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Psychological well-being in mid to late life: The role of generativity development and parent–child relationships across the lifespan

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This study examined the association between generativity and psychological well-being for a subsample of 1882 mid- to late-life parents using the MIDUS data set. Guided by Erikson's theory of psychosocial development, we tested a structural model of psychological well-being that also included direct and indirect effects (via generativity) of remembered pre-adult relationships with parents and current parental experiences with offspring on well-being. Respondents who recalled positive, trusting relationships with parents in childhood reported more positive parental experiences with their adult offspring and better psychological well-being. Current parental experiences had both indirect and direct effects on well-being too, but generativity had the strongest direct effects. Thus, it appears that the achievement of generativity plays a substantial role in well-being in mid- and late life. Findings also reveal that the impact of generativity on well-being is stronger for females than males. Implications for intervention with older adults, such as promoting volunteer work, are discussed.

Keywords: adult well-being; generativity; parent–child relations

With more adults living into old age (US Census Bureau, 2004), there is heightened concern about making the later years of life quality ones – characterized by good health and positive well-being. The United States, for example, has launched a major initiative, Healthy People 2010, aimed at helping Americans live longer and healthier lives (US Department of Health & Human Services, 2005). A key aspect of positive health is psychological well-being, which involves such components as quality social relations, positive self-regard, purpose in life, and mastery over one's environment. These are considered core elements to a "good life" for adults (Ryff & Singer, 1998).

Healthy adjustment in mid to later adulthood, specifically psychological well-being, is the focus of this study. In accord with the view that social relationships play a significant role in adults' well-being and positive evaluations of life (Diener, Suh, Lucas, & Smith, 1999; Markus, Ryff, Curhan, & Palmersheim, 2004; Shaw, Krause, Chatters, Connell, & Ingersoll-Dayton, 2004), we test a model that explains well-being in relation to both childhood and concurrent relational experiences. Erikson's (1963) theory of psychosocial development frames the study. This theory emphasizes the critical role that caring relationships with others play in development, beginning early in life as young children build trust in their caregivers and the world, later in young adulthood as intimacy issues take center stage, and again in mid to late life when generativity – showing care and concern for the next generation – becomes important (Erikson, 1963). Given our interest in mid- to late-life development, Erikson's theory leads us to test the role of generativity as a central mechanism influencing well-being, as illustrated in Figure 1. Additionally, we explore the influence of both current parenting experiences with adult offspring and early relationships with one's own parents on mid- to late-life well-

being, as they operate both directly and via generativity. Childhood relationships with parents are examined because Erikson (1963) believed that healthy development resulted from dealing successfully with a series of stage-specific developmental challenges across the lifespan. Plus, he specifically acknowledged the role of early family experiences in his discussions of generativity. Current parenting experiences with offspring are included in the model because Erikson considered parenting to be one way in which adults could confront issues of generativity. Moreover, empirical evidence reveals a significant link between midlife and elderly parents' relationships with offspring, and their well-being and adjustment. An important theoretical contribution of this study is that it empirically tests whether generativity is the mediating mechanism between early family experience and adult well-being, and between current parenting experiences and well-being in mid and late life.

Erikson's theory of psychosocial development

Erikson's (1963) theory of psychosocial development includes progression through eight stages over the lifespan. Each stage is marked by a unique developmental challenge that must be appropriately resolved so that optimal development can be achieved at that and later life stages. This research considers the first and seventh stages. According to Erikson (1968), during the first developmental stage the young child engages in "receiving and accepting what is given" (p. 99) and needed from the caregiver and, as a result, develops either trust or mistrust in others and the world. This trust–mistrust crisis focuses heavily on caring and interpersonal relations with others as the infant comes to develop a

sense of whether parental caregivers will reliably attend to his/her needs and demonstrate consistent care and understanding (Sorell & Montgomery, 2001). Parental affection is surely linked to caregiver concern and sensitivity, and thus also contributes to the development of concern. As Rossi (2001) argues “concern for others springs from the seedbed of family affection laid down during the years of dependency in infancy and childhood” (p. 228). Therefore, early childhood relationships and resolution of this initial developmental crisis surrounding trust are central to development across the lifespan.

Erikson’s seventh stage occurs in middle age and involves resolution of the generativity versus stagnation crisis, which centers on the “need to be needed” (Erikson, 1968, p. 138), caring for the next generation, and contributing to future generations through productive and creative endeavors. Again, as in childhood, caring relations are central to this crisis, thus it is logical that the achievement of generativity would build on trust developed early in life. Erikson (1968) claimed that trust established in early childhood contributes to later development because “in learning to get somebody to do for him what he wishes to have done” (and needs to have done) a child “develops the necessary groundwork . . . ‘to get to be’ the giver . . . and eventually become a giving person” (p. 99). Connection between one’s relationship with parent caregivers in childhood and generativity in adulthood is therefore noted in Erikson’s theory.

Generativity can be achieved in multiple ways. Parenting offers one opportunity for individuals to guide and care for the next generation, yet Erikson considered it neither necessary nor sufficient for achieving generativity. Indeed, he claimed that some parents failed in “the ability to develop true care” (1968, p. 138), a problem he believed originated in early childhood. Generativity also can be derived through altruistic activities such as volunteering and mentoring, or through other forms of community involvement and productive contributions. Measures and recent study of generativity reflect these various components (Keyes & Ryff, 1998). Moreover, some developmentalists posit that in resolving the generativity crisis, men and women emphasize different components of generativity, with public (i.e. work, civic activity) contributions taking center stage for men, and family investments dominating women’s lives (Sorell & Montgomery, 2001).

Though Erikson stressed that positive development depended on resolution of distinct tasks at successive life stages, he did not view development as unidirectional. Rather, he argued that the initial resolution of particular developmental tasks does not absolutely determine subsequent developmental because, across life, crises of the earlier stages can be reworked and resolved (Sorell & Montgomery, 2001). Hence, in considering well-being and development in adulthood, it is critical to look beyond early childhood influences to subsequent experiences, such as parenting one’s own children, which may promote the reworking of previously encountered developmental crises.

In sum, Erikson’s theory provides a foundation for our study of well-being in mid and late life. The central question we raise is what role does generativity play in adult psychological well-being? Is generativity a mechanism through which past and current family relationships influence well-being, or do these experiences have direct effects on well-being? Lastly, does the link between well-being and these predictors differ by gender?

Empirical evidence of the structure of well-being in adulthood

In line with Erikson’s theory, we hypothesize an influence of both childhood relationships with parents (pathway A – Figure 1), and generativity (pathway E) on adult well-being. We briefly review empirical support for these two direct paths below. Pathway C – denoting an influence of early experiences on generativity, however, has not been empirically demonstrated. Testing of this pathway is one contribution of this study.

Developmental antecedents of well-being

Both clinical and non-clinical research documents a connection between childhood relationships with parents and adjustment in adulthood. Specifically, clinical evidence links negative interactions with parents in childhood (e.g., lack of attention and affection) to severe interpersonal hostility (Luecken, 2000), depression (Parker, 1983; Richman & Flaherty, 1986) and other psychological disorders in adulthood (Kessler, Davis, & Kendler, 1997). Retrospective reports of family experiences during childhood, drawn from non-clinical samples, reveal similar associations. A consistent finding is that memories of less affectionate and less supportive parenting in childhood predict adult depression (Shaw et al., 2004; Whitbeck et al., 1992). Finally, even prospective data indicate a connection between received parenting in childhood and adult well-being. Franz, McClelland, and Weinberger (1991) found significant correlations between mothers’ reports of warm, affectionate parenting behavior when their children were five and positive well-being reported by the children at age 36. A limitation of this latter finding, however, is that well-being was narrowly conceptualized as adults’ ability to maintain good family and friend relationships, and a happy marriage. It would thus be useful to examine this issue with a broader, validated measure of adult well-being.

The connection between adult development – specifically generativity – and well-being has received recent widespread attention. Generativity is considered a major socio-personal resource contributing to personal and social worth, and ultimately to quality of life (Keyes & Ryff, 1998), and empirical evidence links generativity to life satisfaction and psychological well-being (Ackerman, Zuroff, & Moskowitz, 2000; Grossbaum & Bates, 2002; Kinnevy & Morrow-Howell, 1999; McAdams, de St. Aubin, & Logan, 1993; Stewart, Ostrove, & Helson, 2001). Yet, significant associations between generativity and well-being are documented primarily for what are labeled generative concerns (motivation to help the next generation), rather than for generative behaviors (de St. Aubin & McAdams, 1995; Grossbaum & Bates, 2002; McAdams et al., 1993). Thus, in testing the effect of generativity on well-being and its mediating role between early received parenting and well-being, multiple dimensions of generativity should be examined.

Current parenting experiences and well-being

In Figure 1, we examine the influence of adults’ current parenting experiences on well-being both directly (pathway D) and via generativity (pathway F). Further, given research evidence of continuity in parenting across generations (pathway B), the combined B and D pathways in Figure 1 may provide partial explanation for how early received parenting

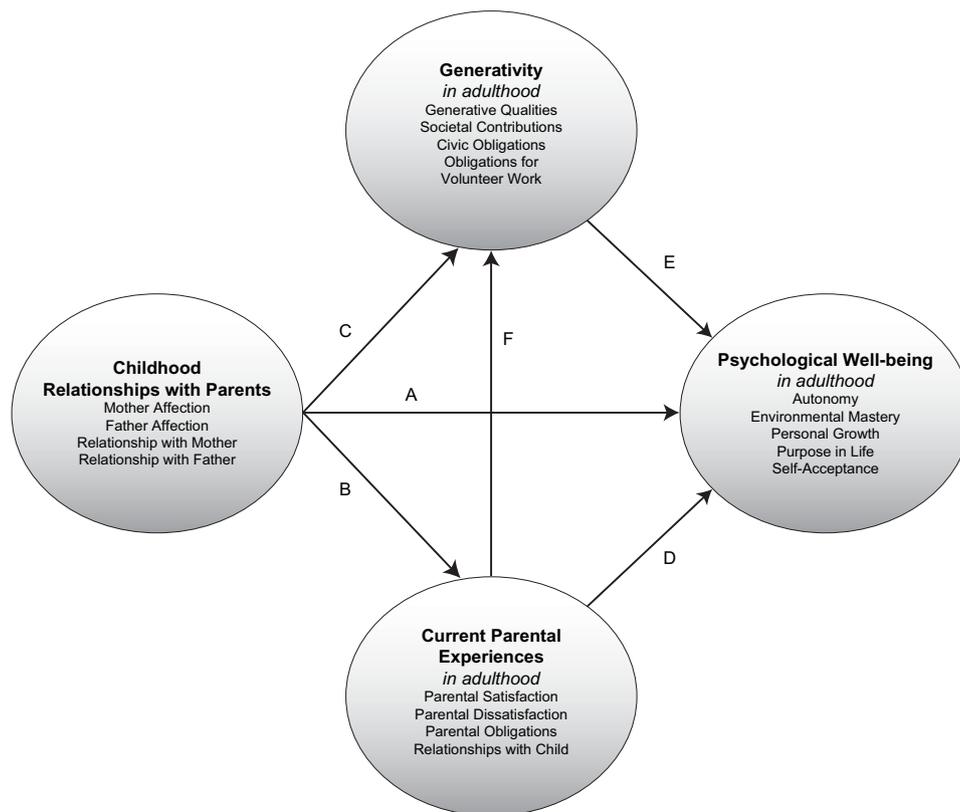


Figure 1. Conceptual model of mediating mechanisms.

affects adult well-being (a finding in the literature summarized above).

Evidence for pathway B in Figure 1 comes from studies finding that adults who recall rejecting, harsh parenting in childhood tend to use similar behaviors with their own offspring (Simons, Whitbeck, Conger, & Wu, 1991; Whitbeck et al., 1992). Prospective parent report data (Thornberry, Freeman-Gallant, Lizotte, Krohn, & Smith, 2003) and observational data on parent behavior (Belsky, Jaffee, Sligo, Woodward, & Silva, 2005) also reveal significant connections between parenting received in childhood and similar parenting of one's own children in adulthood, as proposed in pathway B.

Evidence for pathway F is interesting to note because most is derived from research on the parenting of relatively young children by young parents (mostly fathers), rather than older parents for whom generativity issues should be more salient. Studies show that generative behaviors and feelings are reportedly stronger for fathers who are more involved with child care (Snarey, 1993), have greater contact with their children (Eggebeen & Knoester, 2001), place greater importance on the parenting role (Christiansen & Palkovitz, 1998), and express greater parenting satisfaction (Heath & Heath, 1991). But the average age of parents in most studies ranges from 35 to 40 (Christiansen & Palkovitz, 1998; McKeering & Pakenham, 2000). The current study therefore provides a needed test of the connection between parenting and generativity for middle-aged and older parents.

This study also extends research on how parenting impacts women's generativity development and well-being. Though women express more generative concerns (Wilson & Musick, 1997) and obligation to help others than men (Keyes & Ryff,

1998), and engage in more generative behavior (Hart, McAdams, Hirsch, & Bauer, 2001; Wilson & Musick, 1997), it is suggested that parenting is less important to their expression of generativity than it is for men. This assertion is based on a study of fairly young mothers and fathers (McKeering & Pakenham, 2000). Parenting may contribute more to the achievement of generativity among older cohorts because women's family roles are more central in the lives of these cohorts than for younger cohorts coming of age today. Considering gender differences within a middle-aged and older sample is thus critical.

Substantial evidence that adult child-parent relationships affect parental outcomes leads to consideration of possible direct effects of current parenting experiences on adult well-being as well (pathway D). Evaluations of adult offspring and their accomplishments (e.g. financial independence, marital stability) have been associated with parental well-being (Aquilino, 1996; Pillemer & Suito, 1991), and studies consistently reveal a link between adult child-parent relationship quality and parental well-being (Koropecyk-Cox, 2002; Ryff & Heidrich, 1997; Umberson, 1996). Specifically, strained relationships and problematic experiences with adult offspring are associated with heightened depression and drinking among parents, as well as reduced life satisfaction and well-being.

Hagestad (1986) contends that parents gain a sense of accomplishment when their children manage "life tasks on time and in the normal sequence" (p. 685), such as graduating from school, starting work, and building their own families. Presumably, generativity results partly from the "reflected glory" parents derive from their offspring's successful mastery of adult developmental tasks (Hagestad, 1986). Yet, empirical

evidence is needed to determine whether current experiences with adult offspring impact parents' well-being directly, or whether parenting experiences operate only through their influence on parents' achievement of generativity. The current study addresses this issue.

Methods

Data

This analysis uses nationally representative data from the 1995 National Survey of Midlife Development in the United States (MIDUS) (Brim et al., 1996). MIDUS respondents were drawn through random-digit-dialing and included non-institutionalized, English-speaking adults living in the contiguous 48 states. The sample of 4242 adults, aged 25 to 74, responded to an initial telephone interview and completed a follow-up mail questionnaire. Response rates for the telephone interview and mail questionnaire (of telephone respondents only) were 70 and 87%, respectively. The sample was stratified by age and sex, with an over-sampling of men ages 65 to 74. Sample weights were developed to adjust for sample design, yet unweighted data are used here because results of previous multivariate analyses (Keyes & Ryff, 1998) were not affected by sample weighting and weights are problematic for Structural Equation Modeling procedures used in this study.

Only respondents with at least one biological, adopted, or stepchild over age 18 are included in the analysis so that parental experiences with adult offspring can be examined in relation to well-being. There were 1,980 sample respondents (ages 35–74) who had an adult child. Fifteen of them were under age 35 and were excluded from the analysis due to being outliers on the age variable. (Studies of midlife generally limit their samples to persons over age 35.) Cases with missing data that were excluded from the analyses differed significantly on one variable; respondents with missing data were less educated than the analytic sample. After checking and deleting multivariate outliers to meet normality and linearity assumptions, the analyses include 1,882 parents.

Measures

MIDUS is a unique multidisciplinary study in that it provided assessment of numerous psychological constructs within a large, nationally representative sample. To administer a survey with such an expansive scope and large sample, MIDUS investigators conducted six pilot studies (some using national samples) to create shortened measures of key social and psychological constructs (Brim, Ryff, & Kessler, 2004). Below we describe the items constituting the measures for this study. Generally, the source of these items is not provided in MIDUS documentation. Where possible we note sources referred to in other publications using MIDUS data.

Given the extensive pilot testing of the MIDUS survey instrument, we have confidence in the validity of the measures that we use. Furthermore, we subjected all of our key predictor and outcome variable items to factor analysis to determine whether key indicators were unidimensional or multidimensional in nature. This analysis suggested that a multidimensional approach to these concepts was warranted. Below we describe the constructed subscales for each latent indicator in our model.

Childhood relationships with parents are assessed with questions asking respondents to recall their relationships with their parents when they were growing up. Because these questions are retrospective and did not specify a period in childhood to target, they are best interpreted as *pre-adult memories*. Thus, we label this dimension Remembered Pre-Adult Relationships with Parents. One item asked respondents to rate their overall relationship with each parent (separately). Six additional items (each asked in relation to each parent) addressed parenting behaviors received in childhood that display affection (Rossi, 2001) and support (Shaw et al., 2004), and that we assert contribute to interpersonal trust. All items on this factor are reverse coded so that higher summed scores reflect more positive parenting in childhood. The scale for mothers obtained a Cronbach's alpha of .90, and that for fathers a .92. Appendix A lists the items used for this domain.

Current parental experiences are measured with 14 questions that asked respondents to evaluate various aspects of their relationships with their adult offspring. These items (see Appendix B) were analyzed by a principle component factor analysis and clustered as four factors: satisfaction with children ($\alpha = .79$), dissatisfaction with children ($\alpha = .42$), relationship quality with children ($\alpha = .71$), and feelings of obligation to children ($\alpha = .71$). High scores represent more parental satisfaction and dissatisfaction, better quality of relationship, and greater obligation.

Recent conceptualizations of generativity involve multiple dimensions. MIDUS included 19 items that at face value address various dimensions of generativity. A principle component factor analysis of these items resulted in four factors that we labeled to reflect as closely as possible similar components of generativity used in the literature. They include:

- 1 Generative qualities ($\alpha = .85$) – six items from the Loyola Generativity Scale (McAdams & de St. Aubin, 1992), which reflect a view of self as having generative characteristics, based on behavioral interactions with others. These items do not specifically name one's own children among this group of others;
- 2 Civic obligations ($\alpha = .78$) – six items used by Keyes and Ryff (1998) that reflect obligation to be an involved citizen;
- 3 Obligations to volunteer work ($\alpha = .75$) – three items concerning feelings of duty to help others in need (McAdams et al., 1993); and
- 4 Societal contributions ($\alpha = .87$) – five items focused on the thought and effort involved in making contributions to the welfare of others. Three items from this dimension are similar to ones used by Keyes and Ryff (1998) to measure "generative concern," but we label the dimension "societal contributions" because two of the items ask for a self-rating of one's actual contributions to the well-being of others, which involves more than feelings of concern.

All items in the generativity domain are reported in Appendix C. Finally, note that these four components are similar to what Snarey (1993) referred to as *societal generativity*. We omitted items regarding actions and feelings toward one's own children, which Snarey calls *parental generativity*, to avoid confounding our measures of current parental experiences and generativity.

Psychological well-being is measured with a shortened version of Ryff's (1989) psychological well-being scale. This version has three items for each of Ryff's six dimensions of

well-being and has demonstrated adequate validity (Ryff & Keyes, 1995). We only use five of the six distinct dimensions of well-being in the analysis: autonomy, environmental mastery, personal growth, purpose in life, and self acceptance. The subscale addressing positive relations with others is omitted from the outcome measure to avoid confounding aspects of the dependent variable with predictors in the model, specifically current parental experiences. Scale scores are recoded so that higher total scores reflect greater psychological well-being. The Cronbach's alphas for these five subscales range from .38 to .59, which are adequate given the small number of items on each subscale. These reliabilities are similar to those obtained when using the entire MIDUS sample.

Data analyses

After comparing descriptive statistics for men and women on all study variables, we conducted structural equation modeling (SEM) procedures using the AMOS (Analysis of Moment Structure) program (Arbuckle & Wothke, 1999) to estimate the conceptual model in Figure 1. Direct effects of remembered pre-adult relationships with parents, current parental experiences, and generativity on psychological well-being were estimated. Mediating relationships and possible gender differences in the models were also examined.

SEM was performed in several steps. First, a measurement model was developed using Confirmatory Factor Analysis to determine how constructs in the hypothesized model correspond to each other. Second, a structural model, based on the measurement model, was developed to evaluate the magnitude of associations among the latent variables. Next, mediation effects were examined by using constrained paths between predictor and outcome variables. Finally, using a multi-sample

model, differences in the fit of the structural models for men and women were examined.

Results

Preliminary Analyses

The sub-samples of 876 males and 1,006 females are fairly similar on background characteristics. The average age of men (55.74) is somewhat older than that of women (54.64, $t = 2.11$, $p < .05$), yet the two sexes do not differ in terms of race (roughly 90% of each group is White) or average education level (men = 12.93 years and women 12.88). Bivariate gender differences on the key analytic variables are presented in Table 1. Men recalled greater maternal affection in childhood and better maternal relationships than women. As adults, women reported higher parental dissatisfaction, better relationships with their own children, and more parental obligation than men. Women also reported more societal contributions and greater obligation to volunteer work than men. Regarding psychological well-being, men scored higher than women on all of the subscales except personal growth. Table 2 presents the bivariate correlations between all the study variables, calculated separately for males and females.

Development of structural equation models

Measurement models. Confirmatory factor analysis, with a maximum-likelihood estimation method, was used to test the measurement model. A sub-sample of 470 randomly selected cases (of the 1,882 respondents) was used in this procedure to reduce the problem of capitalization on chance, as directed in the literature (Grimm & Yarnold, 2000).

Table 1
Gender differences on key analytic variables

Variables	Males ($N = 876$)		Females ($N = 1,006$)		Difference test
	Mean	SD	Mean	SD	
Remembered Pre-adult Relationships with Parents					
Maternal affection (0–24)	19.54	3.83	18.44	4.59	$t = 5.62$ ($p < .001$)
Paternal affection (0–24)	16.93	4.62	16.73	5.12	$t = .84$
Relationship with mother (1–5)	4.11	1.02	3.60	1.13	$t = 10.18$ ($p < .001$)
Relationship with father (1–5)	3.59	1.11	3.50	1.21	$t = 1.55$
Current Parental Experiences					
Parenting satisfaction (0–12)	9.68	2.11	9.53	2.17	$t = 1.48$
Parenting dissatisfaction (0–12)	4.34	1.46	4.62	1.63	$t = -3.89$ ($p < .001$)
Parental obligations (0–30)	23.71	4.81	24.93	4.36	$t = -5.66$ ($p < .001$)
Relationships with children (0–30)	23.90	5.03	25.50	4.42	$t = -7.27$ ($p < .001$)
Generativity					
Generative qualities (0–24)	17.16	3.67	17.23	3.78	$t = -.38$
Societal contribution (0–50)	32.78	9.50	35.40	9.22	$t = -5.95$ ($p < .001$)
Civic obligation (0–60)	48.87	8.93	49.16	9.01	$t = -0.69$
Obligations for volunteer work (0–40)	23.44	8.89	25.69	8.50	$t = -5.55$ ($p < .001$)
Current Well-being					
Autonomy (0–21)	16.95	3.03	16.64	3.40	$t = 2.09$ ($p < .05$)
Environmental mastery (0–21)	16.77	3.21	15.97	3.38	$t = 5.26$ ($p < .001$)
Personal growth (0–21)	17.77	2.97	17.71	3.37	$t = .41$
Purpose in life (0–21)	16.47	3.81	15.93	3.73	$t = 3.09$ ($p < .01$)
Self-acceptance (0–21)	17.03	3.18	16.34	3.32	$t = 4.58$ ($p < .001$)

Table 2
Intercorrelations among observed variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Remembered Pre-adult Relationships with Parents																	
1. MAFF	1.00	.77	.44	.35	.14	-.12	.14	.15	.13	.08	.09	.11	.08	.15	.09	.07	.18
2. MREL	.71	1.00	.27	.33	.11	-.11	.17	.15	.08	.04	.09	.10	.08	.10	.02	.06	.15
3. FAFF	.56	.37	1.00	.80	.10	-.12	.08	.06	.17	.10	.08	.12	.10	.10	.08	.05	.14
4. FREL	.42	.46	.77	1.00	.09	-.13	.11	.06	.10	.08	.10	.09	.07	.10	.03	.05	.12
Current Parental Experiences																	
5. PSATIS	.12	.14	.15	.17	1.00	-.27	.23	.15	.24	.22	.20	.12	.14	.24	.20	.16	.34
6. PDISSAT	-.12	-.09	-.10	-.14	-.23	1.00	-.28	-.15	-.09	-.10	-.11	-.08	-.12	-.28	-.18	-.18	-.31
7. PCREL	.21	.21	.17	.20	.34	-.30	1.00	.31	.13	.17	.19	.18	.13	.19	.12	.07	.17
8. POBLG	.13	.15	.11	.12	.22	-.18	.40	1.00	.10	.24	.35	.35	.06	.07	.04	.04	.04
Generativity																	
9. GENQUAL	.09	.10	.11	.08	.22	-.05	.25	.23	1.00	.45	.29	.25	.21	.20	.35	.22	.29
10. GENCONT	.10	.12	.11	.14	.24	-.12*	.27	.24	.47	1.00	.31	.34	.16	.21	.29	.17	.17
11. GENOBL	.12	.14	.11	.12	.20	-.11	.27	.39	.28	.28	1.00	.48	.12	.14	.24	.11	.16
12. GENOBVW	.19	.16	.14	.12	.13	-.04	.23	.33	.26	.42	.43	1.00	.08	.08	.14	.00	.08
Psychological Well-being																	
13. AUTON	-.00	.06	.06	.05	.06	-.09	.06	.05	.13	.14	.07	.05	1.00	.35	.23	.15	.30
14. ENVMAST	.16	.17	.18	.22	.22	-.27	.18	.12	.13	.12	.17	.08	.28	1.00	.39	.23	.51
15. PERSGRW	.07	.06	.05	.06	.17	-.11	.20	.11	.36	.22	.16	.12	.20	.32	1.00	.36	.39
16. PURLIFE	.10	.12	.06	.10	.18	-.26	.10	.11	.19	.15	.14	.04	.12	.25	.38	1.00	.29
17. SELFACC	.24	.22	.24	.25	.34	-.30	.22	.09	.25	.20	.17	.11	.23	.57	.34	.39	1.00

Notes: BOLD values are significant at $p < .001$. Values above the diagonal are for females; those below the diagonal are for males.

MAFF: maternal affection, MREL: mother relationship, FAFF: paternal affection, FREL: father relationship, PSATIS: parenting satisfaction, PDISSAT: parenting dissatisfaction, PCREL: relationships with children, POBLG: parental obligation, GENQUAL: generative qualities, GENCONT: generative contribution, GENOBL: generative obligation, GENOBVW: obligations for volunteer work, AUTON: autonomy, ENVMAST: environmental mastery, PERSGRW: personal growth, PURLIFE: purpose in life, SELFACC: self-acceptance.

The measurement model estimated four latent variables and their co-variances with the observed indicators specified for each latent variable. All latent variable variances were fixed at 1.00 for the measurement model (Loehlin, 1998). Fit indices of the measurement model were acceptable (GFI = .95, NFI = .91, CFI = .95, TLI = .94, RMSEA = .04). Standardized loadings were all statistically significant ($p < .05$). Though the resulting chi-square test was statistically significant ($\chi^2 = 203.5$, $df = 102$, $p < .001$), indicating that the observed covariance matrix is significantly different from the covariance matrix derived from the measurement model, the goodness of fit-indices demonstrate a reasonably good fit considering the large sample size.

Structural models. To reduce chances of committing a Type I error, the structural model was estimated with the 1,412 cases that were not used in testing of the measurement model (Loehlin, 1998). Figure 2 illustrates the full estimated model.

The chi-square for this model was statistically significant ($\chi^2 = 79.27$, $df = 96$, $p < .01$), yet results from other goodness-of-fit indices for the full model suggest that the model represents a good fit to the data (GFI = .98, CFI = .97, NFI = .96, TLI = .96, RMSEA = .04). Figure 2 presents direct paths among the latent constructs. The factor representing remembered pre-adult relationships with parents was related to both current parental experiences and psychological well-being. Current parental experiences and generativity had significant direct effects on psychological well-being. There was a strong association between current parental experiences and generativity.

Remembered pre-adult relationships with parents had indirect effects (total effect – direct effect) on psychological well-being ($\beta = .11$) via generativity and current parental experiences. In addition, there was a significant indirect effect of remembered pre-adult relationships with parents on generativity ($\beta = .13$), through current parental experiences. Current parental experiences also had indirect effects on psychological well-being through generativity ($\beta = .26$). The total effect of remembered pre-adult relationships with parents on current parental experiences was $\beta = .21$; on generativity it was $\beta = .16$, and on psychological well-being it was $\beta = .25$. The total effect of current parental experiences on generativity was $\beta = .59$ and on psychological well-being it was $\beta = .42$. The total effect of generativity on psychological well-being was $\beta = .43$.

In summary, remembered pre-adult relationships with parents had both a direct effect on psychological well-being and indirect effects via associations with generativity and current parental experiences. The direct effect was stronger than the indirect effects. Current parental experiences and generativity also had direct effects on psychological well-being, although current parental experiences also had indirect effects on psychological well-being through generativity.

Testing for mediation effects. To test whether a full or partial mediation effect exists between the predictors and the outcome variable it is necessary to partial out the association between the mediator and the outcome variable, and then consider how that process affects the influence of the predictor variable on the outcome. A full mediation effect is indicated if the path between the predictor and dependent variable becomes insignificant. If the path weakens, but remains significant after controlling for the mediator(s), a partial mediation effect is indicated (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002).

The model in Figure 2 reveals a partial mediation effect of remembered pre-adult relationships with parents on psychological well-being via generativity and current parental experiences. The path between the latent constructs for remembered pre-adult relationships with parents and psychological well-being, minus the mediators, was first examined. The path was reduced to $\beta = .14$ ($p < .001$) from $\beta = .25$ ($p < .001$) after controlling for the mediators (generativity and current parental experiences). Also, the significant indirect effect of remembered pre-adult relationships with parents on well-being through current parental experiences and generativity ($\beta = .11$) indicates that there were partial mediation effects. Finally, because current parental experiences had a significant indirect effect on psychological well-being through generativity ($\beta = .26$), generativity represents a partial mediator between current parental experiences and psychological well-being.

To test for full mediation effects of current parental experiences and generativity, the statistical differences were tested by noting the differences in chi-square for the model under two conditions: when the path between remembered pre-adult relationships with parents and psychological well-being was constrained to be equal to zero and when the path was free. If both the partial and full mediation models were significant and the results similar (i.e., one model was not significantly better than the other), the more parsimonious full mediation model would be accepted. The result of the chi-square difference test indicated that the two models were significantly different; the difference in chi-square with 1 degree of freedom was 22.5, $\alpha = .001$ (partial mediation model $\chi^2 = 297.3$, $df = 112$, $p < .96$, constrained path EEP > PW as 0 model $\chi^2 = 301.8$, $df = 97$, $p < .001$). Therefore, full mediation effects were not evident in this model.

Testing for gender differences. Table 3 presents the standardized coefficients of the full model for males and females separately. To examine gender differences, the sample was divided into separate sub-samples of 660 males and 752 females and a variance-invariance test was performed. Comparing chi-square values for both constrained and unconstrained models is a common way of conducting a variance-invariance test to identify salient coefficients under each of these conditions (Cheung & Rensvold, 2002). First, the full structural model was estimated for both sub-samples concurrently, with all paths among latent variables unconstrained. Then, a model where all paths among latent variables were constrained equally across males and females was evaluated. Given that the constrained model fit the data significantly less well than the unconstrained model, the constrained model was rejected. Thus the association among remembered pre-adult relationships with parents, current parental experiences, generativity, and well-being differed significantly by gender (chi-square difference = 13.5, df difference = 6, $p < .05$).

A second variance-invariance test was performed to detect which paths contributed to gender differences in the model. Single paths were freed in sequence and the chi-square values were compared with the chi-square value for the fully constrained model (rightmost section of Table 3). The only significant difference revealed was in the paths between generativity and psychological well-being for females ($\beta = .52$) and males ($\beta = .24$) (chi-square difference = 9.7, df difference = 1, $p < .01$). Thus, generativity is a more influential predictor of psychological well-being for females than males in this sample.

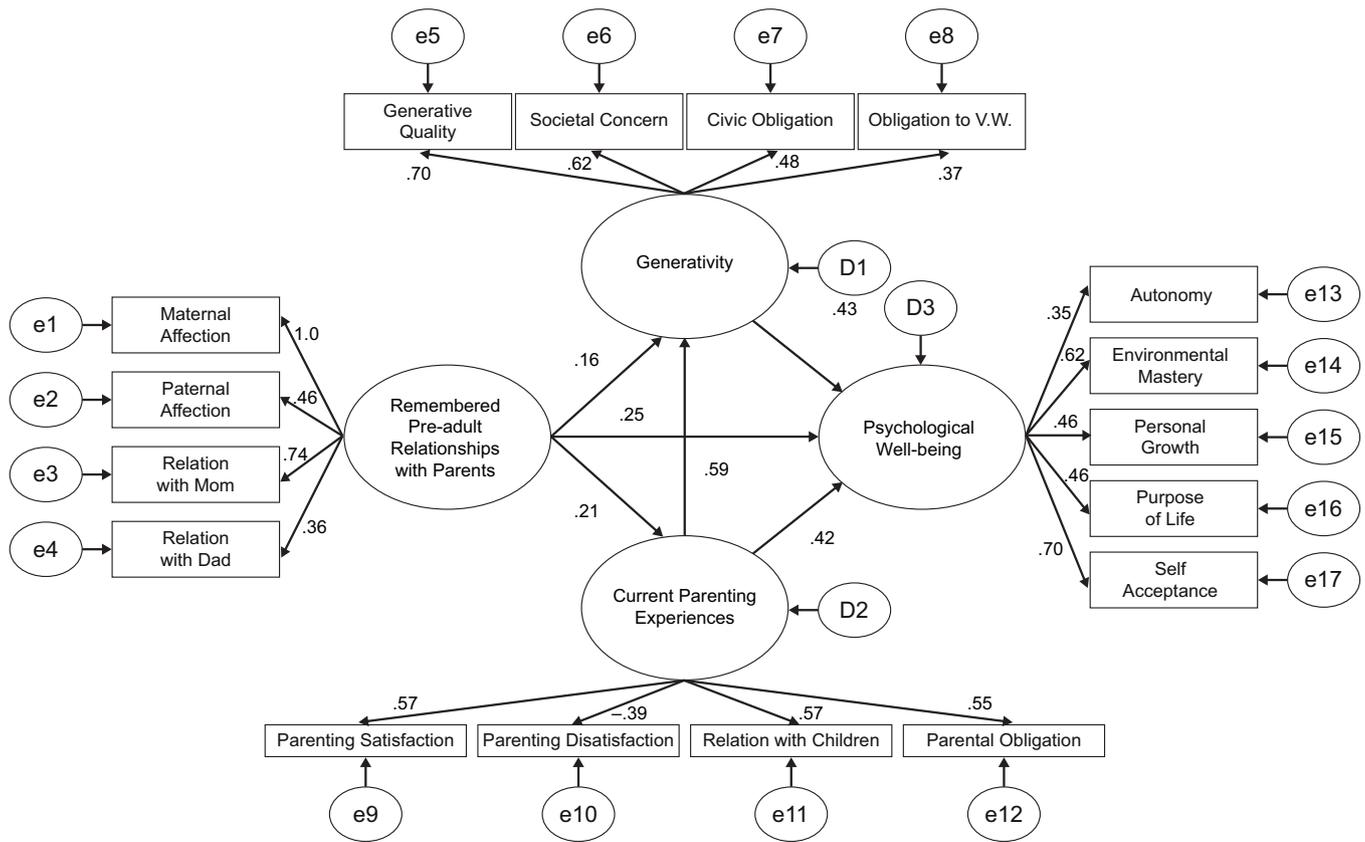


Figure 2. Full structural model.

Table 3
The coefficients for the constrained and unconstrained models for females and males

Paths	Unconstrained				Constrained				Free paths in the full model	Chi-Square (df) and Difference in Chi-Square (df)
	Females		Males		Females		Males			
	B	β	B	β	B	β	B	β	All constrained paths	376.0 (198)
RPP→PW	.03*	.10	.04*	.16	.03***	.12	.03***	.11	RPP→PW	374.4 (197) 1.6 (1)
RPP→G	.01	.01	.04	.06	.02	.03	.02	.03	RPP→G	375.1 (197) 0.9 (1)
EEP→CPE	.08***	.26	.07***	.23	.07***	.24	.07***	.25	EEP→CPE	376.0 (197) 0.0 (1)
G→PW	.26***	.52	.10*	.24	.18***	.41	.18***	.43	G→PW	366.3 (197) 9.7 (1)**
PE→PW	.18*	.18	.20***	.30	.19***	.20	.19***	.22	PE→PW	374.4 (197) 1.6 (1)
PE→G	1.12***	.59	1.46***	.59	1.27***	.58	1.27***	.60	PE→G	373.3 (237) 2.7 (1)
Chi-square (df)	362.5 (192)				376.0 (198)					

RPP (Remembered Pre-adult Relationships with Parents), PW (Psychological Well-being), CPE (Current Parental Experiences), G (Generativity).

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

Discussion

The central finding of this study was that adult psychological well-being was significantly related to generativity development for this sub-sample of parents. In addition, remembered pre-adult family experiences and those occurring currently with one's own adult offspring were related to well-being, both directly and indirectly via their influence on generativity. These findings provide support for our model based on Erikson's (1963, 1968) theory of psychosocial development.

Consistent with Erikson's theory that generativity is the dominant developmental issue for adults beginning around mid-life, we found a strong positive association between generativity and well-being. Based on self-assessment of their generative qualities, feelings of obligation to help others and society, and effort devoted to such behavior, respondents reporting greater generativity also noted enhanced well-being relative to others. Notable is the fact that the total effect of generativity on well-being – measured with items that did not specifically refer to relationships or interactions with offspring – was about

equal in size to the effect of current parenting experiences on well-being. Conceptually, it may be that our generativity factor was addressing what Snarey (1993) refers to as *societal* generativity, and that the parenting experiences we considered represent a distinct form of generativity that Snarey labeled *parental generativity*. Hence, our data support Erikson's (1963) view that parenting behavior, characterized by selfless care and concern, is just one way that adults may achieve generativity and ultimately well-being. Moreover, our results suggest that neither form of generativity – *parental* or *societal* – is any more essential to well-being in adulthood than the other. This is a critical finding, especially for men's development, given concern that high rates of divorce and maternal custody are weakening men's connection to children, and possibly affecting their development and well-being across adulthood (Kruk, 1992).

Our findings also support the claim that achieving quality relationships with offspring and having positive views of them fosters feelings of generativity (Hagestad, 1986). Yet, positive parenting experiences influence well-being in other ways too, as evidenced by the significant direct effect of current relationships on well-being. Perhaps more positive relationships with offspring translate into tangible relationship products, such as practical support and companionship for parents, although past research suggests that aging parents only benefit psychologically from such support in situations where they perceive themselves as needing help (Davey & Eggebeen, 1998). However, middle-aged parents, like the ones in this sample, may be less threatened by support from offspring than are more elderly parents for whom dependency issues are more salient.

Though it is well established that favorable experiences and relationships with adult offspring contribute to well-being in mid and late life (Aquilino, 1996; Koropecykj-Cox, 2002; Ryff & Heidrich, 1997; Umberson, 1996), an important finding in this study is that adults who have less than desirable relationships with offspring can fulfill their need for generativity and enhance well-being through positive non-familial behaviors like volunteering and civic engagement. This is consistent with other studies showing that volunteering can promote feelings of usefulness and productivity among older adults (Kuehne & Sears, 1993), and well-being (Kinney & Morrow-Howell, 1999). In practical terms, we would encourage communities to expand volunteer opportunities for middle-aged and older adults. Such efforts, which could be part of large-scale initiatives like Healthy People 2010, would benefit communities, as well as promote healthy aging for individual citizens. Yet, before expanding volunteer programs, research should test whether societal generativity is equally important for the well-being of non-parents because they were not considered in this research. We suspect, however, that activities like volunteering may be even more important in the lives of non-parents due to the absence of close family ties to offspring.

The nearly equal importance of societal generativity and current parenting experiences for well-being that was revealed herein is interesting given the influence parent-adult child relations and other close social bonds have on outcomes other than psychological well-being, including mental health and chronic physical conditions. Shaw and his colleagues (2004) demonstrated that adults reporting strained social relationships also note more symptoms of depression and physical health problems. Based on our findings, we propose that adults who struggle with intimacy and relationship issues may benefit

mentally and physically by engaging in generative activities beyond their personal social network. Volunteering in less intimate social situations may facilitate caring behavior, which may lead to generativity and psychological well-being, as well as physical and mental health. Future research with MIDUS data should address this issue.

Another central finding of this study is that remembered pre-adult experiences with parents are associated with well-being in adulthood, both directly, but more strongly via parental experiences with one's own adult offspring. Indeed, it appears that early developmental crises bode poorly for later development and well-being as Erikson (1963) claimed. Specifically, we found that recollection of poor relationships with parents – where parents were not trusted to meet the child's need for affection and support, was associated with compromised well-being in adulthood. Yet, Erikson (1968) noted that early problems of development could be reworked through subsequent life experiences, ultimately affecting well-being. Our results support this view; we found that although memories of family experiences in childhood had a significant association with later development (generativity) and experiences (parenting), it was these later experiences that were ultimately more important for current well-being.

What experiences might successfully redirect an individual toward healthy psychological development after a rough start in childhood? According to the literature, establishing an intimate adult relationship where one encounters positive, satisfying relational experiences may modify feelings of insecurity or distrust that developed in response to early family experiences (Crowell, Treboux, & Waters, 2002). It appears that many respondents in the current study managed to do this as reported in data on their own parenting experiences.

Finally, this study provides some new insights regarding gender differences in adult well-being. In contrast to McKeering and Pakenham (2000), we did not find parenting to be a more salient predictor of generativity for men than women. Rather, our data drawn from cohorts born 1921 to 1960 indicate that generativity actually is more predictive of well-being for females than males. Females in the cohorts we studied, which are much older than those studied by McKeering and Pakenham, are likely to have been socialized for other-oriented, nurturing roles rather than achievement and independence. Thus, compared to their male peers, middle-aged and older women today may derive more of their life satisfaction and general well-being through caring for others. For cohorts coming of age after the 1970s Women's Movement, this gender difference may disappear.

Furthermore, consistent with past research (Hart et al., 2001; Keyes & Ryff, 1998; Wilson & Musick, 1997), our data indicate that females score substantially higher than males on two of the four dimensions of generativity. Additionally, they rated their parental experiences more favorably than males. Thus, instead of a pattern where females demonstrate care via family relationships such as parenting, and males through civic or public involvement, as described by Sorell and Montgomery (2001), our findings indicate greater involvement among women than men in activities that demonstrate care and concern for others across domains, as well as greater satisfaction with such activities. These gender differences may highlight the distinct role that nurturing behavior plays in the developmental experiences of females. Indeed, Sorell and Montgomery (2001) review the notion that although the two sexes may face the same psychosocial conflicts across

development, “females approach and resolve these conflicts on the basis of their inherent relationality, whereas males seek resolutions that reflect and foster their dispositional agency and separateness” (p. 118). Given such claims, it would be interesting to know whether these same gender differences would have emerged in this study if an established measure of agentic generativity had been included. This form of generativity, which involves expression of self through work or work products that impact others and reflect one’s creativity and productivity (McAdams & de St. Aubin, 1998), would appear to favor men over women. A study by MacDermid and colleagues (1998), however, which examined agentic generativity, did not find significant sex differences favoring men on this dimension.

Study Limitations

Our reliance on retrospective accounts of respondents’ recalled experiences with their parents during childhood, instead of using prospective data (which the MIDUS data set does not include), surely raises concern about the validity of the results we report. Generally, retrospective data are considered questionable because it is possible that the respondents’ current status – in this case psychological well-being – shapes their recollections of the past, thereby undermining the validity of childhood experiences that they recall, and any causal associations that are subsequently suggested. But, rigorous reviews of methodological evidence suggest that claims regarding the questionable reliability of retrospective data about childhood experiences have been overstated (Brewin, Andrews, & Gotlib, 1993). To illustrate, Robins et al. (1985) found that adult siblings near in age provided highly consistent answers to the majority of factual questions they were asked about early family life. Regarding more subjective parental characteristics like caring behaviour – similar to the pre-adult memories of parenting in this study, Parker (1983) also obtained acceptable measures of agreement between siblings. Finally, Robins reported that sibling pairs in which one respondent was receiving psychological treatment, were no less accurate than sibling dyads where neither respondent was receiving clinical treatment. Therefore, there is no strong evidence to suggest that retrospective accounts of childhood experiences used in this study are necessarily biased in any systematic way.

Another measurement issue to note is that respondents were not given a specific point in childhood upon which to focus in reporting their childhood experiences. Thus, whether the recollections respondents provided are about early childhood when trust versus mistrust issues are of concern, or pertain to later – say adolescence, when other developmental challenges surface – is unknown. This lack of detail on timing of experiences makes it difficult to draw specific conclusions about the influence of early development and the salience of particular developmental experiences and periods for well-being in late life.

In sum, this work lends important insight to the debate about what makes a good life for middle-aged and older adults. Consistent with what Erikson (1963) argued over forty years ago, a critical aspect of healthy development and well-being at this point in life is demonstrating care and concern for others, whether they are one’s own offspring, or others who are not known personally. Therefore, encouraging family and/or civic engagement for all adults should be a goal of any comprehensive effort to enhance citizens’ health and well-being.

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Appendix A

Remembered pre-adult relationships with parents measures: Items and Cronbach's alpha values

Scale (α)	Items	Response format	Items positively scored unless noted
Affection:	How much did she/he understand your problems and worries? (–)	1 = a lot to	
Maternal ($\alpha = .90$)	How much could you confide in her/him about things that were bothering you? (–)	4 = not at all	
Paternal ($\alpha = .92$)	How much love and affection did she/he give you? (–)		
	How much time and attention did she/he give you when you needed it? (–)		
	How much effort did she/he put into watching over you and making sure you had a good upbringing? (–)		
	How much did she/he teach you about life? (–)		
Relationship Quality	How would you rate your relationship with your mother/father during the years you were growing up? (–)	1 = excellent to 5 = poor	

Appendix B

Current parental experiences measures: Items and Cronbach's alpha values

<i>Scale (α)</i>	<i>Items</i>	<i>Response</i>
Parenting Satisfaction ($\alpha = .79$)	I feel good about the opportunities I have been able to provide for my children. I believe I have been able to do as much for my children as most other people. I feel a lot of pride about what I have been able to do for my children.	1 = not at all true, 2 = a little bit true, 3 = moderately true, 4 = extremely true
Parenting Dissatisfaction ($\alpha = .42$)	It seems to me that family life with my children has been more negative than most people's. Problems with my children have caused me shame and embarrassment at times. As a family, we have not had the resources to do many fun things together with the children.	1 = not at all true, 2 = a little bit true, 3 = moderately true, 4 = extremely true
Relationship Quality ($\alpha = .71$)	Using a scale from 0 to 10 where 0 means "the worst relationship" and 10 means "the best possible relationship", how would you rate your overall relationship with your children these days? Using a scale from 0 to 10 where 0 means "no control at all" and 10 means "very much control", how would you rate the amount of control you have over your overall relationship with your children these days? Using a scale from 0 to 10 where 0 means "no thought or effort" and 10 means "very much thought and effort", how much thought and effort do you put into your overall relationship with your children these days?	0 = none to 10 = best 0 = none to 10 = very much 0 = none to 10 = very much
Obligation ($\alpha = .71$)	How much obligation would you feel: To drop your plans when your children seem very troubled To call, write, or visit your adult children on a regular basis To take your divorced or unemployed adult child back into your home	0 = no obligation at all to 10 = a very great obligation

Appendix C

Generativity measures: Items and Cronbach's alpha values

<i>Scale (α)</i>	<i>Items</i>	<i>Response format</i> Items positively scored unless noted
Generative Qualities ($\alpha = .85$)	Others would say that you have made unique contributions to society. (-) You have important skills you can pass along to others. (-) Many people come to you for advice. (-) You feel that other people need you. (-) You have had a good influence on the lives of many people. (-) You like to teach things to people. (-)	1 = a lot, 2 = some, 3 = a little, 4 = not at all
Societal Contribution ($\alpha = .87$)	How would you rate your contribution to the welfare and well-being of other people these days? Looking back ten years, how would you rate your contribution to the welfare and well-being of other people at that time? Looking ahead ten years into the future, what do you expect your contribution to the welfare and well-being of other people will be like at that time? How would you rate the amount of control you have over your contribution to the welfare and well-being of other people these days? How much thought and effort do you put into your contribution to the welfare and well-being of other people these days?	0-10, with high score reflecting greater contribution to the welfare of others
Civic Obligations ($\alpha = .78$)	How much obligation would you feel: To serve on a jury if called To keep fully informed about national news and public issues To testify in court about an accident you witnessed To vote in local and national elections To do more than most people would do on your kind of job	0 = no obligation at all to 10 = a very great obligation
Obligations to Volunteer Work ($\alpha = .75$)	To volunteer time or money to social causes you support To collect contributions for heart or cancer research if asked to do so To vote for a law that would help others worse off than you but would increase your taxes	0 = no obligation at all to 10 = a very great obligation