



**APPLYING METHODOLOGICAL INNOVATION TO EXPLORE
GENERATIVITY DEVELOPMENT AMONG COLLEGIATE
LEADERSHIP MENTORS**

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3 **Applying methodological innovation to explore generativity development among collegiate**
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5 **leadership mentors**

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8 **Abstract**
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11 **Purpose**
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13 Building upon a larger mixed-methods research agenda, the purpose of this research
14 study was to explore the growth of generativity (i.e., care for the next generation) among college
15 student leaders who mentor, answering the central question “What changes in generativity do
16 college student leaders who mentor associate with their mentoring experience, and why?” and
17 associated sub-question “How does generativity develop among college student leaders who
18 mentor?”
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27 **Design/methodology/approach**
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29 Applying methodological innovation to a phenomenological design, semi-structured
30 interviews were conducted and triangulated with pictorial degree-of-change graphs among 33
31 collegiate leadership mentors at a large Midwestern U.S. land-grant university.
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36 **Findings**
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38 The findings indicated that senior collegiate leadership mentors overwhelmingly
39 acknowledged sustained generativity increases as a result of mentoring a younger student when
40 given the tools, environment to process, and time needed to develop trusting investment
41 relationships. These increases in generativity were associated with changes in their
42 understanding of generativity, the desire to pass on the knowledge given to them, and growth in
43 both mentor and mentee.
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Originality

Findings from the current study advance mentoring research and practice through providing a deeper understanding of mentoring as a developmental intervention, informing antecedents of generativity and the utilization of innovative qualitative methodological techniques.

Keywords: mentoring, generativity, phenomenology

Framework and significance

Generativity, defined as “primarily the concern in establishing and guiding the next generation” (Erikson, 1950/1963, p. 267), is considered a leading indicator of psychosocial maturity (Browning, 1973; Gruen, 1964; Kotre, 1984; McAdams *et al.*, 1993). Erikson (1950/1963) envisioned the human life cycle as eight standard sequences of stages, where new ego qualities and psychosocial maturities are gained at each progressive stage. Erikson’s (1950/1963) model situates generativity as the seventh (midlife) of eight successive stages and is most commonly expressed through parenting, mentoring, leadership, shared cultural understanding, and service to others (Azarow *et al.*, 2003; Doerwald *et al.*, 2015, 2021; Huta and Zuroff, 2007; Leffel, 2008; McAdams, 2001). Stemming from generativity’s origins as a midlife construct, young adults are not deemed highly generative (McAdams *et al.*, 1993; McAdams and Logan, 2004), despite several studies documenting the presence of generativity in emerging adulthood (Espin *et al.*, 1990; Keyes and Ryff, 1998; Lawford *et al.*, 2005; McAdams, 2001; Peterson and Stewart, 1990, 1993; Ryff and Heincke, 1983; Ryff and Migdal, 1984). Notably, generativity has been empirically identified as the strongest predictor of social responsibility (Rossi, 2001) and a significant predictor of socially responsible leadership among young adults (Hastings and Sunderman, 2019), a desired outcome of higher education (Association of

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3 American Colleges & Universities [AAC&U] and National Leadership Council [NLC], 2007;
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5 Council for the Advancement of Standards in Higher Education [CAS], 2015; Dreschsler Sharp
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7 *et al.*, 2011; National Association of Colleges and Employers [NACE], 2016).

10 Further contending generativity's consideration among young adults and within the
11 context of mentoring, Hastings *et al.*'s (2015) research indicated significantly higher generativity
12 among college student leaders who mentored compared to their non-mentoring peers. Follow-up
13 growth curve analysis within multilevel modeling revealed collegiate leadership mentors
14 experienced significant growth in generative behavior over the course of two years ([Author],
15 2020). This work extended Komives *et al.*'s (2005) grounded theory study of leadership identity
16 development among college students. The findings of this research and the resultant leadership
17 identity development (LID) model theorized generativity as the fifth of six stages of leadership
18 identity development, whereby a leader begins mentoring future leaders (Komives, 2011;
19 Komives *et al.*, 2006; Komives *et al.*, 2005). Doerwald *et al.*'s (2021) meta-analysis on
20 generativity in the workplace context confirmed the relationship between generativity and
21 mentoring as mentoring relationship quality was positively associated with generativity. While
22 previous research has highlighted a relationship between mentoring and generativity, even
23 among young adults (Hastings *et al.*, 2015; Sunderman and Hastings, 2023), understanding the
24 nuance of generativity development among young adults through mentoring experiences is still
25 needed.

26 Thus, answering Hastings *et al.*'s (2015) call for examining the developmental trajectory
27 of generativity in young adults and as a comparative analysis to recent multilevel modeling
28 results (Sunderman and Hastings, 2023), the current study's purpose was to explore generativity
29 development among college student leaders who mentor using applied innovation to a
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phenomenological design. This research offers contributions to the field through (a) understanding longitudinal patterns of generativity development (Hastings *et al.*, 2015), (b) identifying developmental antecedents of generativity, such as being a mentor (McAdams, 2001), and (c) clarifying benefits of long-term mentoring (Aryee *et al.*, 1996; Olian *et al.*, 1993). Fulfilling the authors' intended purpose, the current study sought to answer the following central and sub-question:

Central question: "What changes in generativity do college student leaders who mentor associate with their mentoring experience, and why?"

Sub-question: "How does generativity develop among college student leaders who mentor?"

Methods

To answer the outlined research questions, a qualitative, transcendental phenomenological approach was utilized (Moustakas, 1994) as the researchers sought to understand the undergirding dimension and structure of a particular experience (Hatch, 2002; Merriam and Tisdell, 2016). Researchers using phenomenology seek to comprehend the "essence" of an experience by gathering comprehensive descriptions of the experience from those at study and derive what the experience means for those involved (Moustakas, 1994). Transcendental phenomenology was selected because of the aim to understand the dimension and structure of generativity development within the context of mentoring among undergraduate students. Researchers for the current study also applied innovation to the transcendental phenomenological approach by adding pictorial degree-of-change graphs to a semi-structured interview protocol. Considering generativity's situation and confirmation as a midlife construct (Erikson, 1950/1963; McAdams and Logan, 2004) and considering the small number of studies

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3 that have examined generativity and mentoring in a young adult context (Hastings *et al.*, 2015;
4 Hastings and Sunderman, 2019; Komives *et al.*, 2006; Komives *et al.*, 2005; Sunderman and
5 Hastings, 2023; Sunderman *et al.*, 2022), understanding the nuanced dimension and structure of
6 generativity development among young adults through mentoring experiences is an important
7 consideration and, perhaps, should not be addressed by interviews alone. Thus, adding pictorial
8 degree-of-change graphs to the traditional semi-structured interview in transcendental
9 phenomenology created opportunity to better understand nuance in a developmental process that
10 is not theorized for a young adult demographic.
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22 **Sample selection**

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25 Participants in the current study were senior students attending a four-year, Midwestern
26 U.S. land-grant university who participated in a leadership mentoring program (LMP) comprised
27 of 180 college student leaders who mentored 180 K–12 student leaders in the local community.
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29 College student mentors in the LMP (called “leadership mentors”) are selected as second-
30 semester freshmen and placed in one-to-one relationships, called “investment relationships,”
31 with K–12 students (“leadership mentees”) who have been recognized by their schools as
32 exhibiting leadership talent and potential. Each pair meets weekly for three years, and the
33 objective for the leadership mentor is to identify and develop their mentee’s unique leadership
34 talents. Leadership mentors are organized in small groups (called “projects”) based on the age or
35 school of the leadership mentee, with a senior student assigned as a staff advisor to each project.
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37 Projects hold weekly meetings to reflect upon the relationship development with their leadership
38 mentees. Leadership mentors also take an Interpersonal Skills for Leadership class, typically at
39 the advent of their LMP experience, with course objectives focused on self-understanding,
40 understanding others, and investing in others. Course topics include positive psychology
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3 constructs such as active listening, empathy, and values. While generativity is not a stated course
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5 objective, the concept of generativity is introduced and discussed in the course. Utilizing service-
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7 learning pedagogy (Furco and Billig, 2001), collegiate mentors reflect upon the application of
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9 course content to youth mentoring in weekly journals. The leadership mentoring relationship
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11 functions as the active experience of the course that culminates in a final comprehensive project
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13 where students analyze and evaluate the application of course concepts in their leadership
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15 mentoring relationship.
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19 All senior students in the LMP whose generativity had been previously examined
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21 quantitatively (Hastings and Sunderman, 2019) using standard generativity measures such as the
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23 Loyola Generativity Scale, Generativity Behavior Checklist, and Personal Strivings Measure for
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25 Generativity Commitment (McAdams and de St. Aubin, 1992) were asked to participate in the
26
27 current study. A total of 54 students were contacted, and 33 consented to participate. Fifteen
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29 participants identified as female and 18 identified as male. The participants varied in hometown,
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31 college major, and age of mentee, demonstrating a cross-section of students within the LMP (see
32
33 Table 1). Data were collected from these senior students during the second semester of their
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35 senior year and final semester of their LMP experience in order to capture generativity
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37 development over the course of a multi-year mentoring experience.
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42 **Table 1**

43 *Participant information*

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47 [INSERT TABLE 1 HERE]
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50 **Data collection and analysis**

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52 Data collection and analysis for the current study involved applying innovation to the
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54 transcendental phenomenological approach outlined by Moustakas (1994) and illustrated by
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3 Moerer-Urdahl and Creswell (2004). Data were collected using semi-structured interviews as
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5 well as pictorial degree-of-change graphs. This data collection strategy as an applied innovation
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7 to traditional phenomenological design was piloted with 10 LMP participants the previous year
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9 (Sunderman *et al.*, 2022). The pilot study engaged participants in a semi-structured interview
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11 with questions pertaining to generativity development (with the definition of generativity
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13 provided), such as “Please describe your generativity level at the start of college. How, if at all,
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15 has your [LMP] experience impacted your generativity?” Additionally, participants were asked
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17 to draw a line graph utilizing degree-of-change methodology (Patterson *et al.*, 2017; Rosch and
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19 Schwartz, 2009) to illustrate perceived connections between generativity level and years spent
20
21 mentoring. Emerged textural and structural themes from the phenomenological analysis were
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23 merged with participant graphs to capture the essence of generativity development within the
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25 context of mentoring. While all 10 pilot project participants indicated a belief that their
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27 generativity had grown through their mentoring experience, several themes emerged that related
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29 to developmental antecedents (i.e., interpersonal skills class) as well as developmental influences
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31 during their experience (i.e., weekly project meetings) that warranted further investigation in the
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33 current study. Thus, for the current study, the interview protocol was expanded to better
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35 understand the dimension and structure of generativity development within the context of
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37 collegiate mentoring by having participants indicate not only the perceived change in
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39 generativity throughout a mentoring experience, but also the perceived influence of various
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41 developmental factors. Participants in the current study were given a definition of generativity
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43 and then asked, first, to draw a line graph depicting a relationship between generativity (*y*-axis)
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45 and time spent mentoring (*x*-axis, three time points for sophomore, junior, and senior years) and,
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47 second, to explain the drawn trajectory, indicating developmental influences. Next, participants
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3 were asked to draw a predicted line graph of generativity along the same time period had they
4 not been a mentor and explain the difference, if any, between the two graphs. Last, participants
5 were asked to speculatively draw two additional line graphs of their perceived generativity
6 development without taking the interpersonal skills class and without weekly project meetings.
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12 Following data collection, transcribed interview data were analyzed using recommended
13 transcendental phenomenological analytic procedures (Creswell and Poth, 2018; Moustakas,
14 1994). First, each transcript was mined for significant statements and statements of meaning as
15 they related to the phenomenon of generativity development within the context of mentoring.
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17 Next, significant statements were grouped into meaning units. Meaning units were clustered into
18 themes (Moustakas, 1994), which were triangulated with the pictorial degree-of-change graphs.
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20 Pictorial degree-of-change graphs were analyzed for the type of trajectory (i.e., linear vs. non-
21 linear), indication of perceived growth (i.e., higher generativity at Time 3 than at Time 1), and
22 indication of perceived developmental influence (i.e., the indication of a stronger rate of
23 generativity change with mentoring, the interpersonal skills class, and the weekly project
24 meeting than without). The interview themes (triangulated with graphs) were synthesized into
25 textural (i.e., what participants experienced related to generativity development in the context of
26 mentoring, with particular attention paid to the dimension and structure of that generativity
27 development) and structural descriptions (i.e., how participants experienced generativity
28 development in the context of mentoring, with particular attention paid to the developmental
29 influences). The textural and structural descriptions were then integrated to construct a
30 composite description of the phenomenon, called the *essence* (Creswell and Poth, 2018).
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Validation strategies and ethical considerations

Institutional Review Board (IRB) approval was obtained to certify ethical code of conduct. In line with the transcendental phenomenology, three validation methods were utilized: (a) member checking via interview validation forms, (b) triangulation via multiple forms of data collection, (c) bracketing researcher bias, and (d) peer auditing by having graduate students unfamiliar with the LMP review transcript samples and develop themes to audit the accuracy of theme development (Creswell and Poth, 2018).

Findings

Focusing on the experiences of 33 participants related to their perceived growth in generativity as a result of their mentoring experience, significant statements were identified that provided insight on the phenomenon (Moerer-Urdahl and Creswell, 2004; Moustakas, 1994). A total of 840 significant statements were identified and then grouped into 15 meaning units, which were clustered into six themes (see Table 2). These themes were triangulated with pictorial degree-of-change graphs.

In answer to the central question, “What changes in generativity do college student leaders who mentor associate with their mentoring experience, and why?”, findings indicated to the researchers overall acknowledgment of sustained generativity development by the senior collegiate leadership mentors as a result of their mentoring experiences. Thirty-two out of 33 participants indicated a stronger overall positive rate of change in generativity with their mentoring experience than without, as evidenced by indication of perceived growth (i.e., higher generativity at Time 3 than at Time 1), as well as indication of a stronger rate of generativity change with mentoring than without. A variety of trajectories were specified, ranging from linear paths to non-linear curves (see Figures 1 and 2). Researcher analysis of interview themes did not

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3 indicate demarcations based upon type of trajectory; thus, the pictorial degree-of-change graphs
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5 demonstrated stronger triangulation to the interview themes relative to indication of perceived
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7 growth (i.e., higher generativity at time three than time one), as well as indication of perceived
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9 developmental influence (i.e., the indication of a stronger rate of generativity change with
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11 mentoring, the interpersonal skills class, and the weekly project meeting than without).
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14 15 **Figure 1**

16
17 *Example linear-specified growth trajectory of generativity*

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19 [INSERT FIGURE 1 HERE]
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21 22 **Figure 2**

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24 *Example non-linear-specified growth trajectory of generativity*

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26 [INSERT FIGURE 2 HERE]
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29 While participants, overall, signified growth in their generativity levels as a result of their
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31 mentoring experiences in their pictorial degree-of-change graphs, further phenomenological
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33 analysis of interview transcripts revealed six themes to answer the research sub-question, “How
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35 does generativity develop among college student leaders who mentor?”, indicating factors
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37 influencing generativity development, namely, (a) understanding generativity, (b) acquiring and
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39 applying tools, (c) processing and feedback, (d) longitudinal relationship development, (e) seeing
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41 the outcomes, and (f) ripple effect (see Table 2). The themes are described in order of how
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43 participants discussed the developmental process of generativity through the context of their
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45 mentoring experience. Table 2 offers a visual representation of how the meaning units were
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47 clustered into themes and supporting evidence of each meaning unit from the interview
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49 transcripts.
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53 54 **Table 2**

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3 *Themes, meaning units, and supporting evidence*
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5 [INSERT TABLE 2 HERE]
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8 **Understanding generativity**
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11 Numerous participants (18/33) indicated that the act of labeling generativity played a role
12 in generativity development, as represented by Cassie who mentored a 6th grader: “learning what
13 generativity is, putting a word to experience ... I’ve always been interested in the younger
14 generation ... and then realizing okay I do have this.”
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20 Brittney, who had a 12th grade mentee, also shared, “I just could feel that it was
21 happening more because I was then aware of the fact of what it was.” Once participants became
22 aware of what generativity was, they were able to see the role generativity played in their lives,
23 both within and outside of the mentoring experience. Stephanie, who mentored an 11th grader,
24 articulated, “the acts of mentoring ... gives you that whole view of what exactly generativity is.”
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31 By virtue of understanding and identifying generativity from their mentoring experience,
32 participants indicated they were then able to start mastering the skill.
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37 **Toolbox**
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40 Once participants learned the word and meaning of generativity, they were able to
41 develop the tools necessary to further their growth. Most participants (28/33) recognized the
42 importance of tools in their mentoring relationships, identifying two components of the
43 “toolbox”: acquiring and applying the tools. Acquired tools included finding hot buttons
44 (hobbies/interests), question-asking, learning names, appreciating others’ values, and listening.
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51 Twenty-four participants discussed acquiring tools early in their mentoring experience through
52 the LMP class (15) and weekly mentor meetings (8). Doug, who mentored a 12th grader,
53 represented this idea by saying, “the class in the sense of a toolbox, is a piece of knowledge that
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3 serves as tools to use in later situations.” Vicky, also a mentor of a 12th grader, expressed the
4 value of these tools gained from weekly mentor meetings: “having those extra tools in
5 [meetings], to give me the confidence to challenge my [mentee] and expand on their strengths.”
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7 This theme was confirmed when triangulated with pictorial degree-of-change graphs for
8 indicating perceived developmental influence (i.e., the indication of a stronger rate of
9 generativity change with the interpersonal skills class and the weekly project meeting than
10 without). As exemplified in Figure 3, all 28 participants who took the class recognized its value
11 on their generative development. Similarly, all 33 participants indicated that weekly project
12 meetings with other mentors helped to develop their generativity.
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24 **Figure 3**

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26 *Stephanie’s graph of generative growth (with and without the LMP class and project meetings)*

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28 [INSERT FIGURE 3 HERE]
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31 Once mentors gained the skills and knowledge of concepts from weekly mentor meetings
32 and class, they were then able to apply those skills to their mentoring relationship. Vince, who
33 mentored a 12th grader, voiced eagerness to apply these tools with his mentee: “every time I
34 learn a new concept or a new theory, I want to try it and see how people respond. ... having that
35 relationship is a great place to try it.” Carl, whose mentee was in 9th grade, compared the
36 mentoring experience to that of a lab: “we got to practice those skills [with our mentee] and that
37 was the lab of the course.” Participants directly saw an impact on their own generativity levels as
38 a result of applying the skills gained, embodied by Brandon’s (mentor to a 6th grader) comment:
39 “definitely without a doubt, I know that my relationship with my mentee and our three years of
40 mentoring have grown my generativity, because of the application ... week after week. The
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3 application of the skills that I've gained." Participants, by and large, agreed that gaining the tools
4 and applying them to their relationships grew their generativity.
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7 8 **Processing and feedback** 9

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11 In combination with the increased understanding of generativity and the acquiring and
12 application of tools, mentors developed from the opportunity to process their experiences and
13 gain feedback. This feedback and processing led to the participants seeing generative
14 development via five different vehicles: (a) motivation and affirmation from others, (b)
15 confidence, (c) exposure to other mentors, (d) reflection, and (e) greater understanding of impact.
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23 Overall, 31 participants recognized the opportunity for processing and feedback as
24 instrumental for their generative development. Of those, 16 acknowledged the importance of
25 receiving feedback via affirmation from others. Michelle, who mentored a 12th grader,
26 emphasized the importance of affirmation both individually and toward others: "[affirmation
27 from others] told me I have to be more purposeful and ... I need to tell my mentee these are the
28 things I see [them] being really good at." Mentors indicated that receiving praise from others and
29 using that praise moving forward in their mentoring experience allowed them to grow in their
30 generativity.
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41 In turn, receiving affirmation from others helped increase the participants' self-
42 confidence, which then allowed them to better mentor others. Sixteen participants recognized
43 this aspect of their generative growth, represented by Nolan's comment: "By gaining insight
44 about my situation and figuring things out, I was really able to build my own confidence ... I've
45 done this for myself, I can do this for others too." While some gained confidence through direct
46 feedback ("when somebody really sees that in you ... you are more confident with your abilities"
47 – Charlie), others associated increases in confidence as a result of their mentee's success
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3 (“Throughout my time in [the LMP] ... just watching [my mentee] grow has boosted my
4 confidence I think, in that I could do this with anyone” – Bella). While participants saw their
5 confidence increase in a variety of ways, this increase in confidence influenced generativity
6 increases.
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12 Exposure to other mentors was also associated with generative growth (29/33). Max
13 spoke about the importance of advice from older mentoring relationships: “People would give
14 me ideas, suggestions, ways I could better facilitate communication ... I would get help for the
15 present, but also see what successful groups look like in the future.” Maggie, whose mentee was
16 in 12th grade, echoed the power of other mentors’ advice: “the advice that I receive is always
17 something that I can apply, and I think that demonstrates the influence of project meetings. It
18 also shows how important it is ... that you do have that support system around you.” The
19 exposure to other mentors helped participants recognize what generativity looked like.
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31 Eighteen mentors mentioned the role of reflection in their generativity growth, as
32 represented by Lance’s statement:
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35 I would say [LMP] has helped me understand my thought process faster and in an easier
36 way. I think [generativity is] a very complex concept to understand without training,
37 without talking about it. I was aware of it like I said when I came in as a sophomore, but
38 being able to have those discussions, um, talk with people about it, I don’t know if I
39 would have gotten there as quickly.
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47 Through processing and reflection, participants gained a greater understanding of generativity
48 and its impact. Mentoring helped Bella see the power that her generativity had on those that they
49 were investing in: “I think that’s another thing that mentoring has helped me realize. It’s just the
50 power each of us have and how we can help others continue to grow in that way.” Bella, along
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3 with the other participants, saw that this impact could go beyond their mentee. Brandon
4 displayed this belief, indicating “[The LMP] has launched this idea of impacting future
5 generations and impacting others and having a positive difference on my community, on my
6 friends, on the world.”
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10 11 12 **Longitudinal aspects**

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15 Once participants were able to gain the tools and experience feedback, they recognized
16 the longitudinal nature of their mentoring experience as instrumental. Overall, 28 participants
17 discussed longitudinal aspects in relation to their generative development – namely, consistency
18 (9) and long-term relationship development (25).
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24 Regarding consistency, mentors indicated that routine meetings with their mentees
25 enabled them to see the impact of the relationships on all parties. Michelle spoke of this
26 consistency: “I have realized the importance of the follow through aspect with generativity
27 because you can’t only do it once ... It has to be a consistent process and eventually that
28 continues to carry on with other people.” Ken, who had a 3rd grade mentee, further articulated,
29 “When you consistently spend that same amount of time with someone a week you ... see that
30 growth that you give.” When mentors regularly met with their mentees, they recognized the
31 opportunity to promote growth within their mentees as well as their ability to make an impact.
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42 Regarding long-term relationship development, mentors indicated that building trust,
43 comfortability, and vulnerability with their mentees enabled their relationships to grow into
44 mentorship. This long-term transformation into mentorship allowed participants to understand
45 their mentees’ needs, which resulted in generativity development: “Getting to know [my mentee]
46 and realizing what she needs from me as a mentor increases the generativity” (Cassie). Oscar, a
47 mentor to a 7th grader, also discussed intentionality: “for [my mentee’s] generativity to [grow],
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3 you have to be intentional with interaction.” Overall, consistency and long-term relationship
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5 development contributed to generativity growth because the longitudinal process encouraged
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7 generative thinking and the importance of intentionality.
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10 **Seeing the outcomes**

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13 Most participants (28/33) recognized their generativity growth when they saw the
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15 combined effects of understanding generativity, gaining tools, processing and feedback, and
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17 long-term relationship development. Twenty-five participants saw this growth within themselves
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19 in myriad ways. For example, both Patrick and Brandon became more empathetic and were
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21 better able to understand where others were coming from. Anna gained an awareness of how she
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23 was better able to build others up and promote generativity within them. Cassie saw an increase
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25 in her generativity as she became more adaptable to her mentee’s needs. Each of these
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27 participants pointed to these outcomes as an indication that their generativity was also growing,
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29 as represented by Lance’s comment: “[The LMP] has really promoted my development in
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31 generativity and my overall interest in developing in younger generations.”
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37 Eighteen mentors saw growth not only within themselves but also saw growth within
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39 their mentees. Chance, mentor to a 5th grader, represented this idea, indicating, “talking about a
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41 concept and a month later seeing that concept still growing through him ... showed me that we
42
43 were growing.” Vince highlighted his mentee’s growth as increasing the value of generativity:
44
45 “The longer you are in the program and the more of those kinds of experiences you have, the
46
47 more important you see the generativity.” Through recognizing growth in both the mentors and
48
49 mentees, participants were able to identify generative development as a result of their own
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51 mentoring experiences.
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Ripple effect

As participants reflected on their growth, they recognized a cycle of generativity, articulated as a “ripple effect” – an in vivo code. Participants acknowledged that they were the recipients of others’ generativity, which fueled their motivation to be generative toward others, in the hope that the recipient of their generativity would then be generative toward others, and so on, like a ripple created by a stone dropped in a pond. Twenty-three participants referenced a ripple effect when discussing their generative development. Illustrated in Figure 4, participants had been invested in by previous leadership mentors (17/33), which led to their desire to do the same for their mentee (15/33) along with the hope that their mentee would do the same for others (12/33). Doug summarized the quintessence of the ripple effect through saying, “understanding that I as a mentor am still being invested in for me to further invest in my mentee, for them to invest in other people is, just this long chain.”

Figure 4

Illustration of ripple effect theme

[INSERT FIGURE 4 HERE]

Phenomenological essence

The textural (i.e., what participants experienced related to generativity development in the context of mentoring) and structural themes (i.e., how participants experienced generativity development in the context of mentoring, with particular attention paid to the developmental influences) described above, triangulated with pictorial degree-of-change graphs, were used to construct a composite description of generativity development in the context of mentoring, otherwise known as the essence (Creswell and Poth, 2018).

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3 When participants were given the tools, environment to process, and time needed to
4
5 develop trusting investment relationships, their generativity increased. This increase was
6
7 associated with changes in their understanding of generativity, the desire to pass on the
8
9 knowledge given to them, and growth in both mentor and mentee. Overall, participants saw a
10
11 positive growth trend in their generativity, which they attributed to their experience as a mentor.
12
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14
15 Figure 5 documents the dimension and structure of that generativity development by
16
17 depicting the relationship and order of the identified themes as articulated by participant
18
19 comments and associated graphs. Exposure and labeling of generativity (the box labeled
20
21 “Understanding Generativity” in Figure 5) played an important role in generativity development
22
23 because once participants learned the word and meaning of generativity, they were able to
24
25 develop the tools necessary to further their growth. Participants discussed (and confirmed with
26
27 graphs) the influence of acquiring and applying the tools on their generativity development,
28
29 highlighting the importance of interpersonal skills training. In addition to training, mentors
30
31 indicated progress in their generativity development from the opportunity to process their
32
33 experiences and gain feedback from peers and staff. Once armed with the tools and the
34
35 opportunity to experience feedback, participants recognized the longitudinal nature of their
36
37 mentoring experience as instrumental to generativity development. The recognition of
38
39 generativity growth happened, however, when participants saw the combined effects of
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41 understanding generativity, gaining tools, processing and feedback, and long-term relationship
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43 development. As participants reflected on this growth, a cycle of generativity was acknowledged
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45 and paralleled to a “ripple effect.”
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51 **Figure 5**

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54 *Generativity development through mentoring*
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[INSERT FIGURE 5 HERE]

Discussion

The findings of the current study, in alignment with the researchers' intended purpose, indicated a more nuanced understanding of the growth of generativity (i.e., care for the next generation) among college student leaders who mentor. Participants not only acknowledged and attributed growth in their generativity to their mentoring experience, but also illuminated the dimension and structure of that generativity development in the context of mentoring by highlighting the importance of exposure to generativity, training in interpersonal skills, reflection with peers, and an extended time period for relationship development. Participants further elucidated generativity development in the context of mentoring by indicating that generativity does not just develop to a higher point but develops in a cycle that looks like a ripple effect.

Findings from the current study offer a variety of advancements to mentoring research and practice. Namely, the findings from the current study advance mentoring research through better understanding mentoring as a developmental intervention, informing antecedents of generativity, and the utilization of innovative qualitative methodological techniques. For educational practitioners, the findings of this study offer implications related to the administration and assessment of effective undergraduate collegiate mentoring programs.

Theoretical implications

The first implication of the current study is its impact on generativity theory. Considering generativity's original midlife focus (Erikson, 1950/1963), the current study's findings offer support to earlier dissenters (Cohler *et al.*, 1998; Marcia, 1966; McAdams and de St. Aubin, 1992) who argued that young adults are capable of engendering and displaying generativity. First, the current study's findings combined with multilevel modeling results indicating gains in

generative behavior over time for collegiate leadership mentors (Sunderman and Hastings, 2023) also extend this argument by suggesting that young adults are capable of not only showing generativity, but also growing it, providing a greater understanding of longitudinal patterns of generativity development through mentoring experiences (Hastings *et al.*, 2015) and clarifying the benefits of long-term mentoring (Aryee *et al.*, 1996; Olian *et al.*, 1993).

Second, the current study illuminates mentoring's role as a developmental antecedent of generativity (Hastings *et al.*, 2015; McAdams, 2001; Sunderman and Hastings, 2023) and suggests five other antecedents, specifically (a) exposure to the concept of generativity, (b) regular opportunities to process and reflect on generative experiences, (c) intentional longitudinal relationship development, (d) positive feedback to generative behavior, and (e) engaging in generative action with others.

Last, the methodological approach and subsequent findings of the current study also offer advancements to qualitative research methods, especially in the mentoring field. Triangulating pictorial degree-of-change graphs with interview themes provided more nuanced understanding of the dimension and structure of generativity development within collegiate mentors that is not theorized for a young adult demographic. By having participants indicate not only the perceived change in generativity throughout a mentoring experience, but also the perceived influence of various developmental factors, the pictorial degree-of-change graphs provided confirmation as well as added dimension and structure to the interview themes. The utilization of pictorial degree-of-change graphs to triangulate interview data offers innovation to qualitative methodology in mentoring research by creating richer opportunities to capture essence and to encourage rigor in phenomenology (Creswell and Poth, 2018; Sunderman *et al.*, 2022).

Practical implications

The current study offers two practical implications. First, given the perceived relationship between generativity and mentoring documented in the current study and previous studies (Doerwald *et al.*, 2021; Hastings *et al.*, 2015; Hastings and Sunderman, 2019; Komives *et al.*, 2006; Komives *et al.*, 2005; Peterson and Stewart, 1996; Sunderman and Hastings, 2023; Sunderman *et al.*, 2022), as well as the established predictive relationship between generativity and social responsibility (Rossi, 2001), higher education institutions are encouraged to develop mentoring interventions that establish generativity growth as a stated outcome. Higher education governing bodies have long identified leadership and social responsibility as two critical outcomes for college graduates (AAC&U and NLC, 2007; CAS, 2015; NACE, 2016); however, the mere presence of mentoring opportunities is not always an indicator of effectiveness in developing leadership and social responsibility (Rhodes and DuBois, 2008). While research on college student leadership development has identified the importance of mentoring (Dugan, 2011; Dugan and Komives, 2007, 2010; Evans *et al.*, 2022; Fine, 2021), generativity or generativity development has not been listed as a stated outcome of mentoring programs. Similarly, in recent meta-analyses on the effects of mentoring programs in youth, academic, and workplace contexts (DuBois *et al.*, 2011; Eby *et al.*, 2013; Raposa *et al.*, 2019), generativity is neither mentioned nor listed as a stated outcome. Establishing generativity growth as a stated outcome of mentoring programs could improve precision toward documenting the impact of mentoring efforts as well as documenting mentoring's role in developing leadership and social responsibility in students. Utilizing pictorial degree-of-change graphing could also serve as an important assessment indicator for documenting changes in generativity levels over time,

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3 answering Crisp *et al.*'s (2017) call for more robust research to guide the assessment of
4
5 undergraduate mentoring efforts.
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8 Second, the findings from the current study emphasize the importance of training
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10 (Toolbox theme) and reflection opportunities (Processing/Feedback theme) for mentors, which,
11
12 previously, had been assumed to be nice but unnecessary (Bearman *et al.*, 2007). Training for
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14 mentors is important both before and during a mentoring relationship (Castanheira, 2016;
15
16 Gershenfeld, 2014; Hastings, 2016; Hastings and Sunderman, 2020; Jones and Smith, 2022;
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18 Kupersmidt and Rhodes, 2014; Miller, 2015; Sipe, 2002; Zentgraf, 2020) and can include topics
19
20 such as program structure, selection and matching processes, support services, communication
21
22 skills, relationship-building techniques, and mentor roles (Redmond, 1990). The findings from
23
24 the current study indicate the importance of mentor training in interpersonal skills related to
25
26 leadership with particular focus on positive psychology constructs such as active listening and
27
28 empathy. Additionally, the Understanding Generativity theme from the current study highlights
29
30 the importance of exposure to the concept of generativity in mentor training. Regarding
31
32 reflection, the Processing/Feedback theme from the current study highlights that feedback and
33
34 processing helped participants see generativity development via (a) motivation and affirmation
35
36 from others, (b) confidence, (c) exposure to other mentors, (d) reflection, and (e) greater
37
38 understanding of impact. While several practitioner volumes on mentoring highlight the
39
40 importance of active, regular reflection opportunities where mentors can share successes and
41
42 hindrances, identify the influence of their social identities and positionality, and receive guidance
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44 and support from peers and program staff (Fine, 2021; Hastings, 2016; Hastings and Sunderman,
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46 2020; Sipe, 2002; Vaccaro and Camba-Kelsay, 2018; Zentgraf, 2020), the findings from the
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48 current study offer implications to mentoring program practitioners relative to how those regular
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3 reflection opportunities might be structured to support generativity growth. For example,
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5 mentoring program practitioners might consider how regular gatherings among mentors might
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7 include focused reflection and feedback that offers affirmation to mentors. Additionally, while
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9 these practical implications related to mentor training and reflection reinforce existing high-
10
11 impact practices in mentoring, using comparative pictorial degree-of-change graphs as an
12
13 assessment method might document the influence of these high-impact practices on mentoring
14
15 outcomes more precisely, again answering Crisp *et al.*'s (2017) call.
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19 20 **Limitations and future research directions**

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23 Due to the inherent limitations associated with qualitative research, the intention of this
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25 work is to offer enough detail regarding context, situation, and population to allow the reader to
26
27 make transferability judgments (Lincoln and Guba, 1985). Future researchers may consider
28
29 exploring generativity development among different types of collegiate mentors at other higher
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31 education institutions. Additionally, mentors at a different age or mentors who do not focus on
32
33 leadership might articulate different experiences.
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35

36
37 While the pictorial degree-of-change graphs provided an opportunity to generate a more
38
39 nuanced understanding of the dimension and structure of generativity development within the
40
41 context of collegiate mentoring, utilizing this second data collection method had its own
42
43 limitations. Assessing self-perceptions of generativity development can certainly fall prey to the
44
45 "Hollywood effect," whereby participants might rate themselves higher due to social desirability
46
47 (Rosch and Schwartz, 2009). Additionally, by having participants formulate comparative degree-
48
49 of-change graphs for generativity development with/without mentoring, with/without the
50
51 interpersonal skills class, and with/without weekly project meetings, participants were making
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53 subjective judgments based upon experiences they did not have. While common sense would
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3 suggest that the mentoring experience, the class, and the project meetings had a positive
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5 influence on generativity development, the researchers would have been assuming their
6
7 developmental influence without that form of data. Future research on generativity development
8
9 through mentoring would benefit from multi-rater indications of generativity development as
10
11 well as more objective comparisons of generativity development between mentors and non-
12
13 mentors, mentors who engaged in training versus mentors who did not, and mentors who
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15 engaged in weekly reflection with peers versus mentors who did not. Other directions for future
16
17 research include lifespan longitudinal study of generativity development years after mentoring.
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22 **Conclusion**

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25 The overall purpose of this phenomenological study was to build upon previous
26
27 quantitative work (i.e., Hastings *et al.*, 2015, Sunderman and Hastings, 2023) by exploring
28
29 generativity development among college student leaders who mentor, through qualitative means.
30
31 Findings of the current study provide support to the unique developmental impact of mentoring
32
33 on generativity development, which has implications for future social responsibility (Rossi,
34
35 2001) and socially responsible leadership (Hastings and Sunderman, 2019). Additionally, the
36
37 qualitative findings encourage the methodological utility of degree-of-change graphs as a
38
39 mechanism for rigorous triangulation efforts. Last, the findings highlight the importance of
40
41 training and reflection in amplifying the generativity development that occurs in the context of
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43 mentoring.
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Figure 1

Example linear-specified growth trajectory of generativity

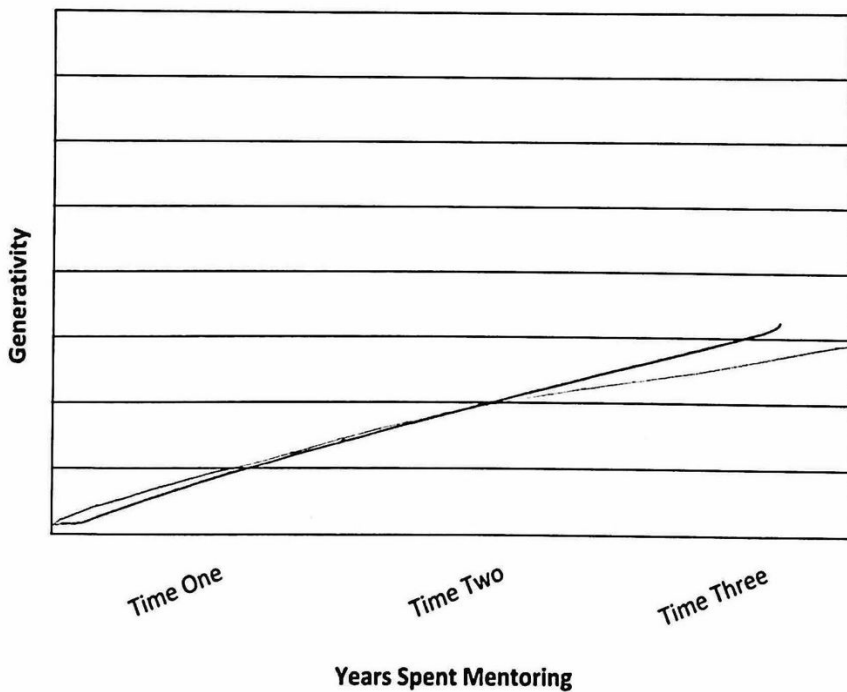
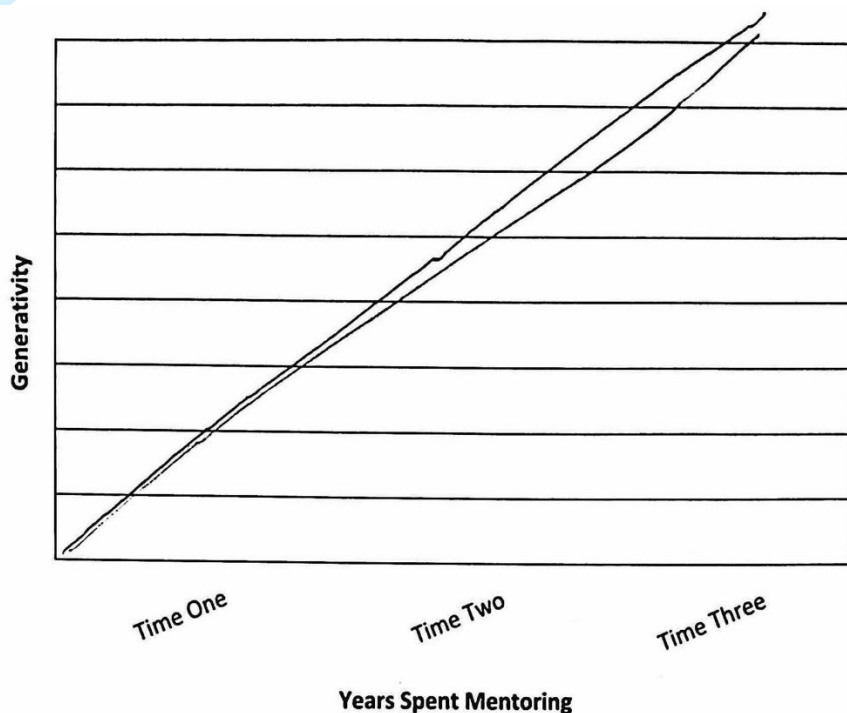


Figure 2

Example non-linear-specified growth trajectory of generativity

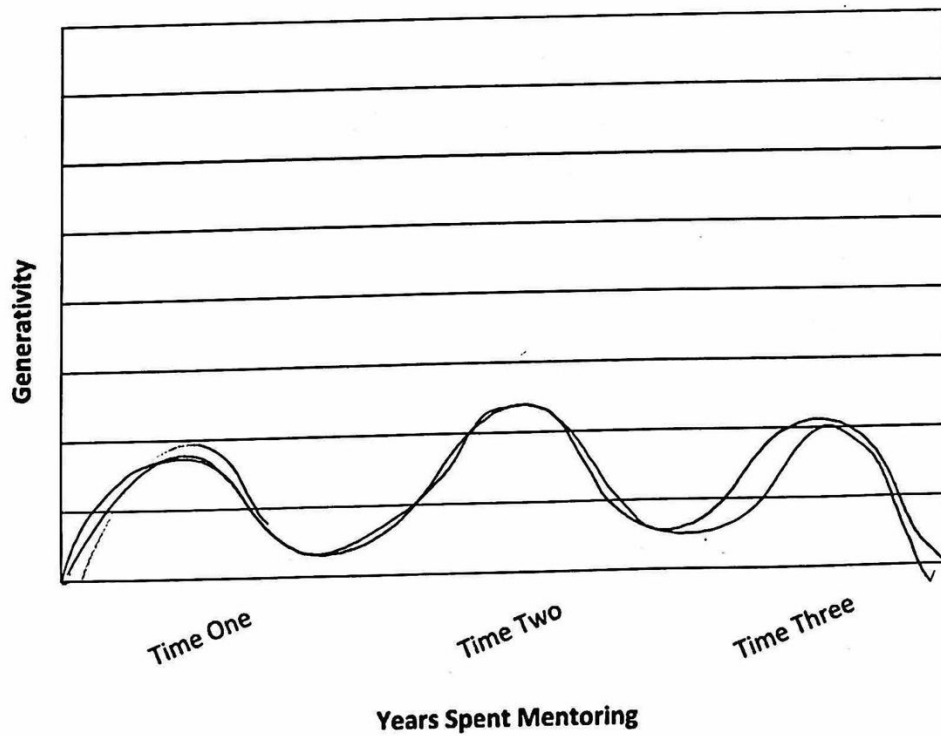
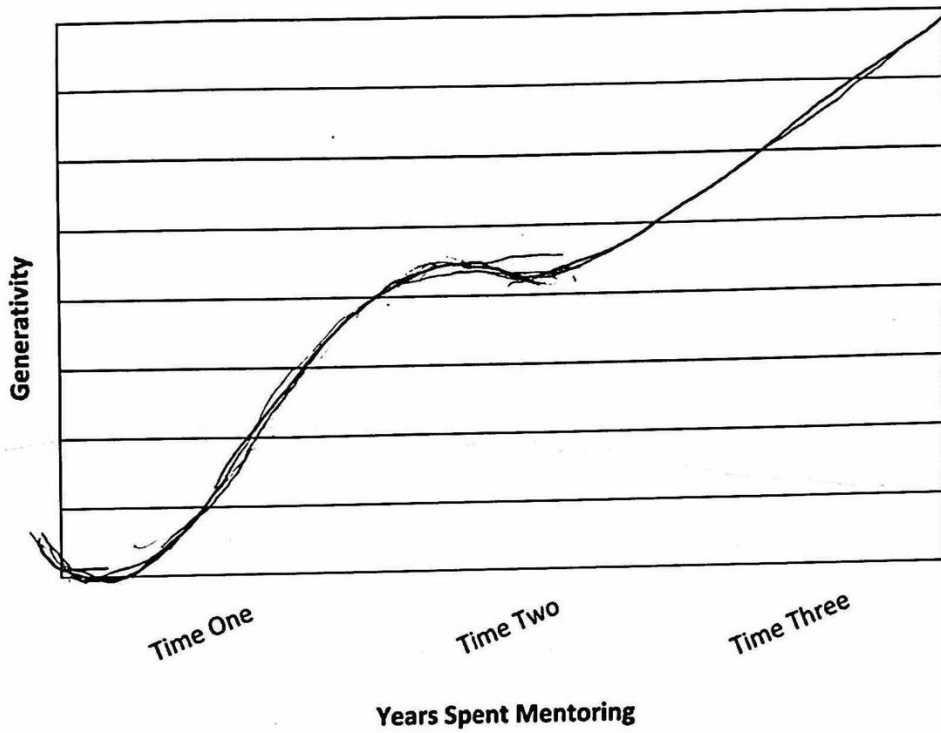


Figure 3

Stephanie's graph of generative growth (with and without the LMP class and project meetings)

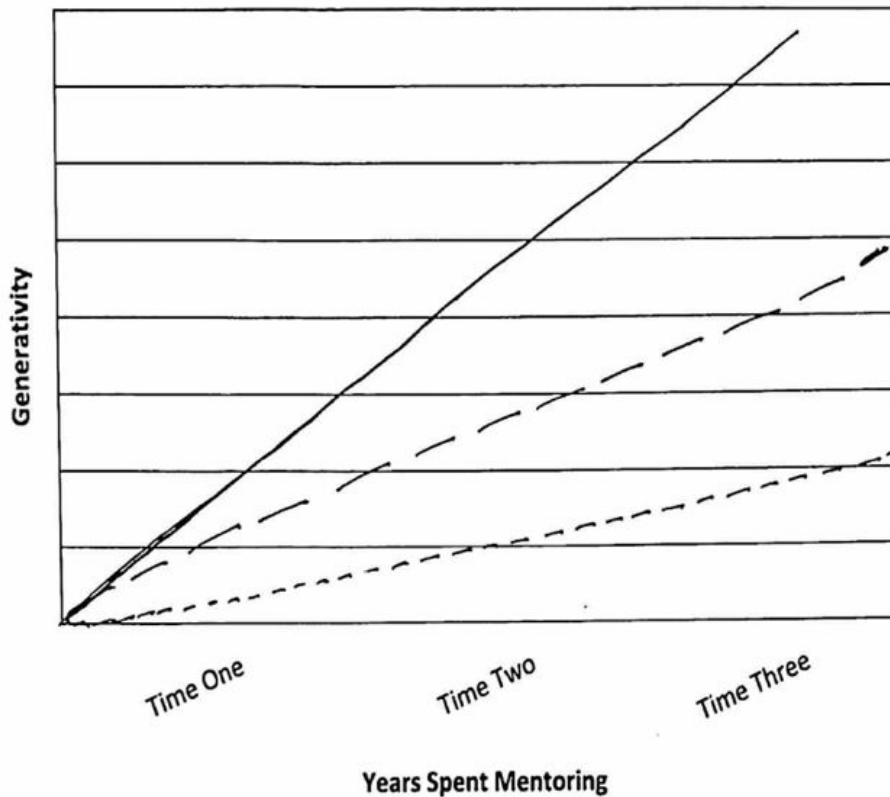


Figure 4

Illustration of ripple effect theme

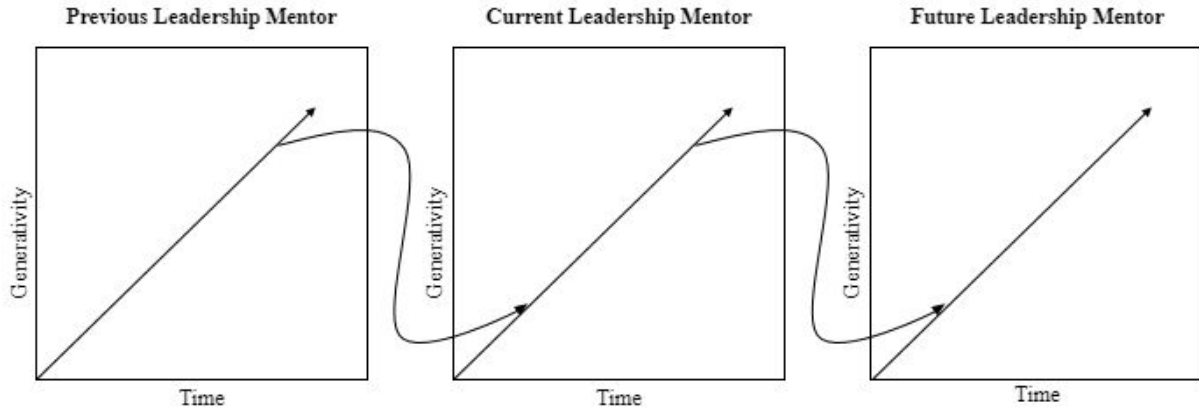


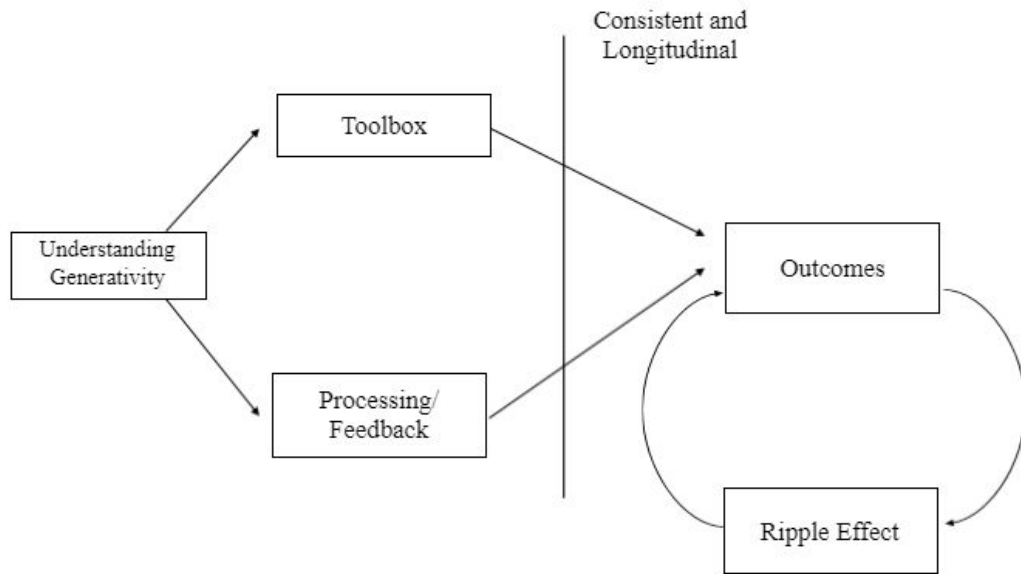
Figure 5*Generativity development through mentoring*

Table 1*Participant information*

Participant pseudonym	Gender	Grade of mentee
Adam	Male	Grade 6
Anna	Female	Grade 6
Alex	Male	Grade 12
Bella	Female	Grade 8
Brandon	Male	Grade 6
Brittney	Female	Grade 12
Carl	Male	Grade 9
Cassie	Female	Grade 6
Chance	Male	Grade 5
Charlie	Female	Grade 6
Doug	Male	Grade 12
Gina	Female	Grade 3
Hank	Male	Grade 12
Isabelle	Female	Grade 3
Jeff	Male	Grade 12
Jenny	Female	Grade 6
Ken	Male	Grade 3
Kristie	Female	Grade 9
Lance	Male	Grade 3
Lydia	Female	Grade 9
Maggie	Female	Grade 12
Max	Male	Grade 10
Michelle	Female	Grade 12
Nolan	Male	Grade 12
Oscar	Male	Grade 7
Patrick	Male	Grade 12
Ralph	Male	Grade 10
Sam	Female	Grade 9
Stephanie	Female	Grade 11
Thomas	Male	Grade 11
Vicky	Female	Grade 12

Vince	Male	Grade 12
Will	Male	Grade 9

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Table 2*Themes, meaning units, and supporting evidence*

Theme	Meaning units	Evidence
Understanding Generativity	Labeling Generativity	“I just could feel that it was happening more because I was then aware of the fact of what it was.”
		“learning what generativity is, putting a word to experience”
		“gives you that whole view of what exactly generativity is”
		“really understanding what generativity means”
Toolbox	Acquiring Tools	“the class in the sense of a toolbox, is a piece of knowledge that serves as tools to use in later situations”
		“having those extra tools in [meeting]”
		“the training, or the ability, or the mindset, or understanding of how to positively impact younger generations”
		“gave me tools and the awareness of being intentional about generativity”
	Application of Tools	“I already have a foundation, I’m just able to more intentionally practice it”
		“practice those skills and [mentoring is] the lab of the course”
		“every time I learn a new concept or a new theory, I want to try it”
		“the application of the skills I’ve gained”

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4	Processing and	Motivation and	“you’re affirmed and supported and you’re given so
5	Feedback	Affirmation from	many tools and so much knowledge”
6		Others	
7			“[others] gave me affirmation”
8			
9			“[affirmation from others] told me I have to be more
10			purposeful and ... I need to tell my mentee these are
11			the things I see [her] being really good at”
12			
13			
14		Confidence	“by gaining insight about my situation and figuring
15			things out, I was really able to build my own
16			confidence ... I’ve done this for myself, I can do this
17			for others too”
18			
19			“you are more confident with your abilities”
20			
21			“just watching [my mentee] grow has boosted my
22			confidence”
23			
24			
25		Exposure to Other	“being around other leaders I saw things in them
26		Mentors	specifically that I was like ‘I wanna like be more like
27			that”
28			
29			“the advice that I receive is always something that I
30			can apply, and I think that demonstrates the influence
31			of project meetings. It also shows how important it is
32			... that you do have that support system around you”
33			
34			
35			“I was seeing what [LMP] is capable of”
36			
37			“I would get help for the present, but also see what
38			successful groups look like in the future”
39			
40			
41		Reflection	“I feel like it’s ... a direct impact, reflection”
42			
43			“you can’t intentionally teach or practice these skills
44			without reflecting on how they’re important in your
45			own life”
46			
47			“[LMP] has helped me understand my thought
48			process faster and in an easier way.”
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	Greater Understanding of Impact	<p>“I was able to realize that this was something I do a lot and I want to do better and make more of an impact.”</p> <p>“the power each of us have and how we can help others continue to grow in that way”</p> <p>“launched this idea of impacting future generations”</p>
Longitudinal Aspects	Consistency	<p>“the importance of the follow through ... it has to be a consistent process”</p> <p>“the most pivotal thing was just having ... weekly time kind of focusing on how to optimize that time”</p>
	Relationship Development	<p>“the [relationship] development you’re seeing serves as the engine to drive it higher”</p> <p>“We got our lives more intertwined ... I think he trusted me more.”</p> <p>“for [my mentee’s] generativity to [grow], you have to be intentional with interaction”</p> <p>“automatically increase your comfortability with somebody and vulnerability”</p> <p>“realizing what she needs from me as a mentor increases the generativity”</p> <p>“go in there with intention to purposefully try and build that relationship”</p>
Seeing the Outcomes	Seeing Growth in Self	<p>“people always say that your mentee will grow, will grow a lot but you’ll always grow just the same”</p> <p>“I definitely see it continuing to grow because I think I’ll become better equipped and learn from previous failures and learn to see opportunities in a growing light.”</p> <p>“promoted my development in generativity and my overall interest in developing in younger generations”</p>

	Seeing Growth in Mentee	<p>“[my mentee’s] patience with me as a growing mentor”</p> <p>“[my mentee] becoming more mature”</p> <p>“I had miniature success that she’s having her success of being more open”</p> <p>“a month later seeing that concept still growing through him”</p> <p>“seeing results in what you’re doing is motivating”</p>
Ripple Effect	Investment from Others	<p>“people have shown this to you and people invested in you in this way”</p> <p>“seniors trickling down to the juniors and sophomores, giving them advice”</p> <p>“since so many people have been giving back to me”</p> <p>“I had a lot of people pouring into me”</p> <p>“they can ... have an impact in my life, so I’m being generative to them, they’re being generative to me and we’re working in tandem to then influence and encourage other people”</p>
	Reinvestment in Others	<p>“you’re putting a lot of attention into how you can develop another person”</p> <p>“you start to understand that then you can have that same effect on other people”</p> <p>“your alternate role as a mentor, which is to reinvest back into new mentors”</p>

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Reinvestment of
Mentees

“important force as [mentee] continue[s] to mentor,
continue[s] to invest in others in their life”

“[mentee] needs to have the ability to grow other
people”

“I as a mentor am still being invested in for me to
further invest in my mentee, for them to invest in
other people is just this long chain.”

“how [my mentee] is pouring into others”

APPLYING METHODOLOGICAL INNOVATION TO EXPLORE GENERATIVITY

DEVELOPMENT AMONG COLLEGIATE LEADERSHIP MENTORS

Lindsay J. Hastings

Lindsay Hastings is the Clifton Professor in Mentoring Research and Research Director for NHRI Leadership Mentoring in the Agricultural Leadership, Education, and Communication Department at the University of Nebraska – Lincoln.

Hannah M. Sunderman

Hannah Sunderman is an Assistant Professor in the Agricultural, Leadership, and Community Education Department at Virginia Tech University.

Addy Sellon

Addy Sellon is a former graduate student in the Agricultural Leadership, Education, and Communication Department at the University of Nebraska – Lincoln.

Correspondence concerning this article should be addressed to:

Lindsay Hastings

143 Filley Hall – UNL

Lincoln, NE 68583-0947

lhastings2@unl.edu

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