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Christopher J Einolf, *DePaul University*

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Author contact information:

Christopher J. Einolf

Assistant Professor, DePaul University School of Public Service

25 E. Jackson Boulevard, #1250

Chicago, IL 60604

E-mail: ceinolf@depaul.edu

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Abstract

Longitudinal data taken at a ten year interval from a large, nationally representative sample were used to examine whether generative concern, as measured by a reduced form of the Loyola Generativity Scale (LGS), changed through the life course. Men aged 25-30 in 1995 scored significantly higher on the LGS in 2005 ($p < .05$), and women aged 41-50 and 61-74 in 1995 experienced slight but statistically significant ($p < .05$) decreases. With these exceptions, mean levels of generative concern remained constant, suggesting that generative concern may be a stable personality trait, not associated with a particular life stage.

Keywords:

Generativity

Life course

Loyola Generativity Scale

Marriage

Childbearing

Retirement

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Generativity is an important feature of Erikson's (1963, 1982) life course theory and a topic of interest to scholars of adult development. Erikson's theory states that the crisis of generativity versus stagnation constitutes the seventh of eight life stages, and one that occupies much of the adult life course. During this stage, individuals are challenged to become less focused on their individual success and happiness, and more focused on giving back to society and leaving a legacy for others. While many studies have examined the relationship between generativity and other personality traits, life satisfaction, and behaviors, one of the basic characteristics of generativity – whether it occupies a distinctive stage in the adult life course – has not been extensively tested.

Erikson saw the desire for generativity as an innate drive (Erikson, 1963; Wakefield, 1998), but later scholars (Kotre, 1984; McAdams, Hart, & Maruna, 1998) located the source of generative motivation within the increasing awareness of one's own mortality that comes with age. As people realize their time is limited, they seek ways to "outlive the self" (Kotre, 1984) by establishing a legacy. They do so through having and raising children, donating money to charity, passing on a cultural tradition, teaching a skill, helping others through volunteer work, mentoring younger people, and engaging in artistic and intellectual work.

While Erikson thought generativity was a concern in earlier and later adult life stages, he thought that generativity was most prominent in mid-adulthood, with the exact timing of the stage varying from culture to culture. A later generation of scholars asserted that in the United States, "cultural demand urges adults to assume generative roles as they move into their 30's and 40's" (McAdams, Hart, & Maruna 1998:17). Neither McAdams

and colleagues nor Erickson specified when generative concern would decline, but cross-sectional surveys have found that people in their sixties and early seventies have scored lower on measures of generative concern than people in their late thirties, forties and fifties (Keyes & Ryff, 1998; McAdams, de St. Aubin, & Logan, 1993).

Stewart and Vandewater (1998) further elaborated the life course development of generativity by dividing the concept into generative motivation, generative capacity, and generative achievement. They argue that generative motivation develops completely in early adulthood and then declines; felt capacity for generative action begins to occur in early adulthood, peaks in mid-adulthood, and then decreases; while generative achievement increases through adulthood and peaks late in life. They supported this theory with quantitative coding of narrative data taken from two longitudinal studies of female college graduates.

Scholars have used a number of strategies to measure generativity (Kotre, 1984; McAdams et al. 1997; Peterson, 1998; Stewart & Vandewater, 1998), but one of the most commonly used is the Loyola Generativity Scale (LGS), a measure of "generative concern" (McAdams and de St. Aubin 1992). The LGS asks respondents to evaluate how well twenty statements describe them, on a scale of one to four. These statements include "I think I would like the work of a teacher," "I think I will be remembered a long time after I die," and "Other people say that I am a very productive person," along with some reverse-coded negative items such as "I do not feel that other people need me," and "I feel that I have done nothing that will survive after I die." The Loyola Generativity Scale has high internal validity and test-retest reliability, and correlates with measurements of generativity that use life narrative data and other qualitative methods (McAdams, Hart, &

Maruna, 1998). They found that the LGS contains only two factors, one that includes only positively worded items and another that includes the negative, reverse-coded items. The LGS was developed on American subjects, but it has been used successfully in Japan (Marushima & Arimitsu, 2007), Korea (Kim & Youn, 2002), and Cameroon, Costa Rica, and Germany (Hofer et al., 2007).

Many studies have found a connection between generative concern and generative behaviors (Hart et al., 2002; Peterson, 2002, 2006; Keyes & Ryff, 1998; Rossi 2001; Thiele & Whelan, 2008). Generative concern correlates with measures of life satisfaction and well-being (de St. Aubin & McAdams, 1995; Grossbaum & Bates, 2002; Keyes & Ryff, 1998). It correlates positively with the "big five" personality traits of agreeableness, conscientiousness, extraversion, and openness to experience, and negatively with neuroticism (de St. Aubin & McAdams, 1995; Marushima & Arimitsu, 2007; Van Hiel, Mervielde, & De Fruyt, 2006). Generative concern correlates positively with measures of agency and communion (de St. Aubin & McAdams, 1995; Peterson & Stewart, 1993, 1996; Rossi, 2001), moral obligation (Keyes & Ryff, 1998; Rossi, 2001) and religiosity (Dillon & Wink, 2004; Wink & Dillon, 2003).

While there has been much research on the correlates of the generative concern, one important aspect of the LGS remains inadequately tested: whether scores on generative concern change over the life course. Several cross-sectional studies have compared scores on the Loyola Generativity Scale across age cohorts and life course events. McAdams, de St. Aubin, and Logan (1993) tested the timing of generativity among a sample of 152 adults, randomly selected from the population of Evanston, Illinois. They found that people in mid-adulthood (aged 37-42) scored higher on the LGS

than young adults (age 22-27) and older adults (age 67-72). Using cross-sectional data from the 1995 wave of the Midlife in the United States study, Keyes and Ryff (1998) also found statistically significant differences in generative concern by age, with forty to fifty-nine year olds scoring higher than those aged twenty-five to thirty-nine or those aged sixty and older. McAdams and de St. Aubin (1992) found that fathers scored higher on the LGS than men who did not have children, but that there was no corresponding difference among women. However, all of these studies were cross-sectional, meaning that cohort differences and selection effects may explain the differences found.

The only longitudinal study of generativity using the LGS (Lawford et al., 2005) measured changes in generativity among young adults, measured first at age 19 and then at age 23. They found no significant change in the LGS over this four year period. As most people would consider adults aged twenty-three to still be in early adulthood, it is not surprising that Lawford and colleagues did not find a change. Their findings support the hypothesis that generative concern remains stable in early adulthood, but do not test Erikson's claim that generativity peaks in mid-adulthood.

Thus, no study has used longitudinal measures of Loyola Generativity Scale to test whether generative concern peaks in mid-life. The present study directly tests change in generative concern and action over time, using data from a panel study gathered at a ten year interval. It tests two hypotheses regarding change in generative concern over time:

H1: Generative concern peaks in midlife, as measured by age. Scores on the LGS should increase for respondents who age from their 20's to their 30's, remain constant for

respondents who age from their 30's and 40's to their 40's and 50's, and decrease for those who age from their 60's and 70's to their 70's and 80's.

H2: Generative concern peaks in midlife, as measured by life course events. Scores on the LGS should increase for those respondents who marry or have children for the first time, decrease for those who retire from the labor force, and remain the same for those who experience no change in these major life events.

Method:

Participants:

This article uses data from the 1995 and 2005 waves of the MacArthur Foundation's Midlife in the United States (MIDUS) study. The MIDUS study surveyed a nationally representative random-digit dialing sample of non-institutionalized, English-speaking adults, born between 1920 and 1970. Both telephone and written survey questionnaires were used, and the estimated overall response rate to the first wave was 60.8%. The MIDUS dataset contains weights to account for differences between the sample and the population on age, race, gender, and region of residence, and these weights were used in the calculations for this paper. Full information about the sample, response rate, weighting, and survey design are contained in the MIDUS codebook, available from the MIDUS website at midmac.med.harvard.edu/research.html.

The main wave of the 1995 MIDUS survey had a sample size of 3,032, but only 1,490 respondents to the original survey responded to both the telephone and written questionnaire in 2005. Three hundred and fifty-five respondents completed only the phone survey in 2005, 212 respondents died between 1995 and 2005, and 735 either could not be located or refused to participate. Those who responded to both the survey

and the telephone questionnaire in the second wave differed from non-responders in several ways. Responders were slightly older than non-responders, had higher incomes and more education, and were more likely to be white and female. There was not a significant difference between responders and non-responders on their scores on the 1995 Loyola Generativity Scale. Respondents who died between 1995 and 2005 were older than the rest of the sample, had lower education and incomes, and were more likely to be male.

Measures:

Generative concern: Both the 1995 and 2005 panels of MIDUS used the same six-item reduction of the Loyola Generativity Scale. Each item on the scale was a statement, and respondents were asked to rate how much each statement described them, on a scale of one ("not at all") to four ("a lot"). The statements were "Others would say 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," and "You like to teach things to other people." For 1995, the mean score was 2.80, and the standard deviation was 0.62. For 2005, the mean score was 2.78, and the standard deviation was 0.64.

Principal components analysis showed that all six questions loaded on only one factor, which explained 55.3% of the variance in the 1995 panel, and 56.5% in the 2005 panel. The Cronbach's alpha score for reliability was .836 in the 1995 panel, and .843 in the 2005 panel, and respondents' scores on the 1995 and 2005 generativity measures correlate at Pearson's $R = .607$ ($p < .001$). This correlation is only slightly smaller than

the three week test-retest reliability found in McAdams and de St. Aubin's 1992 study validating the LGS (R = .73).

Life course variables: To track changes in generative concern through the life course, I examined both changes in generative concern with age, and changes with major life course events. In regards to age, the MIDUS survey was given to adults aged twenty-five to seventy-four in 1995. The average age in 1995 was 44.2, with a standard deviation of 12.5. In order to track changes in generativity across the life course, I divided respondents into five cohorts: those aged 25 to 30 in 1995 (129 respondents), those aged 31 to 40 (380 respondents), those aged 41 to 50 (415 respondents), those aged 51 to 60 (286 respondents), and those aged 61 to 74 (233 respondents). I consolidated the 61-70 and 71-74 cohorts because the oldest cohort had a small number of respondents (N = 71).

In regards to life course events, I examined the role of marriage, childbearing, and retirement. Each wave of the MIDUS survey asked respondents how many children they had, and I divided respondents into three categories: those who had children both in 1995 and 2005 (1,177 respondents, or 79.0% of the total), those who had children in neither wave (181 respondents, or 12.1%), and those who did not have children in 1995 but did in 2005 (88 respondents, or 5.9%). If Erikson is correct, those respondents who became parents between 1995 and 2005 should experience an increase in generative concern.

Each wave of the MIDUS survey asked respondents for their marital status, with possible responses including single, married, separated, divorced, and widowed. I combined the single, separated, divorced, and widowed categories into a single non-married category, and tracked changes between 1995 and 2005. There were 332 (23.0% of the total) respondents who were single in both waves, 130 (9.0%) who married

between 1995 and 2005, 118 (8.2%) who became single between 1995 and 2005 through separation, divorce, or widowhood, and 866 (59.9%) who were married in both waves.

Each wave of the MIDUS survey asked respondents for their labor force status, with possible responses including employed, self-employed, unemployed, laid off, retired, homemaker, student, on sick leave, and disabled. As I was interested primarily in the effect of retirement on generative concern and action, I dichotomized this variable in each wave and combined them to create a three category variable measuring the transition to retirement. The categories included non-retired both waves (1077 respondents, or 74.1% of the total), retired both waves (210 or 14.5%), and not retired in 1995 but retired in 2005 (146 or 10.1%). There were twenty respondents who described themselves as retired in 1995 but not retired in 2005, and I coded these as not retired in both waves, increasing that category to 1097 respondents (75.5% of the total).

Procedure:

I used t-tests to determine whether there were statistically significant differences between respondents' scores on the reduced LGS in 1995 and in 2005. I divided the respondents into subgroups based on age cohort and life course events. I tested for changes both in the full sample and in the sample divided by gender.

Results:

H1. Changes in generative concern with age: The data provided partial support for the hypothesis that generative concern changes with age. As Table 1 shows, generative concern did increase for the youngest respondents and decrease for the oldest, but the differences were small and not always statistically significant. In the full sample, only the decline in generative concern among those aged 61-74 is statistically significant.

When the sample is divided by gender, females aged 61-74 declined in generative concern by 0.11 points between 1995 and 2005 (p = .035), and females aged 31-40 declined by .08 points (p = .023). Males aged 25-30 gained 0.26 points between 1995 and 2005 (p = .002), but the decline among men aged 61-74 in 1995 is not statistically significant (p = .335).

[Table 1 here]

H2. Changes in generative concern with life course events: The data did not support this hypothesis. There was no statistically significant change in generative concern for those who married between 1995 and 2005, for those who had children for the first time between 1995 and 2005, or for those who retired between 1995 and 2005 (Table 2). Dividing the sample by gender did not reveal any statistically significant results.

[Table 2 here]

Discussion:

The data provided only weak support for the hypotheses that generative concern peaks in mid-life. For men, generative concern increased for those who aged from their 20's to their 30's, and for women, generative concern decreased slightly for those who aged from their 30's to their 40's, and their 60's to their 70's. Major life events such as marriage, childbearing, and retirement had no statistically significant effect on generative concern.

It is possible that sample attrition and the abbreviated nature of the LGS measure may explain the lack of change in generative concern. While the MIDUS study drew upon a nationally representative sampling frame and had over 3,000 initial respondents,

only an estimated 60% of those contacted responded to the first wave of MIDUS, and half of these did not participate fully in the second wave. It is possible that those who responded to both waves of the survey differ from the general population in some way that explains the stability of their generative concern and action. This seems unlikely, however, as it is difficult to imagine some characteristic that would correlate both with willingness to participate in a panel survey and stability in generative concern.

A more substantive problem lies with how the MIDUS survey reduced the LGS. The six items used in MIDUS all ask about the extent to which the respondent likes to help "others," without specifying whether these "others" are members of the next generation. The MIDUS scale did not include any of the items in the original LGS that had to do with leaving a legacy, such as "I feel as though my contributions will exist after I die." Perhaps the LGS contains more than one subscale, one of which measures the desire to help and teach others in general, and another which measures concern with the next generation in particular. McAdams and de St. Aubin's (1992) factor analysis of the 20-item LGS did not find that the legacy items made up a separate factor. However, if future researchers discover that the legacy items on the LGS do form a separate dimension, this may explain why individuals' scores on the reduced LGS used on MIDUS did not change much over time.

While there were some problems with the sample and the measurements, this study nonetheless represents the best attempt to date to measure changes in generative concern over time. The results of this study cast some doubt on the assertion that generativity is a particularly important concern of mid-adulthood. One way of reconciling these findings with Erikson's theory is to interpret them in regards to the multi-faceted

nature of generativity. It may be that generative concern remains largely stable in midlife, while generative motivation and action change over time (Stewart and Vandewater, 1998). However, it is also possible that generative concern is a stable personality trait, similar to such prosocial traits as empathic concern (Davis, 1994) and helpfulness (Penner et al., 1995), and is not associated with a particular life stage. Further exploration of the timing of generativity is needed to clarify this question.

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Table 1: Change in generative concern by age cohort:

Age in 1995	1995 LGS score	2005 LGS score	Difference
Total sample:			
25-30 (N = 129)	2.77	2.87	+.10
31-40 (N = 383)	2.74	2.70	-.05
41-50 (N = 416)	2.83	2.85	+.02
51-60 (N = 288)	2.90	2.87	-.03
61-74 (N = 233)	2.73	2.66	-.08*
Women only:			
25-30 (N = 68)	2.91	2.86	-.05
31-40 (N = 225)	2.75	2.67	-.08*
41-50 (N = 222)	2.83	2.85	+.02
51-60 (N = 153)	2.88	2.85	-.03
61-74 (N = 123)	2.73	2.64	-.09*
Men only:			
25-30 (N = 62)	2.61	2.87	+.26**
31-40 (N = 158)	2.73	2.74	+.008
41-50 (N = 194)	2.83	2.83	+.005
51-60 (N = 135)	2.92	2.89	-.03
61-74 (N = 110)	2.74	2.68	-.06

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

Table 2: Change in generative concern by life course events:

	1995 LGS score	2005 LGS score	Difference
Marital status:			
Single both waves (N = 332)	2.80	2.82	+.02
Married in 2005 (N = 130)	2.87	2.79	-.08
Newly single in 2005 (N = 118)	2.81	2.74	-.07
Married both waves (N = 866)	2.79	2.77	+.02
Parental status:			
No children both waves (N = 181)	2.79	2.81	+.02
Became parent after 1995 (N = 88)	2.75	2.77	+.02
Parent both waves (N = 1177)	2.80	2.78	-.02
Labor force status (respondents over 60 years old in 2005):			
Not retired in either wave (n = 138)	2.81	2.80	-.01
Newly retired in 2005 (n = 157)	2.84	2.79	-.05
Retired in both waves (n = 139)	2.77	2.66	-.11*

* $p \leq .05$