

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Faculty Publications: Agricultural Leadership,
Education & Communication Department

Agricultural Leadership, Education &
Communication Department

10-2015

Generativity in College Students: Comparing and Explaining the Impact of Mentoring

Lindsay J. Hastings

University of Nebraska-Lincoln, lhastings2@unl.edu

James V. Griesen

University of Nebraska-Lincoln, jgriesen1@unl.edu

Richard E. Hoover

University of Nebraska-Lincoln, rhoover2@unl.edu

John W. Creswell

University of Nebraska-Lincoln, jcreswell1@unl.edu

Larry L. Dlugosh

University of Nebraska-Lincoln, ldlugosh1@unl.edu

Follow this and additional works at: <http://digitalcommons.unl.edu/aglecfacpub>



Part of the [Educational Administration and Supervision Commons](#), [Higher Education Commons](#), [Other Education Commons](#), and the [Social and Philosophical Foundations of Education Commons](#)

Hastings, Lindsay J.; Griesen, James V.; Hoover, Richard E.; Creswell, John W.; and Dlugosh, Larry L., "Generativity in College Students: Comparing and Explaining the Impact of Mentoring" (2015). *Faculty Publications: Agricultural Leadership, Education & Communication Department*. 87.

<http://digitalcommons.unl.edu/aglecfacpub/87>

This Article is brought to you for free and open access by the Agricultural Leadership, Education & Communication Department at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Faculty Publications: Agricultural Leadership, Education & Communication Department by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Generativity in College Students: Comparing and Explaining the Impact of Mentoring

Lindsay J. Hastings
John W. Creswell

James V. Griesen
Larry L. Dlugosh

Richard E. Hoover

Preparing college students to be active contributors to the next generation is an important function of higher education. This assumption about generativity forms a cornerstone in this mixed methods study that examined generativity levels among 273 college students at a 4-year public university. MANCOVA results indicated that college students who mentor demonstrated significantly higher generativity than non-mentoring students. Interviews with 9 mentoring students revealed that, although a “seed of generativity” may have already been planted, their mentoring experience served as a “lab” for learning how to be generative. The integrated findings offer important contributions relative to leadership and social responsibility.

Generativity, defined as “primarily the concern in establishing and guiding the next generation” (Erikson, 1950/1963, p. 267), is considered a trademark characteristic of psychosocial maturity (Browning, 1973; Kotre, 1984; McAdams, 1985; McAdams, de St. Aubin, & Logan, 1993; Neugarten, 1964; Ryff & Migdal, 1984). In Erikson’s (1950/1963) model of psychosocial development, generativity is situated as the seventh (midlife) of eight successive human life cycle stages. Generativity is most commonly expressed through parenting, mentoring, leadership, and service to others (Azarow et al., 2003).

The purpose of this mixed methods study was to examine if college students who mentor are more generative than their peers.

A fundamental assumption of this study is that young adults play an important role in contributing to society’s betterment (American Council on Education, 1994), in particular guiding the next generation. In fact, contributing to society’s betterment through socially responsible leadership has been identified as a core outcome of the collegiate experience (Astin & Astin, 2000). Generativity is important to the discussion of social responsibility, especially in young adults. Because generativity is a midlife construct, young adults are not regarded as highly generative. Generativity, however, has been empirically identified as the most significant predictor of social responsibility (Rossi, 2001b). In other words, the more generative a person is, the more likely that person is to contribute time and money toward building a strong family, workplace, and community. If young adults are not regarded as highly generative, how do they increase their social responsibility? Mere aging? Should generativity (and, therefore, socially responsible behavior) only be expected once a person reaches middle adulthood? What about college students who mentor? Are these young adults more generative (and therefore more socially

Lindsay J. Hastings is Clifton Professor in Mentoring Research, Agricultural Leadership, Education, and Communication at the University of Nebraska–Lincoln, and Director of the Nebraska Human Resources Institute. James V. Griesen is Emeritus Professor of Educational Administration; Richard E. Hoover is Emeritus Senior Lecturer of Educational Administration; John W. Creswell is Professor of Educational Psychology; and Larry L. Dlugosh is Emeritus Professor of Educational Administration; each at the University of Nebraska–Lincoln.

responsible) than their peers?

The United States is poised to experience a predicted \$75 trillion transfer of wealth opportunity from older generations (Civic and Baby Boomers) to younger generations (Generation X, Generation Y, and Millennial) between 2010 and 2060 (Macke, Markley, & Binerer, 2011). Furthermore, the largest generation in this country, the Baby Boomers, is currently between the ages of 48 and 66 and entering the “red zone” for retirement (U.S. Census Bureau, 2010). These individuals are currently occupying the vast majority of leadership positions within business and industry as well as the not-for-profit sector. Currently, employed individuals aged 45 and over hold approximately 56% of all management occupations in the United States (U.S. Bureau of Labor Statistics, 2012). This means more than half of all management occupations will be transferred to a younger generation within the next two decades. Thus, this transfer of wealth is not just a wealth issue, but also a transfer of leadership issue. The current generation of college students will likely assume leadership positions early in their careers and will likely be tasked with cultivating significant wealth transfer. This demand for socially responsible leadership from young adults will require higher levels of generativity earlier in their life span than middle adulthood. Therefore, the purpose of this study was to examine generativity levels among college students who mentor, predicting that the presence of a mentoring relationship would positively impact generativity. The results presented in the current study will benefit college student development scholars and practitioners, as their work in preparing students to engage in socially responsible leadership will become critical in coming decades.

LITERATURE REVIEW

McAdams and de St. Aubin (1992) produced a seminal generativity piece that offered both a theory of generativity and multiple assessment strategies to measure individual differences in generativity: (a) the Loyola Generativity Scale (LGS)—a self-report scale of generative concern, (b) the Generativity Behavior Checklist (GBC)—a behavioral checklist measuring generative actions, and (c) narrative accounts of important autobiographical episodes. McAdams et al. (1993) added Emmons’s (1986) measure of personal strivings to assess generative commitment—goal-setting and decision-making that seeks to take responsibility for the next generation (McAdams & de St. Aubin, 1992).

The conceptual model of generativity begins with two motivational sources: (a) an inner desire for agentic immortality and communal care for others and (b) a cultural demand for generativity (McAdams & de St. Aubin, 1992). From these motivational sources stems the generative performance sequence: concern, commitment, and action. Thoughts and plans including concern for the next generation translate into generative commitments, which are reinforced by a belief in the species. Generative commitments lead to actual behavior in generative action, which includes creating, maintaining, and offering. Meaning is made of these aforementioned constructs through personal narrations. A pictorial diagram of this conceptual model can be viewed in McAdams and de St. Aubin’s article (1992, p. 1005).

From this conceptual framework, a few questions arise that previous research has not yet answered. For example, what if young adults are placed in an environment where cultural demand exists for them to be generative? What

if young adults are given a societal opportunity to be generative? The results of this study shed light on these inquiries.

Developmental Antecedents of Generativity

Erikson (1950/1963) argued that adults in their midlife, compared to younger and older adults, are most likely to engage in generativity as evidenced by their career and family roles. Younger adults, comparatively, are more likely establishing their identity and building long-term intimacy with others. Currently, the field of generativity maintains that although individuals can have generative proclivities during any life stage, generativity is the most salient psychosocial developmental issue during midlife years (McAdams & Logan, 2004).

McAdams (2001) remarked, however, that existing research lacks a thorough knowledge of the developmental antecedents of generativity, in particular what sorts of childhood and adolescent experiences are linked to strong generativity. To date, the following variables have emerged as developmental antecedents from generativity research:

- Being mentored (Peterson & Stewart, 1996)
- Parental generativity (Peterson, 2006; Rossi, 2001a, 2001b)
- Authoritative parenting style (warmth coupled with strictness) (Frensch, Pratt, & Norris, 2007; Lawford, Pratt, Hunsberger, & Pancer, 2005)
- Sociability shown toward individuals outside of the family (Rossi, 2001b)
- Family size (Rossi, 2001a)
- Parental affection and emphasis on caring (Frensch et al., 2007; Rossi, 2001a)
- Parental emphasis on chores and time-use rules (Rossi, 2001a)

- Community involvement (Frensch et al., 2007; Lawford et al., 2005)
- Educational attainment (Rossi, 2001a)
- Age (Rossi, 2001a)
- Communion, agency, and conscientiousness personality traits (Rossi, 2001a)
- Parents' ratings of autonomy-encouraging practices (Frensch et al., 2007).

While these authors offered an initial list of developmental antecedents, more research in this area could provide a more comprehensive picture.

Generativity in the College Student Context

McAdams (2001) pointed out that although generativity is considered a midlife construct, several studies have revealed young adults scoring significantly higher on various generativity measures. McAdams further noted, “[I]t may be claiming too much to claim that generativity is a ‘midlife stage’ in adult development. . . . [T]he empirical picture is too ambiguous to delineate a clearly demarcated stage of generativity in the middle of the adult life course” (p. 414).

Erikson's (1950/1963) conception of identity (Stage 5 within the life cycle) has historically been a focus of study for college student development scholars. Chickering (1969) introduced a major college student development theory that drew specifically from Erikson's identity development ideas. Chickering and Reisser (1993) then sought to describe the experience of college students by identifying key developmental issues utilizing data from achievement tests, personality inventories, diaries, and interviews, among other instruments. Chickering and Reisser identified seven vectors that describe psychosocial maturity during the college

years, including (a) developing competence in areas such as intellectual, physical, and interpersonal competence; (b) managing emotions by recognizing, accepting, appropriately expressing, and controlling them; (c) moving through autonomy toward independence, resulting in increased emotional independence; (d) developing mature interpersonal relationships (originally called “freeing interpersonal relationships”); (e) establishing identity that depends on the previous vectors; (f) developing purpose in terms of goals, personal activities, and interpersonal commitments; and (g) developing integrity, which includes humanizing values, personalizing values, and developing congruence. Chickering (1969) deliberately proposed the word “vector” to suggest that each factor contributing to identity development has its own direction and magnitude. Furthermore, the progression through each vector is not necessarily stage-based, sequential, or linear, which challenged Erikson’s traditional stage-based model.

While Chickering and Reisser (1993) advanced psychosocial research beyond stage-based models, they still argued that identity formation is a primary focus of psychosocial development during college years. McAdams, Hart, and Maruna (1998), however, suggested that identity development need not be reserved for a psychosocial stage during late adolescence or early adulthood, but rather that identity development is constructed and reconstructed throughout a person’s adult life through narration. Furthermore, the “generativity script” (McAdams, Hart, & Maruna, 1998, p. 12) is one piece of that life narration. A number of scholars discovered an intersection between identity development and generativity (Imada, 2004; Komives, Longersbeam, Owen, Mainella, & Osteen, 2006; Komives, Owen, Longersbeam, Mainella, & Osteen, 2005; Singer, King, Green, & Barr, 2002). Singer, King, Green, and Barr (2002), for example,

examined narratives of 22 college students involved in a service-learning program. Data analysis revealed a significant correlation between personal identity narratives and generative concern as well as a positive and predictive relationship between generative concern and stress-related growth (self-perceived outcomes that result from a stressful life experience).

Generativity, Leadership, and Mentoring

Azarow et al. (2003) indicated that generativity is often expressed through activities such as mentoring and leadership. College mentoring programs are designed with the belief that these types of programs develop leaders (Posner & Brodsky, 1992; Ryan, 1994; Seitz & Pepitone, 1996). Additionally, Scandura, Tejada, Werther, and Lankau (1996) argued that mentoring is an inherent function of leadership. A few higher education studies have examined the relationship between being mentored and a student’s capacity for socially responsible leadership (e.g., Campbell, Smith, Dugan, & Komives, 2012; Dugan & Komives, 2010), yet little is known about the outcomes associated with the college student serving as the mentor. For example, the results of Dugan and Komives’s (2010) study indicated that peer mentoring served as a positive predictor of three indicators of socially responsible leadership, namely collaboration, commitment, and citizenship; however, these results describe the results associated with being mentored by a peer, not the outcomes associated with being a mentor.

A few research studies examining involvement in leadership development programs have identified a link to generative behavior in mentoring. College students who engage in leadership development programs tend to report increased leadership skills (such as collaboration and conflict resolution) as well

as an increased commitment to develop the same kinds of skills in others (indicative of a generative inclination; Astin & Leland, 1991; Bennis, 1989; Cress, Astin, Zimmerman-Oster, & Burkhardt, 2001; Lipman-Blumen, 1996; Wielkiewicz, 2000).

College student development scholars Komives, Owen, et al. (2005) explored the relationship between generativity and leadership, offering an important understanding of how generativity is experienced by student leaders. Komives, Owen, et al. conducted a grounded theory study to examine how college students develop their leadership identities. Utilizing a series of three in-depth interviews with each of 13 students from a mid-Atlantic research university, the authors discovered that a leadership identity develops through a six-stage developmental process. The college students' leadership identities moved from being aware of what a leader is to being generative in their own leadership behavior.

Komives, Longersbeam, et al. (2006) furthered the 2005 study by creating a leadership identity development (LID) model based on the six aforementioned stages. With regard to the generativity stage (Stage 5), Komives, Longersbeam, et al. noted that the participants transitioned into Stage 5 when they began to articulate a passion for and commitment to serving the larger purposes of their campus group or organization. Moreover, the participants demonstrated generativity when they concerned themselves with the continuity of their group or organization, acknowledged a responsibility for developing others, and began coaching and mentoring younger peers.

The practical significance of examining the relationship between generativity, leadership, and mentoring during young adulthood manifests itself in Rossi's research linking generativity to social responsibility. Rossi (2001b) analyzed domains and dimensions of

social responsibility among 3,032 respondents (aged 25 to 74) using the Midlife Development in the United States (MIDUS) survey, a survey that examines patterns, predictors, and consequences of midlife development. Telephone interviews and self-administered questionnaires included multiple measures of social responsibility and a modified version of the LGS. Results indicated that generativity was the most significant predictor of all four dependent variables of social responsibility (time, money, family, and community). In other words, the higher one scored on the LGS, the more likely he or she was to contribute time and money (dimensions of social responsibility) to both the family and the community (domains of social responsibility). Considering the predictive linkage between generativity and social responsibility, the field of college student development would benefit from examining the impact of mentoring on generativity in college students, as these results could better inform how to cultivate the core college outcome of socially responsible leadership. Thus, the purpose of the current study was to examine the impact of mentoring relationships on generativity in college students.

Few studies have examined generativity in the college student context. In addition, previous generativity studies have utilized neither rigorous qualitative methods nor mixed methods. The current study addressed mentoring relationships in the college student context and their impact on generativity utilizing both quantitative and qualitative methods.

METHOD

An embedded explanatory sequential mixed methods design was used to examine the impact of mentoring relationships on generativity in college students. This particular design utilizes multiple data sets—one data set serves as the

primary data set while the other data set serves a supportive, more secondary role (Creswell & Plano Clark, 2011). The primary purpose of the current study was to quantitatively examine generativity in college students at a 4-year, public Midwestern university who were mentoring a K–12 student, predicting that the presence of a mentoring relationship would positively impact generativity. A secondary purpose was to gather qualitative data to explore the impact of mentoring relationships on generativity.

The quantitative phase involved standard generativity measures and an advanced MANCOVA quasi-experimental design with tests of homogeneity, intercorrelations, and profile plots for subscales. The quantitative results—consistent with this mixed methods design—were used to identify qualitative participants and to pose questions that would provide added insight. The follow-up qualitative phase employed a rigorous phenomenological design (Moustakas, 1994). Qualitative findings were used to help explain quantitative results. These procedures, in turn, informed the development of hypotheses relative to generativity, leadership, and mentoring.

Quantitative Phase

Sampling Procedure. Participants in the quantitative phase came from three distinct groups at a 4-year, public Midwestern university: (a) intervention group, (b) college student leader control group, and (c) general college student control group. Intervention group participants ($n = 80$) were college student leaders who were mentoring K–12 student leaders in a formal leadership-mentoring program. College students selected for the leadership-mentoring program (called “counselors”) were paired in one-to-one relationships with K–12 students (called “junior counselors”) who were identified by their schools as having high leadership

potential. Each pair met at least once a week for three years. The objective for the counselor was to identify leadership talents within their junior counselor and develop those leadership capacities. Based on the age or school of their junior counselors, counselors were grouped in “projects.” These projects met weekly for an hour to discuss and reflect upon the progress of their relationships with their junior counselors. Counselors were also given the opportunity to take a course during one semester of their leadership-mentoring experience centered around interpersonal skills for leadership.

The college student leader control group participants ($n = 45$) were also campus leaders, but not participants in the leadership-mentoring program. These participants were selected from student government, new student enrollment leaders, and the Greek system (e.g., Greek presidents, Interfraternity Council, Panhellenic Association). The faculty/staff leaders of the aforementioned leadership groups were contacted to gain access to student participants in their respective programs. Once permission was granted, these students were contacted either in person (the lead author came to one of their meetings) or via e-mail through the faculty/staff leader. The response rate for this control group is unclear, as only consenting e-mail participants corresponded with the lead author.

The general college student control group ($n = 148$) was selected from the overall undergraduate student body utilizing a cluster sampling procedure (Teddlie & Yu, 2007). Twenty-four undergraduate courses (clusters) during the summer term of 2011 were randomly selected, assuming each cluster had at least 10 enrolled students. Course instructors of the 24 selected courses were contacted and 11 consented, yielding 148 student respondents.

Research Design and Data Collection. A group comparison design was employed for the

quantitative phase. All participants completed the LGS, the GBC, and open-ended reports of personal strivings as suggested by McAdams and de St. Aubin (1992) and McAdams et al. (1993). In addition, participants completed a demographic questionnaire that included questions regarding the covariates in the study: age, grade point average (GPA) range, major, and gender.

The LGS is a 20-item self-report scale using a Likert-type response option from 0 (*Statement never applies to you*) to 3 (*Statement applies to you very often*) that assesses primarily individual differences in generative concern (McAdams & de St. Aubin, 1992). The 20 items load into five subscales: (a) passing on knowledge to the next generation, (b) making significant contributions for the betterment of one's community, (c) doing things that will have an enduring legacy, (d) being creative and productive, and (e) caring for and taking responsibility for other people. The LGS has high internal reliability (Cronbach's alpha for adult sample, $\alpha = .83$; Cronbach's alpha for college sample, $\alpha = .84$ in McAdams & de St. Aubin, 1992; subscale reliability scores not reported). In both the college and the adult samples, each item showed relatively (a) wide response variability, (b) high correlations with the total LGS score, (c) high correlations with external generativity measures (demonstrating convergent validity) such as Ochse and Plug's (1986) 10-item generativity subscale and Hawley's (1984) 14-item generativity scale, and (d) low and nonsignificant correlation with Ochse and Plug's (1986) Social Desirability (*SD*) scale (demonstrating discriminant validity) (McAdams & de St. Aubin, 1992). Further, the LGS demonstrated moderately high test-retest reliability ($r = .73$ over a three-week interval) (McAdams et al., 1993).

The GBC is a 50-item objective self-report that measures generative acts (McAdams & de St. Aubin, 1992). The respondent rates each

item on a scale from 0 to 2 based on how often each generative action was performed in the previous two months (0 = *Act had not been performed during the previous two months*, 1 = *Act had been performed once during the previous two months*, 2 = *Act had been performed more than once during the previous two months*). Forty items relate to generativity and 10 are filler questions. Scores on generative acts demonstrated positive and significant associations with LGS scores ($r = .46, p < .001$ in Hart, McAdams, Hirsch, & Buer, 2001; $r = .59, p < .001$ in McAdams & de St. Aubin, 1992; $r = .53, p < .001$ in McAdams et al., 1993).

The open-ended reports of personal strivings is a measure adapted from Emmons (1986) that assesses generative commitment. Participants were prompted to write 10 sentences, each beginning with "I typically try to . . ." and each describing a personal striving. Personal strivings were defined as the "things that you typically or characteristically are trying to do in your everyday life" and as the "objectives or goals that you are trying to accomplish or attain" (McAdams et al., 1993, p. 223). Scores on open-ended reports of personal strivings demonstrated positive and significant associations with both LGS scores ($r = .29, p < .001$ in Hart et al., 2001; $r = .23, p < .01$ in McAdams et al., 1993) and GBC scores ($r = .26, p < .001$ in Hart et al., 2001; $r = .20, p < .05$ in McAdams et al., 1993).

Of the covariates, only gender has demonstrated a direct empirical relationship with generativity (young women demonstrated significantly higher generativity than young men; McAdams & de St. Aubin, 1992). The other covariates, however, may be related to generativity based on previous research findings. With regard to GPA, McAdams (2001) noted in his summary analysis of generativity literature that education level is positively related to generativity. One could

argue that those with higher GPA levels will be more likely to attain a degree; therefore, the influence of GPA range should be controlled. Although college major has not been explicitly studied in relationship to generativity, certain generative inclinations may likely associate with particular college majors. For example, Item 3 on the LGS states, "I think I would like the work of a teacher." One could argue that students who are majoring in education, for example, may have higher generativity responses. Lastly, with regard to age, the age difference between the current study's participants was minimal, considering all of the participants were undergraduate students. The results of Komives et al.'s (2005) leadership identity study, however, might cause one to consider that a college senior (in particular, a senior college student leader) may express a more generative leadership identity than a sophomore. Considering the potential influence of these variables on generativity, the covariates of age, gender, GPA range, and college major were measured to reduce the within-group variation and to increase the power of the multivariate statistical analysis.

Data Analysis. Each respondent received a score for each subscale in the LGS. For the GBC, each respondent received a total score across all 40 generativity items.

For the personal strivings measure, each striving was coded for generative commitment, following a procedure established by McAdams et al. (1993). In order to code strivings for generative commitment, the scorer examined three different generativity categories in each sentence: (a) involvement with the next generation; (b) providing care, help, assistance, instruction, guidance, and comfort, or attempting to promote or establish a positive outcome in another person's life; and (c) making a creative contribution to others or society in general. Each striving was coded for the presence (score = 1) or absence

(score = 0) for each generativity category. The lead author coded each participant's strivings; however, a random sample of coded strivings was examined by a cohort of graduate students for accuracy and validity.

The LGS subscale scores, the GBC total score, and the personal striving total score were entered into SPSS v. 19 where individual scores and total group scores were tabulated. A multivariate analysis of covariance (MANCOVA) was conducted to see if the presence of a mentoring relationship resulted in significant differences in variance between the control groups and the intervention group on generativity (more specifically, the linear combination of generativity variables) at the $p < .05$ significance level while statistically removing the potential influence of age, gender, GPA range, and college major (covariates). The quantitative results were used to create a typology to select cases for the qualitative phase. Furthermore, the quantitative results were utilized to determine interview protocol questions.

Qualitative Phase

A phenomenological design was used for collecting and analyzing data in this phase. A qualitative research approach, phenomenology seeks to comprehend the "essence" of a lived experience by gathering comprehensive descriptions of the participants' experience (Moustakas, 1994, p. 13). The ultimate purpose is to derive an experience's meaning for those involved.

Data Collection Procedure. As the purpose of the current study was to examine the impact of mentoring relationships on generativity, it seemed prudent to examine the experiences of only those who were engaged in a mentoring relationship. Thus, the qualitative phase consisted of nine interviews with intervention group participants who scored in the top third of multiple generativity measures, as those

participants could likely offer the richest data relative to experiences with generativity. In-depth, semistructured interviews were conducted to ascertain the intervention participants' experiences with generativity in the context of their mentoring relationship and to explain the quantitative findings.

Descriptive and structural guiding questions were prepared for the interview, but leads presented by the respondents were followed and contrasting-type questions were asked during probing, modeled after Hatch's (2002) recommendations. The interview questions were derived from an adaptation of Bradley and Marcia's (1998) Generativity Status Measure (GSM), Moustakas's (1994) general interview guide, and the quantitative results.

Bradley and Marcia (1998) created the GSM as a way to measure the extent to which an individual has resolved Erikson's (1950/1963) generativity-stagnation stage. In order to establish concurrent validity, Bradley and Marcia successfully tested convergence between the GSM and the LGS, as well as Ochse and Plug's (1986) generativity subscale. Moustakas (1994) suggested utilizing a 7-item general interview protocol in order to obtain the richest data from the research subjects. The remaining interview protocol questions were based on the results from the quantitative phase to target participant views on generativity and the impact of their mentoring experience (see Appendix). The interviews lasted approximately 30 minutes each.

The qualitative phase participants were contacted by e-mail prior to the interview to explain what this phase of the study involved, what was expected of them, and what they could expect from the researcher, following Moustakas's (1994) recommendation. Sampled participants were solicited for an interview, given the opportunity to ask questions, then asked to participate and to sign an informed consent document.

Data Analysis. The qualitative data for this phase were analyzed inductively, as demanded by the tenets of qualitative research. Inductive analysis involves examining specific data, finding patterns and interrelationships among those data points, then compiling those patterns and interrelationships into a "meaningful whole" (Hatch, 2002, p. 161). To address ethical issues, participants' individual privacy and dignity were protected utilizing pseudonyms. Data were verified utilizing several validation strategies, such as member checking, rich and thick descriptions, triangulation, and a peer review (Creswell, 2005; Merriam, 1998).

Each interview was audiotaped and transcribed by the researcher. Data analysis for this phase followed traditional phenomenological analysis procedures (Creswell, 2007; Moustakas, 1994). First, each transcript was mined for significant statements and statements of meaning as they related to the phenomenon (called "horizontalizing" the data). From these horizons, statements of meaning were identified. These statements were clustered into common themes and then translated into textural descriptions (what the participants experienced) and structural descriptions (contextual influences on how the participants experienced the phenomenon). Finally, the textural and structural statements were combined to capture the essence of the phenomenon, which involved developing a composite description of the meanings and essences of the group's experiences with generativity in their respective mentoring relationships.

RESULTS

Quantitative Phase

The data analysis from the quantitative phase compared generativity levels among the intervention group, college student leader control

TABLE 1.
Descriptive Statistics for Each Dependent Variable Within Each Group

Dependent Variable	Intervention Group (<i>n</i> = 80)	College Student Leader Control Group (<i>n</i> = 45)	General College Student Control Group (<i>n</i> = 148)
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
LGS Subscale 1	10.10 (1.37)	8.82 (1.89)	8.56 (1.94)
LGS Subscale 2	9.45 (1.59)	9.02 (1.99)	8.01 (2.09)
LGS Subscale 3	13.66 (1.86)	12.69 (2.51)	11.75 (2.99)
LGS Subscale 4	4.86 (0.97)	4.83 (0.89)	4.78 (1.07)
LGS Subscale 5	9.39 (1.52)	9.2 (1.88)	8.62 (1.89)
Total GBC	34.86 (8.30)	34.08 (9.82)	28.63 (11.71)
Total Personal Strivings	4.84 (1.82)	3.59 (1.49)	3.36 (1.65)

group, and general college student control group while removing the confounding influence of gender, GPA, college major, and age. Because the current study sought to examine the influence of mentoring on generativity between three different groups and utilized multiple, related dependent variables as well as covariates, a MANCOVA procedure seemed most appropriate for analytic examination. The multivariate analysis (as compared to multiple univariate analyses) accounts for the interrelationship between the dependent variables, therefore removing possible inflation of the Type I error rate (Barker & Barker, 1984). Furthermore, the use of covariates reduces the variability among subjects within each treatment condition and increases the ability of the statistical analysis to elucidate the actual influence of the independent variable (mentoring relationship) on the dependent variable (generativity) (Keppel & Wickens, 2004).

Data were entered, cleaned, and prepared for a MANCOVA analysis. Less than 5% of data were missing from the LGS and GBC data and less than 10% of data were missing from the personal strivings measure. First, an outlier analysis was conducted, followed by an analysis of normality. Next, a missing

data analysis was conducted and a single imputation procedure was utilized to fill in the small number of missing data points. Last, the data were tested for all MANCOVA assumptions (e.g., independent error terms, homogeneity of variance, and equality of covariance matrices). The data adequately passed all assumption tests.

Table 1 shows the means and standard deviations for each of the dependent variables within each group.

Multivariate Test. The first test in the MANCOVA analysis examined the effect of group membership on the combination of dependent variables. The Wilks's lambda statistic revealed a statistically significant difference between the three groups (intervention, college student leader control, and general college student control) on generativity, $F(3, 520) = 5.007, p < .0005$; Wilks's $\lambda = 0.777$, partial $\eta^2 = .119$. The partial η^2 value of 0.119 indicates that approximately 12% of the variance in generativity among the respondents could be explained by their group membership after controlling for age, gender, GPA range, and major. This partial η^2 value represents effect size and is considered to be a medium effect size ($>.06$ —Cohen, 1988),

although one could argue that this statistic is approaching a large effect size (>.14—Cohen, 1988). The multivariate test indicated a strong observed power of 1.0. Among the covariates, only gender displayed a main effect, $F(3, 260) = 4.93, p < .001$.

Tests of Between-Subject Effects. Because the multivariate test was significant, further tests were needed. Multiple univariate ANOVA tests were employed to determine the effect of group membership on each of the generativity variables. Since multiple ANOVAs were conducted, a Bonferroni correction of a $p < .025$ significance level was utilized.

Univariate ANOVA tests revealed that group membership had a significant effect on the LGS Subscale 1—Passing on Knowledge to the Next Generation, $F(2, 266) = 14.306, p < .0005$, partial $\eta^2 = .097$; LGS Subscale 2—Making Significant Contributions for the Betterment of One’s Community, $F(2, 266) = 10.613, p < .0005$, partial $\eta^2 = .074$; LGS Subscale 3—Doing Things That Will Have

an Enduring Legacy, $F(2, 266) = 12.385, p < .0005$, partial $\eta^2 = .085$; Total GBC score, $F(2, 266) = 7.172, p = .001$, partial $\eta^2 = .051$; and Total Personal Strivings score, $F(2, 266) = 13.159, p < .0005$, partial $\eta^2 = .090$. These statistics indicate that generativity levels for LGS Subscales 1–3, the GBC, and the Personal Strivings measure were determined by whether or not a respondent was in the intervention group, the college student leader control group, or the general college student control group. Observed power levels for all aforementioned ANOVA tests were above 0.9. Univariate effects of group membership on LGS Subscales 4 and 5 were not significant at the $p < .025$ level.

Pairwise Comparisons. Considering the significant omnibus F statistics for the LGS Subscales 1–3, Total GBC score, and Total Personal Strivings score, pairwise comparison tests were employed for these variables to determine specifically which groups differed significantly from each other. Because multiple

TABLE 2.
Summary of Pairwise Comparisons: Mean Difference

Dependent Variable	Intervention Group Versus College Student Leader Control Group	Intervention Group Versus General College Student Control Group	College Student Leader Control Group Versus General College Student Control Group
LGS Subscale 1: Passing on Knowledge to Next Generation	1.220*	1.439*	0.220
LGS Subscale 2: Making Significant Contributions for Betterment of One’s Community	0.375	1.430*	1.055*
LGS Subscale 3: Doing Things That Will Have Enduring Legacy	0.898	2.130*	1.232*
Total GBC	0.638	6.144*	5.506*
Total Personal Strivings	1.176*	1.285*	0.109

* Significant at the $p < .05$ level (with Bonferroni adjustment).



Figure 1. Qualitative Themes

pairwise comparisons were employed, a Bonferroni adjustment on the alpha level was used. The results of the pairwise comparison tests (utilizing a Bonferroni adjustment) are shown in Table 2.

In sum, college student leaders who mentor (the intervention group) demonstrated significantly higher generativity than general college students in all areas of generative concern (LGS Subscales 1–3), generative action (GBC), and generative commitment (Personal Strivings). In comparison to other college student leaders who do not mentor, college student leaders who mentor demonstrated significantly higher generativity in the areas of generative concern as it relates to passing on knowledge to the next generation (LGS Subscale 1) as well as generative commitment (Personal Strivings). College student leaders as a group (intervention group + college student leader control group) demonstrated significantly higher generativity than general college students in the areas of generative concern as it relates to making a significant contribution to the betterment of one's community and doing things that will have an enduring legacy (LGS Subscales 2 and 3) as well as generative action (GBC).

Qualitative Phase

The qualitative phase focused on the experiences of nine intervention group students with generativity in the context of a mentoring relationship. The lead author chose to stop

interviewing after nine because data saturation had been reached.

Two respondents were fifth-year students, five were seniors, and two were juniors. Three respondents were female and six were male. These respondents not only varied in age and gender, but also in hometown (some urban, some rural), college major, and age of mentee (otherwise referred to as "junior counselor").

Several themes emerged from the data that described *what* the participants experienced with regard to generativity and *how* they experienced generativity in the context of a mentoring relationship. Figure 1 pictorially depicts the themes and their relationship to each other.

The participants ascribed meaning to their experiences with generativity in the context of mentoring by learning how to be generative through their "lab" (in vivo quote) experience in the leadership-mentoring program. Through their mentoring relationships, they learned how to be generative by negotiating the balance between friendship and mentorship.

All nine participants discussed that their relationship with their mentees started as a friendship, then moved toward a mentorship, which involved identifying strengths in their mentees and challenging the development of those strengths. This mentorship element also included serving as a "living diary" (in vivo quote), helping their mentees reflect upon and interpret their life experiences. Steve, a junior in the mentoring program, articulated this

notion: “I mean, it’s that of a mentee and a mentor, but it’s that of friends too, a little bit, I think. Reconciling those two roles is probably the best way to summarize what it is.” Michael, a senior in the mentoring program, added to this idea when he declared, “My relationship with my junior counselor is a friendship built on building [my junior counselor] into a better leader.”

Beyond the mentoring relationship, the participants learned how to be generative through their experiences in the academic course associated with the leadership-mentoring program, their weekly project meetings, various other leadership experiences within the leadership-mentoring program, and interactions with their mentoring peers and program staff.

While the participants universally agreed that they learned how to be generative through their mentoring “lab” experience, they discussed entering their experience with the “seed of generativity” (in vivo quote) already planted. In other words, the participants postulated that they perhaps had generative proclivities even prior to becoming a mentor. The mentoring “lab” experience, however, provided the “water and the sunlight and the good soil to help it really grow and develop,” as one senior articulated.

As a result of their mentoring experience, the participants ascribed meaning to their experiences with generativity by recognizing that generativity had become integrated into what they do and who they are. Aaron, a senior in the mentoring program, indicated, “I would definitely say that [the leadership-mentoring program] has changed my life, changed my perspective on how I interact with people. And what those interactions mean . . . At least for me it has become something I don’t even necessarily think (about), it’s integrated into everything.”

Over half of the participants discussed that their mentoring experience has changed

the way they approach their relationships with others. Many of them specifically discussed being more “intentional” about realizing others’ potential and investing in that potential. Half of the participants discussed that generativity had become integrated into their career interests. Their mentoring experience encouraged the participants to become more other-centered and sparked a sincere interest in establishing a legacy of generative leadership for generations to come. Renae articulated this legacy interest:

And it’s less of leadership for the sake of leadership, but more because I genuinely care about the people that I’m leading, and I want the best for the organizations that I’m involved with, and I want to leave that legacy that empowers other people to lead in a similar sort of way. And so [the mentoring program] really opened that door for me to make a meaningful impact in my college experience rather than just having it to say that I had it.

DISCUSSION

This section integrates the results from both the quantitative and qualitative phases. Data results from the quantitative phase are presented first, and qualitative phase results are then offered to provide explanation. This procedure serves to organize the findings by elucidating inferential quantitative results with qualitative themes.

First, MANCOVA results revealed that college student leaders who mentor demonstrated significantly higher generativity than general college students in generative concern, generative action, and generative commitment. Qualitative results from the current study suggest that perhaps the “seed of generativity” was already planted in these mentoring students, but that their mentoring experience provided the “water, sunlight, and good soil” to help it grow.

McAdams (2001) noted that the field of generativity could be expanded by understanding what sorts of adolescent experiences are linked to strong generativity. Being a mentor has not been identified in the existing literature as a developmental antecedent for adulthood generativity. The mixed methods findings from the current study present a cogent argument for adding “being a mentor” to the list of developmental antecedents.

Second, quantitative phase results indicated that both the intervention group (college student leaders who mentor) and the college student leader control group demonstrated significantly higher generativity than general college students in the areas of (a) generative concern as it relates to making a significant contribution to the betterment of one’s community and doing things that will have an enduring legacy and (b) generative action. This quantitative result alongside the qualitative themes offered by the intervention group suggests one of three things (or a combination): (a) college student leaders, in general, have a “seed of generativity” already planted; (b) generative individuals are more attracted to campus leadership opportunities; and/or (c) campus leadership opportunities (mentoring or otherwise) provide the “water, sunlight, and good soil” to develop one’s generative inclinations.

This mixed methods finding confirms Komives et al.’s (2005) notion that college student leaders develop a leadership identity that becomes generative in nature. Stage 5 in the LID model is evidenced by active commitment to the larger purpose of the group, articulated personal passion for activities, a recognition of leadership as service, an acceptance of responsibility for developing others and organizations, and a desire to enhance the leadership capacity of younger group members (Komives et al., 2006). The quantitative results from the current study

also extend Komives et al.’s (2005, 2006) findings to suggest that college student leaders demonstrate generativity in their leadership identity by expressing concerns for making a contribution to community betterment and for doing things that will have an enduring legacy.

Last, MANCOVA results indicated that college student leaders who mentor (the intervention group) demonstrated significantly higher generativity than the college student leader control group in the areas of (a) generative concern as it relates to passing on knowledge to the next generation and (b) generative commitment. The qualitative results from the current study provide two potential explanations. First, college student leaders who mentor learned how to be generative through the “lab” context of their mentoring experience. In particular, they identified strengths in their mentees and challenged the development of those strengths. They furthermore acted as a “living diary,” helping their mentees reflect upon and interpret their life experiences. One could reasonably argue that these experiences are highly related to “passing on knowledge to the next generation” and perhaps explain higher scores in this area.

Second, with regard to higher scores in generative commitment, participants in the qualitative phase indicated that they had “integrated” generativity into their life philosophies and missions, reflecting a conscious commitment to investing in people. Generative commitment is evidenced by decision-making and goal-setting that takes responsibility for the next generation (McAdams & de St. Aubin, 1992). Higher scores in generative commitment may be explained by their “integrated” generativity.

Considering the discrepancy between college student leaders and college student leaders who mentor, one might reasonably consider the influence of the intervention

group's "lab" experiences on their leadership style. Do college student leaders who mentor *lead* in a way distinct from their leader peers?

Charismatic leadership (a perception that the leader is endowed with exceptional qualities—Weber, 1947), transformational leadership (both leader and follower are raised to higher level of motivation and morality—Burns, 1978), and servant leadership (the leader is seen as a servant first—Greenleaf, 1970, 1977) all operate under the assumption that leaders are figures who are visionary (Graham, 1991). The leader casts a compelling vision, then influences followers to align their self-interest with that vision.

The mixed methods results from the current study suggest that college student leaders who mentor demonstrate additional generative components to their leadership (passing on knowledge to the next generation and generative commitment) that extend what is currently known about how leaders influence. The qualitative results from the current study suggest that college student leaders who mentor influence others to realize their own strengths and challenge the development of those strengths rather than influence others to align with their vision. In this generative leadership hypothesis, the follower realizes their own self-interest to a greater extent. While this conclusion suggests a unidirectional influence, one could reasonably argue a reciprocal influence, citing Burns's (1978) description of the leader and follower raising each other to higher levels of morality and motivation.

Future Research

The current body of generativity literature maintains that generativity is a midlife construct. Our study was not aimed to disprove this well-documented theory. However, the results of the current study have documented that young adults, in particular

college students who mentor, demonstrate significantly higher generativity than their peers. Replicating the current study could provide better confirmation of this notion. Future researchers interested in replicating the current study may benefit from extending the quantitative analysis to include causal models, particularly structural equation modeling (SEM), and variables such as prior experience as a mentor or being mentored. Utilizing SEM would not only allow the researcher to test causal relationships, but would also remove the homogeneity of variance requirement across groups, as SEM can account for these differences. Future researchers interested in replicating the current study may also derive benefit from exploring more explicitly the connection between generativity among college student leaders who mentor and Komives et al.'s (2006) Leadership Identity Development model regarding congruence of language and experience.

A second valuable study would be to examine longitudinal data of college students who mentor and compare them against different peer groups to assess not only individual generativity growth, but also rates of growth across groups. The results from this future study could lend additional elucidation relative to the "seed of generativity" notion. Qualitative follow-up with respondents from the current study (both from the intervention group and the college student leader control group) who scored in the top third of multiple generativity measures could extend an understanding of the intersection between generativity and leadership and could further clarify the manifestation of generativity in leadership involvement and activity. Additionally, specific exploration into the facets of the mentoring experience (intentionality, duration, reflection opportunity, support mechanisms) could provide more confirmatory data regarding the impact of mentoring on generativity.

Future researchers may also find value in extending the literature base to consider Baxter Magolda's (1998) self-authorship theory. The results of the current study suggest that the intervention group's "lab" experiences certainly provided ample and consistent opportunities to engage in interpersonal development as well as to reflect upon that development. Future scholars may benefit from empirical examination of the impact of mentoring on self-authorship.

Practical Implication: Generativity and Social Responsibility

The mixed methods findings from the current study offer implications relative to social responsibility. As previously stated, generativity has been empirically identified as the most significant predictor of social responsibility (Rossi, 2001b). Considering that college students who mentor demonstrated significantly higher generativity than general college students in all areas of generative concern, generative action, and generative commitment, one might reasonably postulate that these students will likely demonstrate higher social responsibility.

Considering the predictive linkage between

generativity and social responsibility, higher education environments would be prudent to deliberately cultivate generativity among their student populations as this will become an important element of higher education's role in preparing young adults to contribute to societal betterment. Recall that, in the coming decades, the United States will experience a substantial transfer of wealth and transfer of leadership from older to younger generations. Many of today's college students will likely assume significant leadership roles at a young age—these students will not have the luxury of waiting until they are middle aged before socially responsible leadership will be expected of them. Knowing what cultivates generativity (and therefore social responsibility) among college students will become critically important in answering the question: How might the next generation of leaders be prepared to contribute to this transfer of leadership rather than just consume this transfer of wealth?

Correspondence concerning this article should be addressed to Lindsay J. Hastings, University of Nebraska—Lincoln, 143 Filley Hall, Lincoln, NE, 68583–0947; lhastings2@unl.edu

APPENDIX: Interview Protocol

1. Tell me about your [leadership-mentoring] experience. What dimensions, incidents, and people intimately connected with your [leadership-mentoring] experience stand out for you?
2. How do you feel about your work in [the leadership-mentoring program]? What feelings have been generated by the experience?
3. How would you describe your relationship with your junior counselor?
 - a. How did the relationship develop?
 - b. How would you describe the relationship when you started?
 - c. How would you describe the relationship now?
4. Tell me more about your relationship with your junior counselor.
 - a. What kinds of things do you do with your junior counselor?
 - b. What are you trying to accomplish with your junior counselor?
 - c. How do you feel you've influenced his/her development?

5. How has your [leadership-mentoring] experience affected you? What changes do you associate with the experience?

Generativity Definition: In this interview, I am particularly interested in the impact of your [leadership-mentoring] experience on your generativity. If you are unfamiliar, generativity is defined as “primarily the concern in establishing and guiding the next generation.”

6. In particular, how has your [leadership-mentoring] experience impacted your generativity? What changes, if any, in your generativity do you associate with your [leadership-mentoring] experience?
7. The results from the first phase of this research revealed that [college student leaders who mentor] are more generative than the general student body in all areas of generative concern, generative action, and generative commitment. In comparison to other college student leaders, [college student leaders who mentor] are more generative in the area of generative concern as it relates to passing on knowledge to the next generation and in the area of generative commitment. What are your reactions to these findings?
 - a. What explanation, if any, might your [leadership-mentoring] experience offer to these findings?

REFERENCES

- American Council on Education. (1994). The student personnel point of view. In A. L. Remntz (Ed.), *Student affairs: A profession's heritage* (2nd ed., pp. 66-77). Langham, MD: University Press of America. (Original work published 1937)
- Astin, A. W., & Astin, H. S. (Eds.). (2000). *Leadership reconsidered: Engaging higher education in social change*. Battle Creek, MI: W. K. Kellogg Foundation.
- Astin, H. S., & Leland, C. (1991). *Women of influence, women of vision: A cross-generational study of leaders and social change*. San Francisco, CA: Jossey-Bass.
- Azarow, J., Manley, M. J., Koopman, C., Platt-Ross, A., Butler, L. D., & Spiegel, D. (2003). American expressions of altruism and generativity in the aftermath of the September 11, 2001 terrorist attacks. *Psicologia Politica*, 27, 37-58.
- Barker, H. R., & Barker, B. M. (1984). *Multivariate analysis of variance (MANOVA): A practical guide to its use in scientific decision making*. Tuscaloosa, AL: University of Alabama Press.
- Baxter Magolda, M. B. (1998). Developing self-authorship in young adult life. *Journal of College Student Development*, 39, 143-156.
- Bennis, W. (1989) *On becoming a leader*. Boston, MA: Addison-Wesley .
- Bradley, C. L., & Marcia, J. E. (1998). Generativity-stagnation: A five-category model. *Journal of Personality*, 66, 39-64.
- Browning, D. S. (1973). *Generative man: Psychoanalytic perspectives*. Philadelphia, PA: Westminster John Knox Press.
- Burns, J. M. (1978). *Leadership*. New York, NY: Harper & Row.
- Campbell, C. M., Smith, M., Dugan, J. P., & Komives, S. R. (2012). Mentors and college student leadership outcomes: The importance of position and process. *Review of Higher Education*, 35, 595-625.
- Chickering, A. W. (1969). *Education and identity*. San Francisco, CA: Jossey-Bass.
- Chickering, A. W., & Reisser, L. (1993). *Education and identity* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Cohen, J. (1988). *Statistical power analysis of the behavioral sciences* (2nd ed.). New York, NY: Academic Press.
- Cress, C. M., Astin, H. S., Zimmerman-Oster, K., & Burkhardt, J. C. (2001). Developmental outcomes of college students' involvement in leadership activities. *Journal of College Student Development*, 42, 15-25.
- Creswell, J. W. (2005). *Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson, Merrill, Prentice Hall.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: SAGE.
- Creswell, J. W., & Plano Clark, V. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: SAGE.
- Dugan, J. P., & Komives, S. R. (2010). Influences on college students' capacity for socially responsible leadership. *Journal of College Student Development*, 51, 525-549.
- Emmons, R. A. (1986). Personal strings: An approach to personality and subjective well-being. *Journal of Personality and Social Psychology*, 51, 1058-1068.
- Erikson, E. H. (1963). *Childhood and society*. New York, NY: Norton. (Original work published 1950)
- Frensch, K. M., Pratt, M. W., & Norris, J. E. (2007). Foundations of generativity: Personal and family correlates of emerging adults' generative life-story themes. *Journal of Research in Personality*, 41, 45-62.
- Graham, J. W. (1991). Servant-leadership in organizations: Inspirational and moral. *Leadership Quarterly*, 2(2), 105-119.
- Greenleaf, R. K. (1970). *The servant as leader*. Newton Center, MA: Robert K. Greenleaf Center.
- Greenleaf, R. K. (1977). *Servant leadership: A journey into the nature of legitimate power and greatness*. Mahwah, NJ: Paulist.
- Hart, H. M., McAdams, D. P., Hirsch, B. J., & Buer, J. J. (2001). Generativity and social involvements among African Americans and White adults. *Journal of Research in Personality*, 35, 208-230.
- Hatch, J. A. (2002). *Doing qualitative research in educational settings*. Albany, NY: State University of New York.
- Hawley, G. A. (1984). *Construction and validation of an Eriksonian measure of psychosocial development (personality)*. Available from ProQuest Dissertations and Theses database (UMI No. 8425485).
- Imada, T. (2004). Generativity as social responsibility: The role of generations in societal continuity and change. In E. de St. Aubin, D. P. McAdams, & T-C. Kim (Eds.), *The generative society: Caring for future generations* (pp. 15-32). Washington, DC: American Psychological Association.
- Keppel, G., & Wickens, T. D. (2004). *Design and analysis: A researcher's handbook* (4th ed.). Upper Saddle River, NJ: Pearson Education.
- Komives, S. R., Longerbeam, S. D., Owen, J. E., Mainella, F. C., & Osteen, L. (2006). A leadership identity model: Applications from a grounded theory. *Journal of College Student Development*, 47, 401-418.
- Komives, S. R., Owen, J. E., Longerbeam, S. D., Mainella, F. C., & Osteen, L. (2005). Developing a leadership identity: A grounded theory. *Journal of College Student Development*, 46, 593-611.
- Kotre, J. (1984). *Outliving the self: Generativity and the interpretation of lives*. Baltimore, MD: Johns Hopkins University Press.
- Lawford, H., Pratt, M. W., Hunsberger, B., & Pancer, S. M. (2005). Adolescent generativity: A longitudinal study of two possible contexts for learning concern for future generations. *Journal of Research on Adolescence*, 15, 261-273.
- Lipman-Blumen, J. (1996). *The connective edge of leading an interdependent world*. San Francisco, CA: Jossey-Bass.
- Macke, D., Markley, D., & Binerer, A. (2011). *Transfer of wealth in rural America*. Lincoln, NE: Center for Rural Entrepreneurship.
- McAdams, D. P. (1985). *Power, intimacy and the life story: Personological inquiries into identity*. New York: Guilford Press.
- McAdams, D. P. (2001). Generativity in midlife. In M. Lachman (Ed.), *Handbook of midlife development* (pp. 395-443). New York, NY: Wiley.
- McAdams, D. P., & de St. Aubin, E. (1992). A theory of generativity and its assessment through self-report, behavior acts, and narrative themes in autobiography. *Journal of Personality and Social Psychology*, 62, 1003-1015.
- McAdams, D. P., de St. Aubin, E., & Logan, R. (1993). Generativity among young, midlife, and older adults. *Psychology and Aging*, 8, 221-230.

- McAdams, D. P., Hart, H. M., & Maruna, S. (1998). The anatomy of generativity. In D. P. McAdams & E. de St. Aubin (Eds.), *Generativity and adult development: How and why we care for the next generation* (pp. 7-43). Washington, DC: American Psychological Association.
- McAdams, D. P., & Logan, R. (2004). What is generativity? In E. de St. Aubin, D. P. McAdams, & T-C. Kim (Eds.), *The generative society: Caring for future generations* (pp. 15-32). Washington, DC: American Psychological Association.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education: Revised and expanded from Case study research in education*. San Francisco, CA: Jossey-Bass.
- Moustakas, C. E. (1994). *Phenomenological research methods*. Thousand Oaks, CA: SAGE.
- Neugarten, B. L. (1964). *Personality in middle and late life: Empirical studies*. Oxford, England: Atherton Press.
- Ochse, R., & Plug, C. (1986). Cross-cultural investigation of the validity of Erikson's theory of personality development. *Journal of Personality and Social Psychology*, 50, 1240-1252.
- Peterson, B. E. (2006). Generativity and successful parenting: An analysis of young adult outcomes. *Journal of Personality*, 74, 847-869.
- Peterson, B. E., & Stewart, A. J. (1996). Antecedents and contexts of generativity motivation at midlife. *Psychology and Aging*, 11, 21-33.
- Posner, B. Z., & Brodsky, B. (1992). A leadership development instrument for college students. *Journal of Student Development*, 33, 231-237.
- Rossi, A. S. (2001a). 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, IL: University of Chicago Press.
- Rossi, A. S. (2001b). Domains and dimensions of social responsibility: A sociodemographic profile. In A. S. Rossi (Ed.), *Caring and doing for others: Social responsibility in the domains of family, work, and community* (pp. 97-134). Chicago, IL: University of Chicago Press.
- Ryan, L. (1994). The case for national student leadership on community college issues. *Leadership Abstracts*, 7(6), 3-4.
- Ryff, C. D., & Migdal, S. (1984). Intimacy and generativity: Self-perceived transitions. *Signs: Journal of Women in Culture and Society*, 9, 470-481.
- Scandura, T. A., Tejada, M. J., Werther, W. B., & Lankau, M. J. (1996). Perspectives on mentoring. *Leadership and Organizational Development Journal*, 17(3), 50-56.
- Seitz, S., & Pepitone, S. (1996). Servant leadership: A model for developing college students. *Metropolitan Universities: An International Forum*, 6(4), 113-122.
- Singer, J. A., King, L. A., Green, M. C., & Barr, S. C. (2002). Personal identity and civic responsibility: "Rising to the occasion" narratives and generativity in community action student interns. *Journal of Social Issues*, 58, 535-556.
- Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, 1, 77-100.
- U.S. Bureau of Labor Statistics. (2012). *Current population survey*. Retrieved from <http://www.bls.gov>
- U.S. Census Bureau. (2010). *Age and sex composition: 2010* (2010 Census Briefs, U.S. Census Bureau Publication No. C2010BR-03). Retrieved from <http://www.census.gov>
- Weber, M. (1947). "The pure types of legitimate authority" and "The nature of charismatic authority and its routinization." In *Theory of social and economic organization* (pp. 42-65). New York, NY: Macmillan.
- Wielkiewicz, R. M. (2000). The leadership attitudes and beliefs scale: An instrument for evaluating college students thinking about leadership and organizations. *Journal of College Student Development*, 41, 335-347.