

The Role of Generativity in Psychological Well-Being: Does it Differ for Childless Adults and Parents?

Tanja Rothrauff · Teresa M. Cooney

Published online: 11 October 2008
© Springer Science+Business Media, LLC 2008

Abstract Given that parenthood is considered a central adult status with developmental implications, and an increasing number of adults are childless, we assessed whether adult development is structured differently for parents and non-parents. This study's main goal was to assess and compare the connection between generativity development—a key task of middle adulthood—and psychological well-being for childless adults ($N = 289$) and parents ($N = 2,218$), ages 35–74, using the 1995 MIDUS dataset. We also examined differences in these associations for women and men by parental status, because childlessness is often assumed to be more critical for females' than males' development. Structural equation modeling indicated a positive association between generativity and psychological well-being. Differences in this association for parents and childless adults were not evident, nor were there significant differences for childless women and mothers, and childless men and fathers. Implications of these findings are discussed.

Keywords Childless adults · Generativity · Parents · Psychological well-being

An increasing number of adults today have never experienced parenthood for a variety of reasons (e.g., by choice, infertility), resulting in greater life course diversity. In 1985, 11% of American women between the ages of 40 and 44 years did not have children; by 2004, the number of childless women in that age category had almost doubled (19%; Dye 2005). Despite the increased percentage of older childless adults, parenthood is still considered the norm and a central adult status with significant developmental implications. In particular, psychological well-being, an important indicator of adult development, is often linked to parenthood (McAdams 2001; McMullin and Marshall 1996). Generativity, which is the psychological need to care for and give back to the next generation, is also commonly considered in relation to parenthood (McAdams and de St. Aubin 1992). Yet, empirical findings regarding the association between psychological well-being and generativity development, based on parental status, are mixed (An and Cooney 2006; Beckman and Houser 1982; Koropecykj-Cox 2002; McAdams and de St. Aubin 1992). Additionally, little is known about the influence of generativity on multiple dimensions of psychological well-being and how its role may differ in the development of older childless adults and parents.

Framed by Erikson's (1963) psychosocial theory, this study examines and compares the association between generativity and psychological well-being for mid- to late-life childless adults and parents. Generativity is of primary interest because of its theorized importance for development in middle adulthood, association with parenthood, and link to adult well-being. We conceptualize psychological well-being as multidimensional, employing Ryff's (1989) six, widely used, theoretically based domains of psychological functioning. In addition, because early childhood experiences lay the foundation for life course

An earlier version of this paper was presented at the 2007 Annual Meetings of the National Council on Family Relations, Pittsburgh, PA.

T. Rothrauff (✉) · T. M. Cooney
Department of Human Development and Family Studies,
University of Missouri, 314 Gentry Hall, Columbia,
MO 65211, USA
e-mail: tcrp6d@mizzou.edu

development and progression through the developmental stages proposed by Erikson, we consider early family experiences as a potential influence on both generativity processes at midlife and psychological well-being. Finally, we examine whether parental status differences in the connection between generativity and well-being are stronger for females than males, based on the common view that parenthood is more critical for women's than men's development (Braverman 1989; Nakano Glenn 1994).

Adult Psychological Well-Being, Generativity, and Early Parental Influences

Adult Psychological Well-Being

Psychological well-being is widely considered in relation to middle-aged and older adults' parental status. Having and raising children are thought to promote personal growth, maturity, and adaptation (Azar 2002; Morgan and Berkowitz King 2001). Parenting may also provide benefits in the form of emotional, physical, and social support, which adult children are likely to give to parents in late life (Merrill 1997). Such exchanges predict greater psychological well-being for parents (McMullin and Marshall 1996). Numerous other practical and emotional long-term benefits of parenthood are also noted, such as achieving a sense of immortality, passing on one's genes, enhancing one's purpose in life, and giving back to the next generation (Astone et al. 1999; Edin and Kefalas 2005; Erikson 1985).

Although, historically, parenthood has been described as a transition experienced by most adults (Erikson 1963; Gould 1978; Levinson 1978) and a rite of passage into adulthood (LeMasters 1957), recent scholarship adopts a more diverse view of adult development. That is, human development today is generally conceptualized as multidirectional, plastic, and guided by human agency, albeit bound by various personal, historical, and social constraints (Baltes 1987; Elder 1998). Consistent with this view, parenthood is now viewed as only one way to experience growth, maturity, and well-being in adulthood (Azar 2002).

Still, recent research on perceptions of adult development, based on parental status, reveals that childless adults are widely regarded as lonelier, less happy and well-adjusted, and more likely to suffer from psychological disorders than parents (LaMastro 2001; Park 2002). Childless women, especially, are seen by others as deviant and dysfunctional, and typically labeled selfish, immature, unfulfilled, and lonely (Gillespie 2003; Letherby 2002; Park 2002). Such findings are interesting given the high prevalence of non-parenthood status today and growing acceptance of childlessness, particularly among younger adults (Koropecj-Cox and Pendell 2007; Thornton and

Young-DeMarco 2001). Indeed, young adults today no longer view parenthood as an important marker of adult status (Arnett 1997). Thus, despite changing attitudes and roles, perceptions of childless adults still paint a bleak picture of their well-being.

Nonetheless, empirical findings on psychological well-being for parents and childless adults are mixed (Connidis and McMullin 1993; Jeffries and Konnert 2002). Some researchers report similar levels of psychological well-being for parents and non-parents (Koropecj-Cox 1998; McMullin and Marshall 1996; Zhang and Hayward 2001); others note lower well-being for childless adults (Beckman and Houser 1982; Kandel et al. 1985). One explanation for the conflicting findings may be the use of different indicators of well-being. Moreover, researchers' comparisons differ; some limit consideration to sex differences for non-parents, while others test differences for parents and non-parents, but only for one sex. For example, Kandel et al. noted that mothers compared to childless women were less depressed. In contrast, Zhang and Hayward made comparisons by sex, but only among childless adults. They observed that men compared to women were disadvantaged in terms of greater depression and loneliness. Koropecj-Cox's analysis expanded the comparisons drawn, but still limited the focus to depression and loneliness and found that childless women and childless men were not significantly different when compared to their parental counterparts. Finally, Jeffries and Konnert conducted a broader assessment of well-being using Ryff's (1989) six dimensions of psychological well-being, but looked only at females. They found that mothers and voluntarily childless women reported similar well-being.

This study uses a multidimensional approach to assessing psychological well-being that encompasses six domains of psychosocial development (Ryff 1989). We examine the structure of well-being as it may differ by parental status, as well as distinctions for parents and non-parents by sex. Attention to this last issue is important because parenthood is often viewed as more critical for women's than men's development (Braverman 1989; Nakano Glenn 1994). Additionally, only a few studies have considered the significance of parenthood for men's development (Hawkins and Dollahite 1997; Palkovitz 2002; Snarey 1993), making it even more urgent to compare developmental outcomes for childless men and fathers. Most importantly, because generativity is a central aspect of adult midlife development and tends to be linked to parental status, we compare its role in the well-being of childless adults and parents.

Generativity Development

Erikson's (1963) psychosocial theory introduced eight stages of development across the lifespan. Each stage

builds on the previous stage and encompasses a crisis requiring resolution for optimal development to occur; however, individuals can revisit and resolve various stages over their lifespan. We first focus on the seventh developmental stage (“generativity versus stagnation”) and then the first stage (“basic trust versus mistrust” as it relates to early parental influences on later development) to examine psychological well-being for parents and childless adults.

Erikson viewed generativity, which primarily involves concern and care for others, as the critical developmental task of midlife. Though he noted that parenthood is neither necessary nor sufficient for achieving generativity, much research posits that parenthood is central in promoting the development of generativity (Snarey et al. 1987; Vaillant and Milofsky 1980). Empirical support for this view comes from work by McAdams and de St. Aubin (1992), based on adults between the ages of 19 and 68 years. In their study, parents scored higher than childless adults on the Loyola Generativity Scale (LGS), a measure that captures adults’ concerns with contributing to society and passing on knowledge to others in general—not just one’s own children. Furthermore, differences for childless adults and parents were particularly pronounced among men in their sample, with fathers scoring significantly higher on generativity than childless men. It is also important to point out that although Erikson (1963) noted that generativity tends to be positively associated with age, the correlation was not significant in McAdams and de St. Aubin’s study for the full sample but positively correlated for men. The current study focuses more narrowly on adults in mid- and late-life to gain a better understanding of generativity development for parents and non-parents, and controls for age in the analyses.

A few studies are more consistent with Erikson’s (1978) supposition that parenting is only one way to achieve generativity. Empirical findings reported by An and Cooney (2006) and others (Kotre 1996; McAdams and de St. Aubin 1992; Rossi 2001) support this claim. Several studies show that childless individuals often engage in generativity-promoting experiences, such as participation in the lives of children (e.g., nephews, nieces), care for kin (e.g., aging parents), working in fields such as nursing and teaching, and mentoring and volunteering (Allen 1989; Milardo 2005; Rubinstein 1996). These experiences may have positive benefits for both generativity development and overall psychological functioning. However, research has not yet compared the value of non-parental generative experiences for parents and non-parents.

Moreover, the connection between various components of generativity and well-being has received limited attention. In one study, based on a parent sample drawn from the MIDUS study, An and Cooney (2006) found that the strongest predictors of well-being were actually generative experiences and feelings pertaining to *non-familial*

situations, such as community and civic engagement. Parenting experiences were positively associated with well-being, though less directly than non-familial generative situations. Their study thus begs the question of whether the generativity–well-being link operates similarly and as strongly for non-parents as for parents. Hence, of central interest in this study is generativity development for mid-life and older adults, and its role in predicting overall well-being for parents and non-parents.

Early Parental Influences on Later Development

Erikson’s psychosocial theory and the life course perspective suggest that early life experiences shape and partly set the course for subsequent developmental outcomes (Elder 1998; Elder et al. 2003; Hareven 1991), including generativity development and psychological well-being (Erikson 1985). Early parental influences may directly affect adult well-being, as well as indirectly contribute to it via their impact on adult generativity. According to Erikson, in early life infants develop a basic trust or mistrust in the world through interactions with their primary caregivers, generally their parents. Those whose parents display affection, empathy, and responsiveness tend to deal successfully with this first stage and move into the next developmental stage. Erikson argued that the trust formed during these early years is critical for generativity development because to become a giving person one’s needs have to be adequately met early in life. Thus, supportive childhood experiences and relations with parents are the foundation for positive adult development and well-being (Belsky 1997; Rossi and Rossi 1990).

In addition, direct links may exist between early childhood experiences with parents and adult well-being. Several retrospective studies of problematic adult outcomes, such as depression and other psychological disorders, show that memories of unfavorable, negative interactions with parents in childhood play a significant contributing role (Kessler et al. 1997; Shaw et al. 2004; Whitbeck et al. 1992). Even prospective studies reveal that supportive and affectionate parenting in the early years predicts aspects of adult well-being up to three decades later (Franz et al. 1991). Therefore, this study considers the developmental impact of recalling emotionally warm parents who were generous with others and had positive interactions with their children and non-family members.

Whether these direct, significant connections between early family experiences and adult well-being are maintained once generativity formation—the critical task of adulthood—is considered is an important question. An and Cooney’s (2006) analysis with mid- to late-life parents found that early parental experiences directly influenced adult well-being, but their effects were weaker than those

of adult experiences—both interactions and experiences with offspring and involvement in non-familial generative experiences. In essence, their findings suggested that the negative implications of unfavorable early experiences could be attenuated in adulthood by generative experiences with either offspring or others in community activities and settings. Given the demonstrated impact of early experiences on adult well-being, an important question in this study is whether the influence of early family experiences differs for non-parents, because this group does not have the opportunity to rework critical early relational experiences with their own offspring in adulthood.

To summarize, this study examines the association between psychological well-being and generativity, as well as memories of early parental influences, for midlife and older adults. The central focus is the role of generativity in well-being for parents and childless adults. Sex differences by parental status in these associations are also of concern. The following research questions are addressed: (1) Is the association between generativity and psychological well-being similar for parents and childless adults? (2) Is the association between recalled parental attributes and psychological well-being similar for parents and childless adults? (3) Is the association between recalled parental attributes and generativity similar for parents and childless adults? (4) Does generativity mediate the relationship between recalled parental attributes and psychological well-being similarly for parents and childless adults? (5) Are the structures of these various associations similar for childless women and mothers, as well as for childless men and fathers?

Method

Data

This study used data from the 1995 National Survey of Midlife Development in the United States (MIDUS), which addressed psychological well-being, social responsibility, and physical health in midlife. The MIDUS sample ($N = 4,242$) was obtained via random digit dialing and is representative of the English-speaking, non-institutionalized U.S. adult population between the ages of 25 and 74. To assure a representative sample, older adults and males were oversampled. MIDUS respondents first completed a 40-min telephone interview (70% response rate) and then a self-administered mail-back questionnaire (87% response rate). Sample weights were created for non-response and selection design, which allows matching of the U.S. population by age, education, sex, and race. Unweighted data are used in this study because previous multivariate work with MIDUS has found no differences

in results between weighted and unweighted data (Keyes and Ryff 1998).

Sample

A subsample of 2,507 adults between the ages of 35 and 74 was used because of our focus on generativity, a developmental issue that becomes salient in midlife and later. MIDUS participants who had completed the phone interview and the sections of the self-administered questionnaire of interest in this study were divided into two groups: (1) childless adults: those who did not have biological, adopted, or step-children ($n = 289$); and (2) parents: those who had biological, adopted, or step-children ($n = 2,218$). Childless adults and parents differed in terms of sex, age, education, and income (Table 1). Childless adults were younger, more educated, and earned higher incomes than parents; this group was also over-represented by males. Thus, in the

Table 1 Demographic characteristics of childless adults ($N = 289$) and parents ($N = 2,218$)

Characteristic	Childless adults <i>F</i> (%)	Parents <i>F</i> (%)	χ^2
Respondent sex			5.35*
Male	168 (58)	129 (51)	
Female	121 (42)	1089 (49)	
Age			41.25***
35–44	134 (46)	643 (29)	
45–54	85 (30)	700 (32)	
55–64	47 (16)	557 (25)	
65+	23 (8)	318 (14)	
Terminal education			42.05***
< High school	17 (6)	209 (9)	
High school/GED	52 (18)	679 (31)	
Some college	61 (21)	483 (22)	
Associate degree	25 (9)	164 (7)	
Bachelor degree	73 (25)	432 (20)	
Graduate degree	61 (21)	251 (11)	
Race			11.15
Non-Hispanic White	253 (88)	1980 (89)	
African American	14 (5)	113 (5)	
Asian American	6 (2)	17 (1)	
Other	16 (5)	108 (5)	
Income			24.71***
\$0–\$9,999	70 (25)	719 (34)	
\$10,000–\$19,999	24 (9)	310 (15)	
\$20,000–\$29,999	50 (18)	286 (13)	
\$30,000–\$39,999	50 (18)	256 (12)	
\$40,000–\$49,999	31 (11)	184 (9)	
\$50,000+	53 (19)	353 (17)	

* $p < .05$; *** $p < .001$

subsequent structural modeling, age, education, and income are controlled. [Please note that a mean imputation was used to fill in missing income values. Additional analyses showed that there were no differences in any of the results with the imputed income variable compared to the income variable with missing values.] There was no difference in health reports between childless adults and parents, $t(2505) = .18$, $p = .86$ ($M = 7.37$, $SD = 1.55$ and $M = 7.35$, $SD = 1.67$, respectively). However, given the demonstrated connection between health and well-being (Brief et al. 1993), health is also controlled for in the structural models.

Psychological Well-Being

Respondents rated themselves on Ryff's (1989) widely used, shortened psychological well-being scale, which contained three items in each of six domains: positive attitudes toward others (i.e., establishing and maintaining quality relationships with others), self-acceptance (i.e., evaluating the present and past self in a positive light), autonomy (i.e., governing one's life), personal growth (i.e., developing the self), environmental mastery (i.e., controlling and managing one's life), and purpose in life (i.e., evaluating one's life in a meaningful way). Responses range from 1 = *strongly agree* to 7 = *strongly disagree*. Items were reverse coded and each scale summed so that higher scores indicate greater psychological well-being. Coefficient alphas ranged from .41 to .69 for childless adults and .37 to .64 for parents, which are considered adequate when such limited numbers of items are used for each scale.

Generativity

Five scales were used to assess various types of generativity: the LGS, and multi-item scales assessing civic obligation, work obligation, altruism, and involvement in the community. The 6-item LGS (each item scored on a 1 = *a lot* to 4 = *not at all* scale) primarily evaluates individuals' perceptions of their contribution to society, giving back to the next generation, and passing on knowledge and skills to others—independent of parental status (McAdams and de St. Aubin 1992). All LGS items were reverse-coded and summed so that higher scores reflect greater generativity. Civic obligation, work obligation, and altruism in hypothetical situations were assessed using three scales from Rossi's (2001) research. Each scale included four items scored 0 = *no obligation at all*, to 10 = *very great obligation*. A 5-item scale assessed respondents' involvement in the community (scored 0 = *worst possible contribution* to 10 = *best possible contribution*) including current, past, and possible future contributions to the well-being of others and perceived sense of control over those

contributions. Coefficient alphas ranged from .70 to .86 for childless adults and .71 to .87 for parents.

Recalled Parental Attributes Prior to Adulthood

Scales were created for parental relations and parental generosity prior to adulthood. Participants responded to retrospective questions about their parents that did not specify a target period while growing up. Similar to An and Cooney (2006), we thus refer to these scales as *recalled parental attributes prior to adulthood*. Parental affection was assessed in two steps. Respondents first recalled and rated the relationship they had with each parent prior to adulthood (1 = *excellent*, 5 = *poor*); then, six items (Rossi 2001) assessed maternal and paternal affection prior to adulthood (1 = *a lot*, 4 = *not at all*). All seven items were reverse-coded so that higher scores indicate stronger relationship attributes. They were summed to create both the maternal and paternal relations scale (Note: Item 1 was multiplied by .75 factorial to maintain continuity within the scale.) Coefficient alphas for parental relations ranged from .89 to .92 for childless adults and .91 to .93 for parents. Parental generosity was assessed for mothers and fathers with two items (1 = *a lot*, 4 = *not at all*; Rossi). Both items were reverse-coded and summed so that higher scores indicate more of the attribute. Coefficient alpha for parental generosity ranged from .74 to .86 for childless adults and .82 to .88 for parents.

Data Analyses

Descriptive analyses were performed for all variables using SAS 9.1. Mean imputation, a commonly used method in the social sciences (Allison 2001), was used to impute a participant's missing values if at least 50% of the items for each scale were available. Bivariate correlation analyses were run to assess intercorrelations among the observed variables, which indicated small to moderate positive correlations and no signs of multicollinearity problems. A series of iterated factor analyses using promax rotation were conducted to examine the latent factors in the data; all of the variables, with the exception of psychological well-being, loaded in accordance with the scales constructed by MIDUS. Ryff's (1989) psychological well-being scale, which is widely used and accepted, is based on theoretically derived constructs; thus, we maintained the proposed six psychological well-being dimensions, as Ryff and others have done (Jeffries and Konnert 2002).

Structural equation modeling (SEM) using AMOS 7.0 was performed in sequential steps to examine the associations between generativity, adult psychological well-being, and recalled parental attributes prior to adulthood. Further, we evaluated possible mediation effects of

generativity on psychological well-being, and we used multiple-group comparisons to assess differences in the paths between the latent variables for childless adults and parents, both for the full sample, and then separately for women and men by parental status.

SEM Measurement Model

The measurement model was developed to test how constructs in the hypothesized model correspond to each other prior to the development and evaluation of the structural model. All latent variable variances were fixed at 1.00 (Loehlin 2004). Based on the evaluation of the fit indices and theoretical considerations, correlations were drawn between error variances of maternal and paternal generosity, the LGS and community involvement, and self-acceptance and environmental mastery, to achieve an acceptable fit. Although the measurement model showed a significant chi-square test ($\chi^2 = 1241.4, df = 84, p = .00$), other goodness of fit indices suggested an acceptable fit (GFI = .94, RMSEA = .07).

Results

Structural Model

The structural model was developed from the hypothesized measurement model to assess the magnitude of the associations between the latent variables (Fig. 1). Although the structural model showed a significant chi-square test ($\chi^2 = 562.2, df = 79, p = .00$), other goodness of fit

indices suggested a good fit to the data (GFI = .97, RMSEA = .05). Based on the full data set (i.e., parents and childless adults combined), generativity was significantly associated with adult psychological well-being ($\beta = .49, p < .001$), and recalled parental attributes prior to adulthood also had a significant (though weaker) positive direct effect on well-being ($\beta = .29, p < .001$) and generativity ($\beta = .27, p < .001$). In short, greater generativity was associated with higher psychological well-being, and more positive recalled parental attributes were associated with both greater generativity and psychological well-being.

Testing for Group Differences

Multiple group comparison models were developed using AMOS to test invariance in the paths among the latent variables for (a) childless adults and parents, (b) childless women and mothers, and (c) childless men and fathers. Model 1, the unconstrained model, assumed that all latent paths are different between the comparison groups. Model 2, the constrained model, assumed that all latent paths are similar between the comparison groups. When results indicated that the unconstrained model fit significantly better than did the constrained model (i.e., group differences), further analyses were conducted to determine the path(s) that contributed to the group differences. Convergence criteria were met for all models.

Differences for Childless Adults and Parents

Results showed that the constrained model fit significantly better than did the unconstrained model ($p > .05$),

Fig. 1 Structural relationships between latent variables of recalled parental attributes, generativity, and psychological well-being. Control variables of age, education, income, and health were added but are not shown here

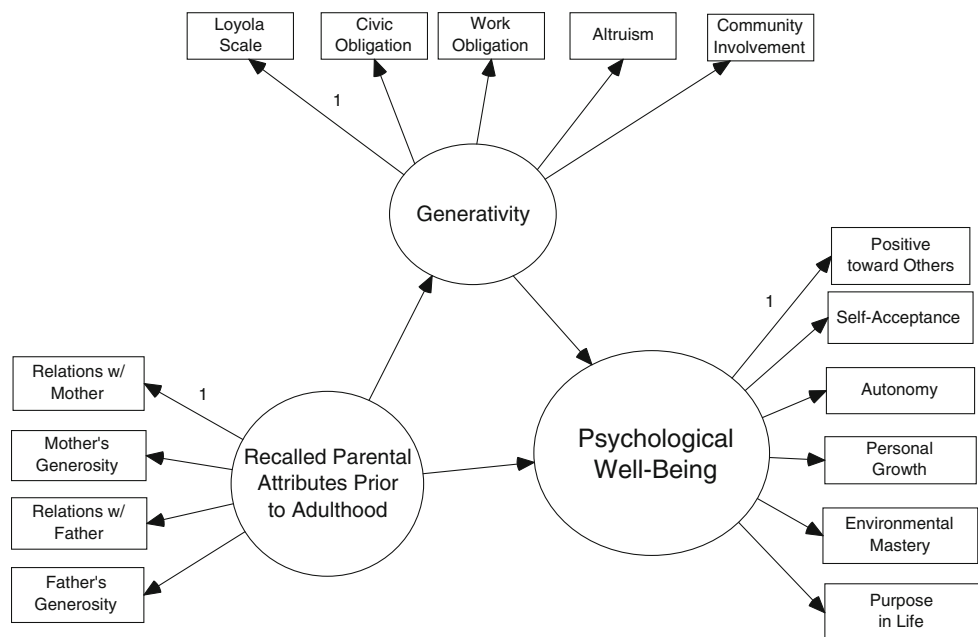


Table 2 Structural equation modeling: testing for group differences

Group comparison	Unconstrained model				Constrained model				<i>df</i>
	Model 1				Model 2				
	Childless		Parents		Childless		Parents		
	<i>B</i>	β	<i>B</i>	β	<i>B</i>	β	<i>B</i>	β	
Childless adults (<i>N</i> = 289) and parents (<i>N</i> = 2,218)									3 ^a
RPA–Generativity	.26***	.28	.19***	.24	.19***	.22	.19***	.25	
Generativity–PWB	.45***	.45	.43***	.42	.43***	.49	.43***	.42	
RPA–PWB	.35***	.38	.21***	.26	.22***	.26	.22***	.27	
Childless women (<i>N</i> = 121) and mothers (<i>N</i> = 1,089)									3 ^a
RPA–Generativity	.32**	.38	.23***	.29	.24***	.28	.24***	.30	
Generativity–PWB	.61**	.57	.49***	.48	.50***	.49	.50***	.48	
RPA–PWB	.08	.09	.14***	.17	.13***	.15	.13***	.16	
Childless men (<i>N</i> = 168) and fathers (<i>N</i> = 1,297)									1 ^{b*}
RPA–Generativity	.17	.20	.20***	.27	.20*	.25	.20***	.27	
Generativity–PWB	.50***	.45	.48***	.41	.56***	.52	.43***	.39	
RPA–PWB	.50***	.53	.25***	.30	.23***	.31	.27***	.34	

RPA, recalled parental attributes in childhood; PWB, psychological well-being

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

^a Constrained model fit significantly better

^b Unconstrained model fit significantly better

indicating no overall differences in the latent paths based on parental status. For both childless adults and parents, there was a positive direct effect between generativity and psychological well-being, and there were positive direct effects between recalled parental attributes and both adult psychological well-being and generativity (Table 2).

Differences for Childless Women and Mothers

Results showed that the constrained model fit significantly better than did the unconstrained model ($p > .05$), indicating no differences in the latent paths for childless women and mothers. For childless women and mothers, there was a positive direct effect between generativity and psychological well-being, and there were positive direct effects between recalled parental attributes and both psychological well-being (non-significant for childless women) and generativity (Table 2).

Differences for Childless Men and Fathers

Results showed that the unconstrained model fit significantly better than did the constrained model ($p < .05$), indicating differences in one or more of the latent paths between childless men and fathers. Follow-up comparisons showed that the positive direct effect between recalled parental attributes and psychological well-being was stronger for childless men than for fathers; however, there

were no differences in the positive direct effects between recalled parental attributes and generativity and between generativity and psychological well-being (Table 2).

Testing for Mediation Effects

After controlling for generativity (i.e., the mediator) and based on the full sample, the indirect effect of recalled parental attributes prior to adulthood on psychological well-being was lower than the direct effect ($\beta = .10$ and $\beta = .27$, respectively), indicating a partial mediation (MacKinnon et al. 2002). Generativity also partially mediated the effect of recalled parental attributes on psychological well-being for childless adults ($\beta = .10$ and $\beta = .26$, respectively) and parents ($\beta = .10$ and $\beta = .27$, respectively); for childless women ($\beta = .14$ and $\beta = .15$, respectively) and mothers ($\beta = .14$ and $\beta = .16$, respectively); and for childless men ($\beta = .09$ and $\beta = .53$, respectively) and fathers ($\beta = .11$ and $\beta = .30$, respectively). Thus, generativity had a stronger effect on adult psychological well-being than did recalled parental attributes prior to adulthood for both parents and non-parents.

Discussion

Increased childlessness and growing life course diversity make it imperative to assess assumptions about the role of

parenthood in adult development and psychological well-being. Hence, the goal of this study was to examine and compare the association between generativity development—a major developmental task during midlife—and multiple dimensions of psychological well-being for mid- to late-life childless adults and parents. We also assessed the link between recalled parental attributes prior to adulthood and both generativity development and psychological well-being, given the importance of early experiences for later development (Erikson 1985). Finally, we considered sex differences by parental status for the connections between generativity, psychological well-being, and recalled parental attributes prior to adulthood, because parenthood is often considered more critical for women's than men's development (Braverman 1989; Nakano Glenn 1994). The findings indicate that childless adults do not differ from parents in the connection between generativity development and psychological well-being. Generativity significantly predicts greater well-being for both groups, and positive recollections of parental attributes prior to adulthood are predictive of both greater generativity and enhanced well-being.

The Role of Generativity in Psychological Well-Being for Childless Adults and Parents

No significant differences were found in the association between generativity and psychological well-being for childless adults and parents. Reports of greater generativity were associated with higher psychological well-being. Additionally, there was no difference in this association for childless women and mothers and for childless men and fathers. These findings suggest two major conclusions. First, although parenthood is often considered a major catalyst for positive developmental changes in adulthood (Astone et al. 1999; Morgan and Berkowitz King 2001), it appears to be only one route to achieving psychological well-being. Second, parenthood is not as vital for women's development and well-being as is often presumed (Braverman 1989; Nakano Glenn 1994).

In line with Erikson (1985), our findings confirm that parenthood is not a necessary experience for generativity development and psychological well-being. Despite the many social, psychological, and practical benefits associated with parenting (Astone et al. 1999; Edin and Kefalas 2005; McMullin and Marshall 1996), parents are not advantaged when it comes to establishing generativity or experiencing well-being. Childless adults appear to have adequate opportunities for generativity development and to capitalize on them in ways that contribute to their overall well-being. That is, childless adults, like parents, may be interested in giving back to the next generation by participating in the lives of children, providing care and

assistance to family members, passing on knowledge and skills through teaching, and taking on active roles in their communities (Allen 1989; McAdams 2001; Milardo 2005; Rubinstein 1996). Such activities are no more, or less, important to their well-being than they are to that of their peers who are parents.

Our results also build on An and Cooney's (2006) study that examined the link between generativity and psychological well-being in parents. Their analyses revealed that the strongest predictor of parents' psychological well-being was generativity demonstrated or acquired outside the context of the nuclear family. Our results confirmed a similar, significant influence of these non-familial generative experiences for parents and non-parents. Thus, despite the fact that childless adults and parents have different life paths leading into midlife, they both partly achieve psychological well-being through generativity-enhancing experiences in various social domains.

Parenthood also appears to be no more important to women's than men's development, contrary to popular assumptions. Our findings indicated no differences for childless women and mothers and for childless men and fathers in the link between generativity and psychological well-being. This finding is inconsistent with stereotypical perceptions of childless adults, especially women, as being maladapted, having psychological disorders, and being immature, unhappy, and unfulfilled (Gillespie 2003; LaMastro 2001; Letherby 2002; Park 2002). Apparently, childless adults can rise above pervasive negative attitudes about their lifestyle and create purposeful and meaningful lives, supporting the notion that human development is diverse and heterogeneous (Elder 1998; Hareven 1991). This shift may be especially strong for women today as their career pursuits outside the home are considered legitimate and generally beneficial (Moen and Roehling 2005; Wallen 2002).

Our findings build on the empirical evidence that parents and non-parents are similar in their reports of psychological well-being (Koropeckyj-Cox 2002; McMullin and Marshall 1996; Zhang and Hayward 2001) by revealing that predictors of well-being are highly similar for the two groups. On the other hand, our findings refute those of McAdams and de St. Aubin (1992) suggesting that parenthood is critical for men's generativity development. One explanation for this latter finding may be differences in the age ranges of our two samples. Our analytic sample was limited to mid- and late-life childless adults (35–74), whereas McAdams and de St. Aubin included more young adults (19–68). Although generativity can start to develop earlier in life, it is primarily a developmental task of midlife (Erikson 1963). Adults in midlife generally have a stronger desire and ability to go beyond their own needs and focus on providing for and meeting the needs of others.

In addition, younger adults are more likely than are older adults to be childless (Dye 2005). Thus, differences in generativity between childless adults and parents in some past studies may be partially explained by the younger ages of the respondents in those samples.

Generativity as Mediator

Generativity partially mediated the relationship between recalled parental attributes and psychological well-being. There were no differences in the mediation based on parental status and the sex of the respondents. The partial mediation effect suggests that although recalled positive experiences with parents early in life play an important role in overall adult psychological well-being (Elder et al. 2003; Erikson 1985), generativity established in midlife seems to be a more crucial contributor to psychological well-being. That is, individuals appear to have the opportunity to enhance their psychological well-being, for example, through involvement in the community, even if experiences in childhood were less than desirable and developmentally problematic. This speculation is supported by Erikson's proposition that individuals can rework previous developmental stages that have not been successfully resolved to foster successful development. In addition, it provides evidence of plasticity and the multidirectionality of development (Baltes 1987; Elder 1998).

Recalled Parental Attributes and Adult Development

Researchers and theorists have posited that early life experiences shape and direct the course of later developmental outcomes (Elder 1998; Elder et al. 2003; Erikson 1985). Our findings confirmed that adults who recalled more positive parental attributes prior to adulthood—including parental warmth and affection, as well as recollections of parental generosity and care for others—reported both greater generativity and adult psychological well-being. That is, positive caregiver–child relations early in life foster children's trust in their primary caregivers and the world around them, which supports the successful transition from one development stage to the next and provides the foundation for both generativity development and psychological well-being in mid- to later life (Belsky 1997; Erikson; Rossi and Rossi 1990).

In addition, we did not find differences in the connection between recalled parental attributes prior to adulthood, generativity, and psychological well-being for childless adults and parents, childless women and mothers, and childless men and fathers. One exception, however, was a difference in the effect between recalled parental attributes and psychological well-being for men, where the association was significantly stronger for childless men than for

fathers. This finding is puzzling because we did not see any other differences in developmental outcomes for men in our study, although past research has found lower generativity for childless men compared to fathers (McAdams and de St. Aubin 1992; Snarey et al. 1987). It is possible that for childless men, early childhood experiences are more persistent in shaping later development because these men tend to maintain weaker connections with their families in adulthood than do fathers. Indeed, Eggebeen and Knoester (2001) found that childless men had less contact and lower levels of intergenerational exchange with their extended families than did fathers. This relative lack of involvement in adulthood may mean that the well-being of childless men is more strongly influenced by long-held memories of their early family experience, good or bad, because they have fewer recent experiences with their families to draw upon. Or, because childless males are less involved in community groups and service organizations than fathers with children at home (Eggebeen and Knoester), they may have fewer opportunities to participate in meaningful non-familial activities that reshape their development and well-being in significant ways. As a result, how they feel about themselves, their relationships and their lives may be deeply rooted in family relationships and experiences from their pre-adult years.

Our finding that these direct effects were no stronger for female non-parents than female parents may be due to the fact that childless women tend to be heavily engaged with their families of origin (Allen 1989; Connidis and Davies 1990), and many traditionally “female” occupations (e.g., teaching, nursing, social work) also offer extensive opportunities to engage in personal care and mentoring. Clearly, more research is needed to gain a better understanding of the variety of factors associated with developmental outcomes based on sex and parental status.

Limitations, Directions for Future Studies, and Conclusion

Despite the unique contributions of this study, it does pose some limitations. One concern is the retrospective approach to assessing parental attributes in childhood. MIDUS participants were asked to recall the relationships they had with their parents while growing up and to report on parental affection and generosity. Although the validity of retrospective designs can be called into question, empirical evidence suggests high reliability in recalled childhood memories between siblings (Parker 1983; Robins et al. 1985), supporting the validity of retrospective accounts. Longitudinal studies are needed that allow examination of early parent-child relations and prospective measurement of their effects on the development of childless adults and parents.

An additional limitation is that in structural equation modeling, model fit and multiple group comparisons only indicate if the hypothesis that “there is no significant difference between the models compared” can be rejected. Despite efforts to determine the best model, it is possible that other, unexplored models fit equally well or better than the models investigated and selected in this study. In addition, more studies are needed that examine and compare factors, such as partner relationships, work, and other life domains that influence development across the life course for childless adults and parents, both men and women.

Moreover, we did not distinguish between childless adults who were childless by choice, temporarily or permanently childless, or whose children may have preceded them in death, which may have influenced responses. Other studies note differences in psychological well-being, for example, for adults who were involuntarily childless versus childless by choice (Jeffries and Konnert 2002; Koropecj-Cox 2002). If future studies are able to account for the reasons for childlessness, they may shed new light on the complex developmental issues assessed herein. Classifying non-parents more specifically based on voluntary versus involuntary childlessness may also explain some of the inconsistencies in findings between the current study and others suggesting greater importance of parenthood for men’s generativity development and overall well-being (Hawkins and Dollahite 1997; McAdams et al. 1993; Snarey et al. 1987).

Future studies also need to explore possible variations in the connections between generativity, psychological well-being, and recalled parental attributes prior to adulthood for racial/ethnic minorities. Our study did not allow a fine-tuned analysis by race/ethnicity because only 36 childless adults were racial/ethnic minorities, which is too small for statistical comparisons with structural equation modeling. Parenting styles tend to differ between Whites and non-Whites (Deater-Deckard and Dodge 1997; Steinberg et al. 1995). Considering that recollections of early childhood experiences influence development, there may be differences in reports of generativity and the relationship to psychological well-being. Also, African Americans and Hispanics tend to have higher fertility rates and are believed to place much greater emphasis on childbearing than Whites (Dye 2005; Heaton et al. 1999; Stevens 1996). This cultural difference may reveal itself in stronger connections between generativity and well-being for both parents and non-parents in non-White than White samples.

Similarly, the size of our non-parent sample also prevented an assessment of possible age and parental status interactions in predicting well-being in mid- and later life. To speculate, it may be the case that being childless has increasingly serious implications as adults age and their

social roles change. Retirement and associated changes in work-related friendships and social contacts, as well as the death of parents, siblings, and age peers, may leave a larger gap in the lives of childless elders than parents, resulting in lower well-being. Though some qualitative studies have focused on adjustment of late life childless adults (Allen 1989; Koropecj-Cox 2003; Rubinstein 1996), systematic assessment of age variations in the import of parenting for well-being is needed using quantitative data. Moreover, contrasts for men and women are critical because these qualitative studies have generally considered one sex or the other, rather than both.

In conclusion, this study emphasizes the divergent pathways to generativity development and adult psychological well-being within the context of parental status and sex. Developmental outcomes for childless adults in our study were similar to those of parents, indicating that parenthood is only one way to manage the developmental challenges of adulthood and to age successfully. Thus, considering the increasing number of adults who are childless by choice and chance, it is important to empirically examine stereotypes and assumptions about the link between a childless lifestyle and developmental outcomes. Finally, this study highlights that human development is highly flexible and, although early experiences shape later development, adult outcomes are influenced by multiple factors; this is evidenced by our finding that generativity plays a more important role in psychological well-being than do early recalled childhood experiences.

References

- Allen, K. R. (1989). *Single women/family ties: Life histories of older women*. Newbury Park, CA: Sage.
- Allison, P. D. (2001). *Missing data*. Thousand Oaks, CA: Sage.
- An, J. S., & Cooney, T. (2006). Psychological well-being in mid to late life: The role of generativity development and parent-child relationships across the lifespan. *International Journal of Behavioral Development, 30*, 20–31.
- Arnett, J. J. (1997). Young people’s conceptions of the transition to adulthood. *Youth and Society, 29*, 3–23.
- Astone, N. M., Nathanson, C. A., Schoen, R., & Kim, Y. J. (1999). Family demography, social theory and investment in social capital. *Population and Development Review, 25*, 1–32.
- Azar, S. T. (2002). Adult development and parenthood: A social-cognitive perspective. In J. Demick (Ed.), *Handbook of adult development* (pp. 391–415). New York: Kluwer Academic.
- Baltes, P. B. (1987). Theoretical propositions of life-span developmental psychology: On the dynamics between growth and decline. *Developmental Psychology, 23*, 611–626.
- Beckman, L. J., & Houser, B. B. (1982). The consequences of childlessness on the social-psychological well-being of older women. *Journal of Gerontology, 37*, 243–250.
- Belsky, J. (1997). Determinants of attachment security: Maternal infant and social-contextual influences. In W. Koops, J. Hoksma & van den Boom (Eds.), *Early mother-child interaction and*

- attachment: *Old and new approaches* (pp. 39–52). Amsterdam: North Holland Publishing.
- Braverman, L. (1989). Beyond the myth of motherhood. In M. McGoldrick, C. M. Anderson & F. Walsh (Eds.), *Women in families* (pp. 227–243). New York: Norton.
- Brief, A. P., Butcher, A. H., George, J. M., & Link, K. E. (1993). Integrating bottom-up and top-down theories of subjective well-being: The case of health. *Journal of Personality and Social Psychology*, *64*, 646–653.
- Connidis, I. A., & Davies, L. (1990). Confidants and companions in later life: The place of family and friends. *Journal of Gerontology: Social Sciences*, *45*, S141–S149.
- Connidis, I. A., & McMullin, J. A. (1993). To have or have not: Parent status and the subjective well-being of older men and women. *The Gerontologist*, *33*, 630–636.
- Deater-Deckard, K., & Dodge, K. A. (1997). Externalizing behavior problems and discipline revisited: Nonlinear effects and variation by culture, context, and gender. *Psychological Inquiry*, *8*, 161–175.
- Dye, J. L. (2005). *Fertility of American women: June 2004*. Retrieved July 09, 2007, from <http://www.census.gov/prod/2005pubs/p20-555.pdf>.
- Edin, K., & Kefalas, M. (2005). *Promises that I can keep: Why poor women put motherhood before marriage*. Berkeley, CA: University of California Press.
- Engelbeen, D. J., & Knoester, C. (2001). Does fatherhood matter for men? *Journal of Marriage and Family*, *63*, 381–393.
- Elder, G. H., Jr. (1998). The life course as developmental theory. *Child Development*, *69*, 1–12.
- Elder, G. H., Johnson, M. K., & Crosnoe, R. (2003). The emergence and development of life course theory. In J. T. Mortimer & M. J. Shanahan (Eds.), *Handbook of the life course* (pp. 3–22). New York: Plenum.
- Erikson, E. H. (1963). *Childhood and society*. New York: Norton.
- Erikson, E. H. (1978). *Adulthood*. New York: Norton.
- Erikson, E. H. (1985). *The life cycle completed: A review*. New York: W. W.
- Franz, C. E., McClelland, D. C., & Weinberger, J. (1991). Childhood antecedents of conventional social accomplishment in midlife adults: A 36-year prospective study. *Journal of Personality and Social Psychology*, *60*, 586–589.
- Gillespie, R. (2003). Childfree and feminine: Understanding the gender identity of voluntarily childless women. *Gender and Society*, *17*, 122–136.
- Gould, R. L. (1978). *Transformations: Growth and change in adult life*. New York: Simon & Schuster.
- Hareven, T. K. (1991). The history of the family and the complexity of social change. *American Historical Review*, *96*, 95–124.
- Hawkins, A. J., & Dollahite, D. C. (1997). *Generative fathering: Beyond deficit perspectives*. Thousand Oaks, CA: Sage.
- Heaton, T., Jacobson, C., & Holland, K. (1999). Persistence and change in decisions to remain childless. *Journal of Marriage and the Family*, *61*, 531–539.
- Jeffries, S., & Konnert, C. (2002). Regret and psychological well-being among voluntarily and involuntarily childless women and mothers. *International Journal of Aging and Human Development*, *54*, 89–106.
- Kandel, D. B., Davies, M., & Raveis, V. H. (1985). The stressfulness of daily social roles for women: Marital, occupational and household roles. *Journal of Health and Social Behavior*, *26*, 64–78.
- Kessler, R. C., Davis, C. G., & Kendler, K. S. (1997). Childhood adversity and adult psychiatric disorder in the US National Comorbidity Survey. *Psychological Medicine*, *27*, 1101–1119.
- Keyes, C. L. M., & Ryff, C. D. (1998). Generativity in adult lives: Social structural contours and quality of life consequences. In D. P. McAdams & E. de St. Aubin (Eds.), *Generativity and adult development: How and why we are for the next generation* (pp. 227–264). Washington, DC: American Psychological Association.
- Koropecj-Cox, T. (1998). Loneliness and depression in middle and old age: Are the childless more vulnerable? *Journals of Gerontology: Social Sciences*, *53B*, S503–S512.
- Koropecj-Cox, T. (2002). Beyond parental status: Psychological well-being in middle and old age. *Journal of Marriage and Family*, *64*, 957–971.
- Koropecj-Cox, T. (2003). Three childless men's pathways into old age. In J. Gubrium & J. Holstein (Eds.), *Ways of aging* (pp. 77–95). Malden, MA: Blackwell Publishing.
- Koropecj-Cox, T., & Pendell, G. (2007). Attitudes about childlessness in the United States: Correlates of positive, neutral, and negative responses. *Journal of Family Issues*, *28*, 1054–1082.
- Kotre, J. (1996). *White gloves: How we create ourselves through memory*. New York: Norton.
- LaMastro, V. (2001). Childless by choice? Attributions and attitudes concerning family size. *Social Behavior and Personality*, *29*, 231–244.
- LeMasters, G. (1957). Parenthood as crisis. *Marriage and Family Living*, *19*, 352–355.
- Letherby, G. (2002). Childless and bereft? Stereotypes and realities in relation to voluntary and involuntary childlessness and womanhood. *Social Inquiry*, *72*, 7–20.
- Levinson, D. J. (1978). *The seasons of man's life*. New York: Knopf.
- Loehlin, L. J. (2004). *Latent variable models: An introduction to factor, path, and structural analysis* (4th ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, *7*, 83–104.
- McAdams, D. P. (2001). The psychology of life stories. *Review of General Psychology*, *5*, 100–122.
- McAdams, D. P., & de St. Aubin, E. (1992). A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. *Journal of Personality and Social Psychology*, *62*, 221–230.
- McAdams, D. P., de St. Aubin, E., & Logan, R. L. (1993). Generativity among young, midlife, and older adults. *Psychology and Aging*, *8*, 221–230.
- McMullin, J. A., & Marshall, V. W. (1996). Family, friends, stress and well-being: Does childlessness make a difference? *Canadian Journal on Aging*, *15*, 355–373.
- Merrill, D. M. (1997). *Caring for elderly parents: Juggling work, family, and caregiving in middle and working class families*. Westport, CT: Auburn House.
- Milardo, R. (2005). Generative uncle and nephew relationships. *Journal of Marriage and Family*, *67*, 1226–1236.
- Moen, P., & Roehling, P. (2005). *The career mystique: Cracks in the American dream*. Lanham, MD: Rowman & Littlefield Publishing Group.
- Morgan, S. P., & Berkowitz King, R. (2001). Why have children in the 21st century? Biological predisposition, social coercion, rational choice. *European Journal of Population*, *17*, 3–20.
- Nakano Glenn, E. (1994). Social constructions of mothering: A thematic overview. In E. Nakano Glenn, G. Chang & L. Rennie (Eds.), *Mothering ideology, experience, and agency* (pp. 1–29). London: Routledge.
- Palkovitz, R. (2002). *Involved fathering and men's adult development: Provisional balances*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Park, K. (2002). Stigma management among the voluntarily childless. *Sociological Perspectives*, *45*, 21–45.

- Parker, G. (1983). Parental “affectionless control” as an antecedent to adult depression. *Archives of General Psychiatry*, *40*, 956–960.
- Robins, L. N., Schoenberg, S. P., Holmes, S. J., Ratcliff, K. S., Benham, A., & Works, J. (1985). Early home environment and retrospective recall: A test for concordance between siblings with and without psychiatric disorders. *American Journal of Orthopsychiatry*, *55*, 27–41.
- Rossi, A. S. (2001). Developmental roots of adult social responsibility. In A. S. Rossi (Ed.), *Caring and doing for others: Social responsibility in the domains of family, work, and community* (pp. 227–320). Chicago: University of Chicago Press.
- Rossi, A., & Rossi, P. (1990). *Of human bonding*. New York: de Gruyter.
- Rubinstein, R. L. (1996). Childlessness, legacy, and generativity. *Generations*, *20*, 58–60.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*, 1069–1081.
- Shaw, B. A., Krause, N., Chatters, L. M., Connell, C. M., & Ingersoll-Dayton, B. (2004). Emotional support from parents early in life, aging, and health. *Psychology and Aging*, *19*, 4–12.
- Snarey, J. (1993). *How fathers care for the next generation*. Cambridge: Harvard University Press.
- Snarey, J., Son, L., Kuehne, V., Hauser, S., & Vaillant, G. (1987). The role of parenting in men’s psychosocial development: A longitudinal study of early adulthood infertility and midlife generativity. *Developmental Psychology*, *23*, 593–603.
- Steinberg, L., Darling, N. E., & Fletcher, A. C. (1995). Authoritative parenting and adolescent development: An ecological journey. In P. Moen, G. H. Elder Jr. & K. Luescher (Eds.), *Examining lives in context* (pp. 423–466). Washington, DC: American Psychological Association.
- Stevens, J. W. (1996). Childbearing among unwed African American adolescents: A critique of theories. *Affilia*, *11*, 278–302.
- Thornton, A., & Young-DeMarco, S. (2001). Four decades of trends in attitudes toward family issues in the United States: The 1960’s through the 1990’s. *Journal of Marriage and Family*, *63*, 1009–1037.
- Vaillant, G. E., & Milofsky, E. (1980). Natural history of male psychological health: IX. Empirical evidence for Erikson’s model of the life cycle. *American Journal of Psychiatry*, *137*, 1348–1359.
- Wallen, J. (2002). *Balancing work and family: The role of the workplace*. Boston: Allyn & Bacon.
- Whitbeck, L. B., Hoyt, D. R., Simons, R. L., Conger, R. D., Elder, G. H., Lorenz, F. O., et al. (1992). Intergenerational continuity of parental rejection and depressed affect. *Journal of Personality and Social Psychology*, *63*, 1036–1045.
- Zhang, Z., & Hayward, M. D. (2001). Childlessness and the psychological well-being of older persons. *Journal of Gerontology*, *56B*, S311–S320.

Copyright of Journal of Adult Development is the property of Springer Science & Business Media B.V. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

Copyright of *Journal of Adult Development* is the property of Springer Science & Business Media B.V. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.