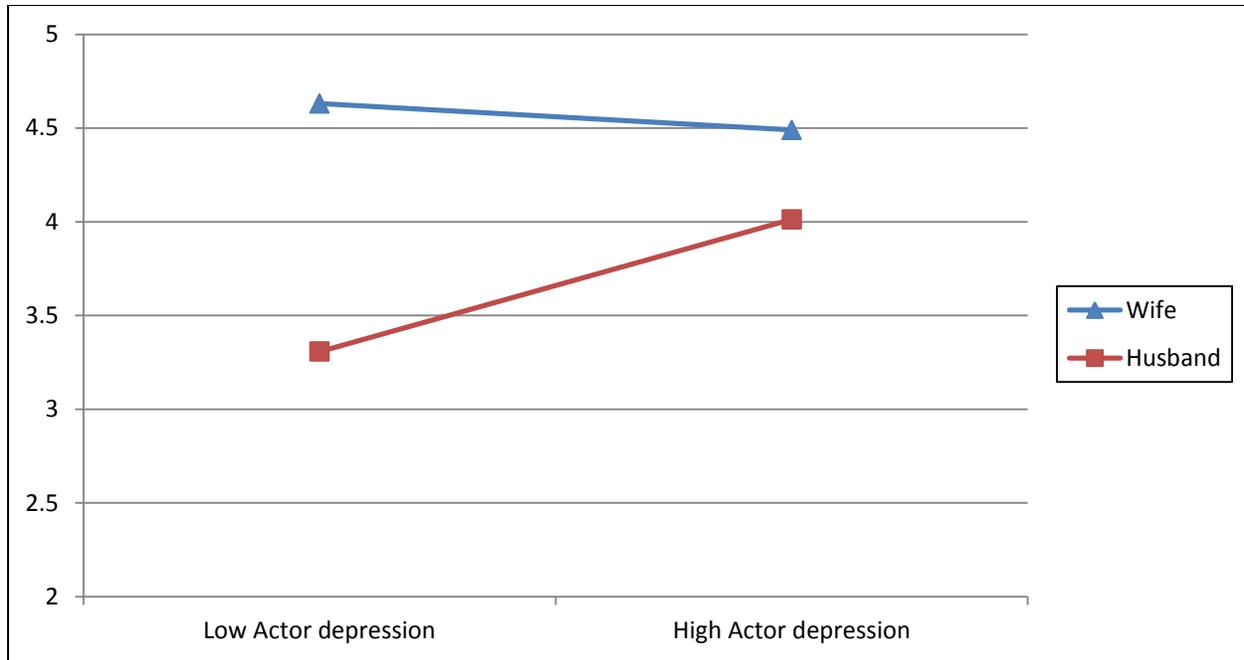


Figure 7. Simple effects plot of GS*ACESD Interaction term in the Final Model for Dependence.

Note. Two significant differences: (1) RP ratings by husbands and wives at Low ACESD scores (Low-ACESD: $\gamma = -.868$, $t(114) = -3.356$, $p < .001$), and (2) husbands' ratings at Low- and High-ACESD scores ($\gamma = .078$, $t(114) = 2.314$, $p < .05$).

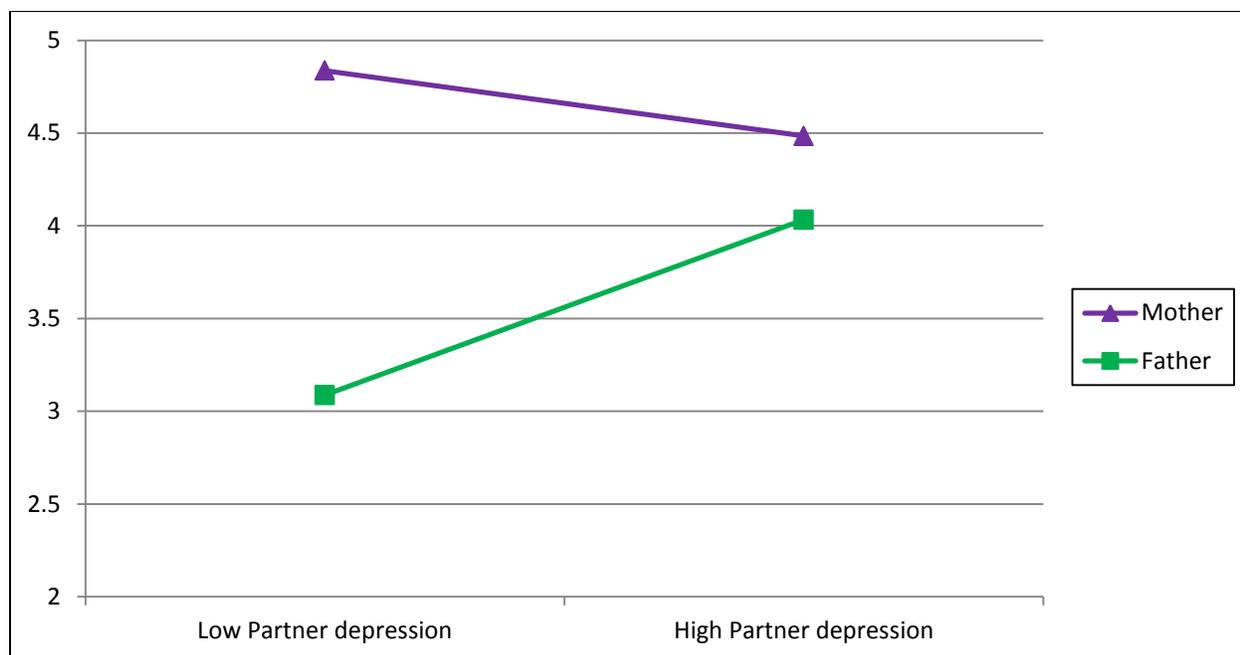


Figure 8. Simple effects plot of GP*PCESD Interaction term in the Final Model for Dependence.

Note. Two significant differences: (1) RP ratings of mothers and fathers at Low PCESD scores (Low-PCESD: $\gamma = -.88$, $t(98) = -5.129$, $p < .001$) and (2) fathers' RP ratings at low- and high-PCESD scores ($\gamma = .067$, $t(114) = 2.030$, $p < .05$).

Appendix B: The Parental Bonding Instrument (PBI)

This questionnaire lists various attitudes and behaviors of parents. Answer these questions as you remember your MOTHER/FATHER when you were 13-18 years old. Place a tick in the most appropriate box next to each question.

PBI Item	(Score):	Very like (0)	Moderately like (1)	Moderately unlike (2)	Very unlike (3)
1. Spoke to me in a warm and friendly voice ⁺					
2. Did not help me as much as I needed					
3. Let me do those things I liked doing					
4. Seemed emotionally cold to me					
5. Appeared to understand my problems and worries ⁺					
6. Was affectionate to me ⁺					
7. Liked me to make my own decisions					
8. Did not want me to grow up ⁺					
9. Tried to control everything I did ⁺					
10. Invaded my privacy ⁺					
11. Enjoyed talking things over with me					
12. Frequently smiled at me ⁺					
13. Tended to baby me ⁺					
14. Did not seem to understand what I needed or wanted					
15. Let me decide things for myself					
16. Made me feel I wasn't wanted					
17. Could make me feel better when I was upset ⁺					
18. Did not talk with me very much					
19. Tried to make me feel dependent on her/him ⁺					
20. Felt I could not look after myself unless she/he was around ⁺					
21. Gave me as much freedom as I wanted					
22. Let me go out as often as I wanted					
23. Was overprotective of me ⁺					
24. Did not praise me					
25. Let me dress in any way I pleased					

Note. ⁺ Item was reverse coded