Antecedents and Outcomes of Callings for University Students: An Examination of Mentoring and Insight Experiences

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Abstract

Past research has found that callings have a significant impact on important individual and organizational outcomes, but research on the precursors of callings is limited. In the current study, we contribute to callings research by examining two potentially important calling antecedents for university students: mentoring relationships and insight experiences. Building on extant literature, we also explored how students' perceptions of callings may relate to school- and career-related outcomes. Using a sample of 536 undergraduate students from one private and two public U.S. universities, we found that high-quality mentoring relationships and insight experiences were positively related to students' perceptions of callings. We also found support for a relationship between students' perceptions of callings and their school engagement and absenteeism, along with their career outcome expectations. We discuss the implications of these findings for research and practice.

Keywords

callings, mentoring, insight experiences, careers

> You've got to find what you love . . . The only way to do great work is to love what you do . . . Keep looking until you find it. Don't settle.

> —Steve Jobs, Stanford University commencement (2005)

We are bombarded with messages that finding our calling is essential to success and happiness. The clarion call to find one's calling, in fact, starts early in life and is a message received by most of today's college students (Fisher, 2014; Trespicio, 2016). It is perhaps not surprising, then, that research has shown that most college students find the concept of a calling to be "relevant in their career decision making process" (Hunter et al., 2010, p. 180). Despite this, researchers have also indicated that a

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sizable number of students do not perceive a calling for a particular career, express some degree of uncertainty about their perceived calling, and/or indicate that they are still searching for a calling (e.g., Dik et al., 2012; Duffy & Sedlacek, 2010). What may account for this discrepancy?

One explanation is that we still lack a clear understanding of the precursors of callings and especially those that may be relevant for individuals at a formative career stage. While scholarly work on callings has grown over the past two decades, this work has primarily centered on calling outcomes (Dik & Shimizu, 2019; Thompson & Bunderson, 2019). Notwithstanding a few key exceptions (e.g., Creed et al., 2016; Dobrow, 2013), there continues to be a dearth of research focused on identifying tangible factors that may help university students come to perceive a calling for a particular career (Duffy & Dik, 2013; Elangovan et al., 2010). This is problematic for a few reasons. First, while many university students seek meaning in their career (Hunter et al., 2010), scholars recognize that students who perceive a calling, compared with those who are still searching for a calling, vary in their experiences. While the presence of a calling has been associated with multiple well-being-related outcomes, searching for a calling has been linked to negative outcomes such as identity confusion, discomfort, and strain (Dobrow Riza et al., 2019; Duffy & Sedlacek, 2007). Identifying factors that may help students come to perceive a calling for a particular career may therefore hold implications for their overall well-being, along with other career-, school-, and work-related outcomes. Second, university students are actively engaged in career exploration and weighing important career decisions that will be instrumental in shaping their career paths (Blustein & Phillips, 1988). As such, identifying factors that may help students come to perceive a calling takes on even greater importance as they face these challenging, yet impactful, career choices at an early adulthood life stage (Hunter et al., 2010).

Recognizing these points, our primary objective in the current study was to examine two potentially important calling antecedents for university students that have not received significant attention in previous research. First, we examined how mentoring relationships, and more specifically how the presence of a *high-quality mentoring relationship*, may help students come to perceive a calling for a particular career. Researchers have long acknowledged the career-related benefits of mentoring for protégés (Allen et al., 2004). Interestingly, though, the potential influence mentors may hold for individuals' development of a calling has received little attention. The current study thus contributes to both callings and mentoring research by bridging these well-established, yet largely unconnected, careers literatures. Second, we examined how the encounter of an *insight experience* may also uniquely contribute to students' development of a calling. As described later, insight experiences are defined as life events or episodes that offer a moment of comprehension, here related to one's career. Insight experiences have been recognized as a type of career-defining moment for adults— an experience that can offer a sense of clarity and point individuals toward a specific, meaningful career path (Ensher et al., 2017). Here, we extend this research by examining whether university students may also encounter insight experiences that contribute to their development of a calling.

Finally, building on extant literature, we contribute to callings research by exploring how students' perceptions of callings may relate to both school- and career-related outcomes. More specifically, we focus on three outcomes in this study: *school engagement*, *school absenteeism*, and *career outcome expectations*. Both qualitative and quantitative reviews of the callings literature have shown the presence of a calling to be related to several desired attitudinal work outcomes for employees (Dobrow Riza et al., 2019; Thompson & Bunderson, 2019). Building on this earlier work, our focus on school outcomes in the current study offers an important contribution insomuch as students' physical and psychological presence in the classroom are indicators of academic success and their future work behaviors (Barnard, 2018; Rafa, 2017). In addition, by examining students' career outcome expectations, we offer callings researchers a more complete view of the different ways the presence of a calling may shape career outcomes.

For this study, we defined a calling as a sense of passion for a particular type of work, along with the belief that this work is meaningful (Bunderson & Thompson, 2009; Dik & Duffy, 2012; Dobrow &

Tosti-Kharas, 2011). We adopted this definition for two reasons. First, there is a widely acknowledged lack of consensus among scholars as to the exact definition of callings (Bunderson & Thompson, 2009; Dobrow & Tosti-Kharas, 2011; Wrzesniewski et al., 1997). Thus, we chose to adopt an inclusive definition that encapsulates many of the different calling descriptions used in earlier studies (see Thompson & Bunderson, 2019). Second, we chose a definition agnostic to one's underlying basis for perceiving a calling. This decision follows research by Dik and Shimizu (2019), who analyzed extant calling definitions and determined they exist along a continuum from neoclassical to modern, each varying with respect to whether the basis of a calling stemmed from an internal or external source. An examination of the neoclassical and modern components of Dik and Shimizu's (2019) continuum further served as the foundation for our decision to focus explicitly on mentoring relationships and insight experiences as the two antecedent variables of interest for the current study.

As described by Dik and Shimizu (2019), neoclassical definitions of callings are rooted in an individual's motivation to hear and/or serve others. Specifically, the original discourse on the meaning of a calling was anchored in spirituality and the principle that a call is to serve God, humankind, or a higher purpose (Dobrow & Tosti-Kharas, 2011; Elangovan et al., 2010). A neoclassical calling is therefore derived from an external source and can be described as related to one's answer to the question "What am I called to do?" which is often interpreted through the needs and wants of others (Bunderson & Thompson, 2009; Praskova et al., 2015).

A salient feature in the neoclassical search for one's calling is that an individual finds the answer to the question "What am I called to do?" through the influence and help of mentors. A mentor is one of a network of relationships who can provide career and emotional support, as well as serve as a role model, to a protégé (Ensher & Murphy, 2005). Applied to the current study context, a mentor could also serve as a useful interpersonal resource for helping university students identify their career calling and make career-related decisions (Bear & Jones, 2017).

More specifically, in this study, we propose that high-quality mentors may help student protégés find or experience a calling. This stipulation recognizes that mentoring relationships vary in quality (Ragins, 2017) and that it is ultimately the relationship's quality that determines relationship outcomes (Ragins et al., 2000). Researchers have established that mentors offer a variety of benefits to protégés (Allen et al., 2004), including career/instrumental support such as sponsorship, stretch assignments, learning, and feedback (Ragins & McFarlin, 1990). To this end, Dik and Duffy (2012) recommended that those interested in identifying a calling solicit feedback from others, reflect on it, and take appropriate action. This process may be facilitated by the presence of a high-quality mentor. Mentors could furthermore influence protégés' decisions to pursue certain careers by serving as role models (Durbin & Tomlinson, 2014). In addition, the emotional and psychosocial support high-quality mentors offer could encourage protégés to explore different, and perhaps more meaningful, career opportunities.

To date, the presence of a high-quality mentoring relationship has not been tested as an antecedent to callings. However, related constructs such as relational job crafting and supportive relationships have received consideration (Dik & Duffy, 2012; Haney-Loehlein et al., 2015). In a recent study, for example, Grant-Vallone and Ensher (2017) found faculty used relational job crafting techniques to deepen their engagement in their jobs. These authors captured relational job crafting primarily as the development and deepening of individuals' mentoring relationships. In addition, French and Domene (2010) found that the presence of supportive relationships helped individuals identify their calling, with mentors recognized as one type of "important supporter." Based on this research, we hypothesize the following:

Hypothesis 1: There will be a positive relationship between the presence of a high-quality mentor and the perception of a calling.

In contrast to neoclassical views, which derive from an external source, modern definitions stipulate that callings are internally driven (Dik & Shimizu, 2019). As opposed to being anchored in spirituality, modern perspectives also view callings as secular, emphasizing matters such as achieving self-actualization, experiencing personal fulfillment, and identifying one's passion (Dobrow & Tosti-Kharas, 2011; Praskova et al., 2015). Put differently, whereas a neoclassical view reflects the question of "what am I called to do?" from external sources, modern perspectives focus on the question of "what do I want from my life?" as derived internally.

The question "what do I want from my life?" has clear connections with collegiate student experiences. As young adults make their way through college, they begin to take on greater responsibility and attend less to what "others" want (Graham & Cockriel, 1996) and more to their own wants. In fact, universities often provide opportunities for college students to develop self-awareness and insight through program offerings such as internships, community-based learning, and international experiences (Hansen et al., 2017; Knouse & Fontenot, 2008). These offerings may create opportunities for students to encounter insight experiences, defined as life events or episodes that offer a moment of comprehension related to one's career. The concept of an insight experience has been documented in a variety of settings and cultures, and synonymous definitions include eureka moments, epiphanies, and aha moments (see Kounios & Beeman, 2014; Yaden & Newburg, 2015), all of which refer to instantaneous moments of comprehension. Insight experiences have been cited as inspiring innovations, the founding of spiritual practices, and entrepreneurial advances (Kiefer & Constable, 2013), and their study has a rich history in the field of cognitive neuroscience (Kounios & Beeman, 2014).

In this study, we expect that an insight experience, whether as part of a university-sponsored program or otherwise, will serve as an antecedent for students' perception of a calling. How insight experiences may relate to work- and/or career-related constructs represents a nascent area of research (Dane, 2020). However, a few scholars have begun to explore this question, mostly in qualitative work. For example, Ensher et al. (2017) identified insight experiences as one type of career-defining moment in their qualitative study of executives, observing that the encounter of an insight experience offered individuals a sense of clarity regarding their career, pointing them toward a specific, personally meaningful career path. In addition, Dane (2020) found in an exploratory study that among those who reported an epiphany in their lives, a sizable portion described the experience as being related to their work or career.

Together, this research suggests insight experiences are important across a range of work-related contexts, including for an understanding of one's career. In a related vein, a few scholars have also theorized that critical life events, which could reflect insight experiences, may serve as precursors to the development or recognition of a calling. Each of these studies, however, again reflect qualitative examinations. For example, in one study of 58 individuals in leadership positions, Haney-Loehlein et al. (2015) found that 60% of respondents indicated that a key event in their life helped shape their calling. These events were moreover varied and included both challenging and positive experiences. Dik and Duffy (2009) likewise proposed that critical life events could act as a contributing factor in the development of a calling, a view echoed by Yaden and Newberg (2015), both in conceptual works. In sum, while the connection between insight experiences and work- and career-related constructs remains nascent (Dane, 2020), preliminary results from this and related areas of research suggest that insight experiences may contribute to the development of a calling. We therefore hypothesize the following:

Hypothesis 2: The encounter of an insight experience will have a positive relationship with the perception of a calling.

Next, we examine outcomes of callings for students. We first examined two outcomes with respect to the school domain: school engagement and school absenteeism. These variables are important as

they relate to academic success in the short-term and long-term. In addition, building habits related to "showing up," both physically and psychologically, are key to the development of positive work behaviors and future success (Garcia & Weiss, 2018; Rafa, 2017).

There have been several studies investigating the relationship between callings and work engagement among employees, but few have examined the connection between the presence of a calling and school engagement in a college student population. Still, it is reasonable to expect this relationship may generalize to students, especially as results in adult samples have proven consistent across cultures. For example, Hirschi (2012) found that those who experienced their work as a calling reported greater levels of work engagement, in a German sample, Rothmann and Hamukang'andu (2013) found support for a relationship between callings and work engagement in a Zambian context, and Xie et al. (2016) found that callings were positively related to work engagement among Chinese employees. Moreover, in a recent meta-analysis of the callings literature, Dobrow Riza et al. (2019) showed that work engagement was among the strongest work-related outcome associated with callings ($r = .49$ across 31 samples), a finding aligned with the theoretical perspective that employees with a calling are likely to see their work as more meaningful (Bunderson & Thompson, 2009; Thompson & Bunderson, 2019). Consistent with this research from the work domain, therefore, we posit the following hypothesis:

Hypothesis 3: Perceiving a calling will be positively related to school engagement.

We additionally expect a negative relationship between the perception of a calling and school absenteeism. In contrast to work engagement, there has been a dearth of studies examining the relationship between callings and work absenteeism, along with other behavioral outcomes (Duffy & Dik, 2013). However, in the only previous empirical test examining the link between callings and absenteeism conducted in a work context, Wrzesniewski et al. (1997) found that employees who viewed their work as a calling missed fewer workdays over a year.

In addition, while not specifically focused on behavioral outcomes, some workplace research has shown callings to be associated with constructs related to absenteeism, including turnover intentions, organizational commitment, and more generally, organizational attachment (e.g., Cardador et al., 2011; Kim et al., 2018). This research follows the theoretical premise that because individuals are expected to invest more time and effort in a role that is personally meaningful (such as that associated with a perceived calling), employees should express greater attachment toward an organization that provides a context for them to participate in such a meaningful role (Cardador et al., 2011). Aligned with this theorizing, we expect that students who perceive a calling will be more invested as a student and more likely to perceive that their school activities are preparing them for future opportunities to live out their perceived calling. As such, we expect a negative relationship between students' perception of a calling for a particular career and school absenteeism:

Hypothesis 4: Perceiving a calling will be negatively related to school absenteeism.

Turning to career outcomes, researchers have established a relationship between the perception of a calling and several career-oriented constructs. For example, the presence of a calling has been shown to be related to career self-efficacy, the development of career strategies, along with career commitment (see meta-analysis by Dobrow Riza et al., 2019). Specific to college students, French and Domene (2010) furthermore observed that those who identified their planned career as a calling had greater levels of career decidedness, comfort, and clarity. Other research has also demonstrated a relationship between callings and career adaptability and preparation (Douglass & Duffy, 2015; Hirschi & Herrmann, 2013).

In this study, we examine the relationship between the perception of a calling and career outcome expectations. Career outcome expectations, which refers to the expected consequences associated with

one's planned career (Lyness & Ragins, 2010), is a social cognitive construct that appears in existing models of career development (Lent & Brown, 2013). As a calling indicates a sense of passion for a particular type of work and a belief that the work is meaningful (Bunderson & Thompson, 2009; Dik & Duffy, 2012; Dobrow & Tosti-Kharas, 2011), we expect that students reporting the presence of a calling may attach greater salience to, as well as expect more from, their future careers. This theorizing points to a positive relationship between the perception of a calling and career outcome expectations. We therefore hypothesize the following:

Hypothesis 5: Perceiving a calling will be positively related to career outcome expectations.

Method

Data Collection Procedures and Study Sample

We collected data from undergraduate business students at three universities. The first university was a private school with an enrollment of about 10,000 students located in a large urban area in the Western United States, the second was a public school with an enrollment of about 20,000 students located in a different large urban area in the Western United States, and the third was a public school with an enrollment of about 7,000 students located in a midsized city in the Midwestern United States. Each of the business schools at the three universities was Association to Advance Collegiate Schools of Business International accredited. All data were collected using an online survey instrument constructed on the Qualtrics platform.

At each of the three universities, access to students was obtained through instructors of an upper-level undergraduate organizational behavior course. This was furthermore a required course in each university's business school curriculum. As such, students represented a variety of business majors (e.g., accounting, finance, management, marketing) and included a small number of students from other colleges (e.g., public affairs, veterinary science, engineering, liberal arts) taking the course as an elective. All students were offered an extra credit incentive for their participation with the specific value set by each course instructor. In addition, at the private university, the survey was administered to undergraduate students participating in a short orientation course required for all new business school students. Data were collected during the spring, summer, and fall 2018 semesters.

In total, 536 students completed the online questionnaire—260 were from the private institution in the Western United States, 213 were from the public institution in the Western United States, and 63 were from the public institution in the Midwestern United States. Overall, 46% of the sample were men, 57% were non-Hispanic White, 2% were Black, 9% were Hispanic/Latino, 22% were Asian, 6% were multiracial, 1% were Native Hawaiian/Pacific Islander, <1% were Native American or Alaskan Native, and 3% self-reported as other. Their mean age was 21.73 years ($SD = 4.38$), and their median age was 20.50. Finally, 78% expected to graduate within the next 2 years.

Measures

We used established instruments for all multiitem scales, except school engagement, insight experience, perceived ability in one's planned profession, and behavioral involvement. Because no established scale existed for these constructs, we developed measures and examined their item/scale properties in a separate validation sample. We also included items capturing social comfort in one's planned profession in the validation sample because we modified these items from Dobrow's (2013) original 2-item measure. All newly developed or modified measures examined in the validation sample are shown in Table 1.

Table 1. Summary of Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) for New/Modified Measures.

Scale/Item	EFA: Validation Study	CFA: Primary Study [a]
Insight experience		
My planned career choice is primarily the result of a particular "insight experience" or "aha moment" I had during my life	.56	.60
During my life, I experienced a sense of extreme clarity which led me to choose a particular career	.92	.77
One day, I just knew what my career was going to be	.54	.61
Ability		
When it comes to working in my planned profession, I have a high degree of ability	.67	.71
I seem to have a natural gift for the work in my planned profession	.75	.72
I have a good skill set for my planned profession	.71	.79
Social comfort		
I feel more comfortable around people in my planned profession than most other groups of people	.98	.80
I enjoy socializing with people currently working in my planned profession more than most other groups of people	.63	.82
Behavioral involvement		
I have participated in internships or similar programs that allowed me to learn more about this profession	.99	.72
I have participated in worksite visits or job shadowing to learn more about my planned profession	.53	.77
School engagement: Please rate your behavior in comparison to your classmates …		
Your overall level of attendance in classes	.50	.42
Your overall level of participation in classes	.68	.76
Your overall level of engagement in classes	.78	.94

Note. For the validation study, entries are factor loadings on the item's primary factor taken from an EFA with maximum likelihood as the extraction method (varimax rotation). The five-factor structure had good fit ($\chi^2_{23} = 19.39$, $p = .68$) and explained 72% of variance in the data. No cross-loadings were greater than .27. $N = 95$ for the EFA in the validation study. For the primary study, entries are standardized loadings on the appropriate latent construct taken from a CFA using maximum likelihood estimation. $N = 536$ for the CFA in the primary study.
[a]Fit statistics: $\chi^2_{55} = 80.20$, $p = .01$, comparative fit index $= .99$, root mean square error of approximation $= .03$, standardized root mean square residual $= .03$, Gamma Hat $= .99$.

Perceiving a calling. We measured *perceiving a calling* using Praskova et al.'s (2015) Career Calling Scale for Emerging Adults (CCSEA), a measure designed for assessing the perception of a calling among university students. According to Praskova et al., the CCSEA is a second-order construct with three first-order dimensions—personal meaning, other-oriented meaning, and active engagement—each measured with 5 items (thus 15 items in total). A sample item was "I have chosen a career path that will give real purpose to my life" (from the personal meaning dimension), and response options were $1 = $ *strongly disagree* to $6 = $ *strongly agree*. Praskova et al. (2015) found the CCSEA to have both strong reliability ($\alpha = .89$) and validity given its correlation with other perceived calling measures such as the presence scale from Dik et al.'s (2012) Calling and Vocational Questionnaire ($r = .56$).

Outcome variables. Three outcome variables were present in our model. We first measured *school engagement* using 3 items developed for this study. The items are shown in Table 1, and response options ranged from $1 = $ *far below average* to $5 = $ *far above average*. We next captured *school absenteeism* with the following item: "Over the previous year, how many days were you absent from school

due to a non-school-related reason? (e.g., please do not count days in which you were away for school-related reasons such as required athletic travel or other school program travel)." This variable provides a count of the number of days a student was absent over the previous year and follows assessments of absenteeism used in recent research (e.g., Ragins et al., 2017). Finally, we measured *career outcome expectations* using Lyness and Ragins's (2010) 4-item scale. A sample item was, "I expect that my career will be fulfilling," and response options were $1 = $ *strongly disagree* to $7 = $ *strongly agree*. Recent research has shown this measure to be reliable (e.g., $\alpha = .86$ and .88 in two samples, Ehrhardt & Sharif, 2019) and valid given its relationship with other career-oriented constructs such as career self-efficacy ($r = .49$ and .59 in two samples, Ehrhardt & Sharif, 2019).

Antecedents. In terms of key antecedent variables, we first measured *insight experience* with 3 items developed for this study. We show these items in Table 1, and response options were $1 = $ *strongly disagree* to $5 = $ *strongly agree*. In addition, respondents were provided a "not applicable" response option if they had "not identified a career" for themselves. Second, we captured the presence of a *high-quality mentoring relationship* with a dichotomous variable. We created a dichotomous variable for this measure given that individuals with and without mentors were present, and only those with mentors were able to report scores for the quality of their mentoring relationship. We measured relational quality with a 5-item scale used previously by Ragins et al. (2017), which was originally adapted from Allen and Eby (2003; $\alpha = .90$). Ragins et al. found this measure to be both reliable ($\alpha = .88$) and valid given its relationship with related constructs such as mentor satisfaction ($r = .65$). A sample item was, "My mentoring relationship is very effective," and response options were $1 = $ *strongly disagree* to $5 = $ *strongly agree*. Following Ragins et al., we classified respondents as having a high-quality mentor if their relational quality score was 4 or greater on the 5-point scale.

Controls. We accounted for several control variables in our analyses. First, we controlled for three demographic variables: *age* (reported directly in years), *gender* ($1 = $ *male*, $0 = $ *female*), and *race* ($1 = $ *person of color*, $0 = $ *non-Hispanic White*). We also controlled for respondents' *school type* ($1 = $ *private university*, $0 = $ *public university*).

We additionally accounted for a few other variables theorized as calling antecedents in previous research. While extant research on calling antecedents is limited (Duffy & Dik, 2013), Dobrow (2013), using a sample of young musicians theorized three variables that may serve as precursors to perceiving a calling: one's ability, behavioral involvement, and social comfort in a domain (i.e., music). In the current research, therefore, we also controlled for each of these three constructs. We first captured *social comfort* in one's planned profession by modifying Dobrow's 2-item measure such that the scale may be applicable for a range of occupations (as opposed to only musicians). Specifically, the item "I feel more comfortable around musicians than around any other group of people" was modified to "I feel more comfortable around people in my planned profession than most other groups of people," and the item "I enjoy socializing with musicians more than with any other group of people" was modified to "I enjoy socializing with people currently working in my planned profession more than most other groups of people" (Dobrow, 2013, p. 439). In her study, Dobrow found the original 2-item measure focused on musicians to be reliable ($\alpha = .87$) and positively correlated with a measure in which respondents indicated their participation in 10 different music-related activities ($r = .18$). Second, we measured *behavioral involvement* with 2 items developed for this study. Third, we measured *perceived ability* with 3 items developed for this study. Each of the items comprising these three measures appears in Table 1, and response options for each were $1 = $ *strongly disagree* to $5 = $ *strongly agree*. As with insight experience, respondents were provided a "not applicable" option if they had "not identified a career" for themselves. Finally, as to provide conservative estimates, we included all control variables in all analyses. However, retesting the study analyses without control variables revealed no substantive changes in our results.

Validation of New and Modified Measures

As noted above, we examined the item/scale properties of all newly developed and modified measures in a separate validation sample prior to using them in the primary study. To remain consistent with our target population, we collected data for the validation sample from 107 students at the same public university in the Western United States that was used in the primary study sample. There was, however, no overlap between validation and primary sample respondents. Validation sample respondents had a mean age of 24.22 years ($SD = 5.18$), and their median age was 22 years. Approximately 53% were men, 52% were non-Hispanic White, 3% were Black, 14% were Hispanic/Latino, 22% were Asian, 5% were multiracial, and 4% self-reported as other or chose not to disclose. About 71% expected to graduate within the next 2 years.

In the validation study, we conducted several tests to examine the psychometric properties of our newly developed/modified study measures. First, we conducted an exploratory factor analysis with maximum likelihood as the extraction method to examine whether each of the newly developed/modified items loaded as expected. The results for a five-factor pattern explained 72% of variance in the data, and all loadings were as expected with no cross-loadings exceeding .27. We provide individual loadings for each item in Table 1. We next conducted several correlation analyses to assess discriminant validity. First, a series of tests showed that all of the newly developed/modified measures—school engagement, insight experience, perceived ability in one's planned profession, behavioral involvement, and social comfort in one's planned profession—were not correlated with social desirability. The measures additionally showed only weak to moderate correlations among themselves, with the highest correlation being between insight experience and ability ($r = .43$). No other correlations exceeded .30.

Finally, to confirm the factor structure for the newly developed/modified measures from the validation sample, we conducted a confirmatory factor analysis (CFA) in the primary study sample. Fit statistics for the five-factor model were $\chi^2_{55} = 80.20$, $p = .01$; comparative fit index (CFI) = .99, root mean square error of approximation (RMSEA) = .03, standardized root mean square residual (SRMR) = .03, Gamma Hat = .99, and the standardized loadings for each item are in Table 1. Supporting discriminant validity, χ^2 difference tests showed that the five-factor model had better fit than several alternative models in which one or more of the factor correlations were constrained to unity ($p < .01$ for all). All CFA tests were conducted using MPlus Version 7.20.

Data Analysis

Analyses followed a correlational study design. More specifically, after first examining our measurement model using a CFA, we tested our hypotheses using a series of hierarchical regression analyses. Ordinary least squares regression analysis was used to examine Hypotheses 1, 2, 3, and 5, while Poisson regression analysis was used to examine Hypothesis 4 because absenteeism was a count variable.

Results

Table 2 displays descriptive statistics, correlations, and scale reliabilities for all variables.

Measurement Model

We tested our measurement model in a CFA that contained all multiitem scales, using maximum likelihood estimation. Following Praskova et al. (2015), the CCSEA was represented as a second-order factor in the CFA, while all other constructs were first-order factors. Fit statistics for the CFA model were $\chi^2_{440} = 1204.39$, $p < .01$; CFI = .90, RMSEA = .06, SRMR = .05, and Gamma Hat = .92.

Table 2. Descriptive Statistics and Correlations of Study Variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. School engagement	3.72	0.73	**.73**												
2. School absenteeism	3.46	3.66	−.39	—											
3. Career outcome expectations	5.60	0.95	.20	−.07	**.86**										
4. Perceiving a calling	4.22	0.71	.24	−.22	.65	**.88**									
5. Insight experience	3.09	0.91	.15	−.11	.32	.50	**.70**								
6. High-quality mentor [a]	0.51	0.50	.17	−.12	.17	.23	.18	—							
7. Ability	4.09	0.63	.20	−.06	.35	.41	.30	.12	**.77**						
8. Social comfort	3.48	0.89	.11	−.08	.21	.31	.30	.15	.28	**.79**					
9. Behavioral involvement	3.00	1.14	.08	−.04	.12	.18	.23	.18	.16	.21	**.71**				
10. School type [b]	0.49	0.50	.09	.06	.12	.01	.00	−.10	.01	.09	.06	—			
11. Age	21.73	4.38	.02	−.06	−.02	.03	.01	.10	.12	−.04	−.10	−.45	—		
12. Gender [c]	0.46	0.50	.01	.04	−.05	−.09	−.01	.02	.08	.07	.03	.11	.01	—	
13. Race [d]	0.43	0.50	.01	−.04	.00	.00	.13	−.07	−.14	.07	.07	.11	−.17	−.01	—

Note. N = 536. Boldface entries on the diagonal are scale reliabilities. Correlations greater than .08 in absolute value are significant at $p < .05$ and greater than .11 at $p < .01$.
[a] 1 = *presence of a high-quality mentor*, 0 = *no mentor or low-quality mentor*. [b] 1 = *private university*, 0 = *public university*. [c] 1 = *male*, 0 = *female*. [d] 1 = *person of color*, 0 = *non-Hispanic White*.

Supporting discriminant validity, χ^2 difference tests showed that this model had better fit than several alternative models in which one or more of the factor correlations were constrained to unity ($p < .01$ for all). Supporting convergent validity, the mean standardized loading for all indicators on first-order factors was .72 ($p < .01$ for all). The mean standardized loading for the three first-order factors on the second-order CCSEA factor was .73.

Hypotheses

Results for Hypotheses 1 and 2 appear in Table 3. Hypothesis 1 received support, as the results showed a positive relationship between the presence of a high-quality mentor and perceiving a calling. In addition, supporting Hypothesis 2, insight experience had a positive relationship with perceiving a calling. The results for the relationship between perceiving a calling and outcomes are displayed in Table 4. As shown, Hypothesis 3 was supported as perceiving a calling was positively related to school engagement. In addition, Hypothesis 4 was supported as Poisson regression results showed that perceiving a calling was negatively related to school absenteeism.[1] Finally, Hypothesis 5 was supported as results revealed a positive relationship between perceiving a calling and career outcome expectations.[2]

Discussion

The notion of a calling has important implications for today's workforce and university students. Workers crave meaning, and for Generation Z employees, this is particularly salient (Mercurio, 2017). In this study, we examined two antecedents of callings, along with outcomes that matter for students' school achievement and future performance as employees.

Table 3. Regression Results for the Relationship Between Insight Experience, Mentoring Relationships, and Perceiving a Calling.

Variable	Model 1	Model 2
Covariates and main effects		
Age	.00 (.01)	−.00 (.01)
Gender [a]	−.19 (.06)**	−.17 (.05)**
Race [b]	.05 (.06)	−.02 (.05)
School type [c]	−.00 (.06)	.03 (.06)
Ability	.40 (.05)**	.29 (.04)**
Social comfort	.16 (.03)**	.09 (.03)**
Behavioral involvement	.05 (.03)*	.01 (.02)
Insight experience	—	.29 (.03)**
High-quality mentor [d]	—	.16 (.05)**
Regression statistics		
R^2	.23	.36
ΔR^2	—	.13**

Note. $N = 536$. Unstandardized coefficients are reported with standard errors in parentheses. Dependent variable = perceiving a calling. These are ordinary least squares models.
[a] 1 = *male*, 0 = *female*. [b] 1 = *person of color*, 0 = *non-Hispanic White*. [c] 1 = *private university*, 0 = *public university*. [d] 1 = *presence of a high-quality mentor*, 0 = *no mentor or low-quality mentor*.
*p < .05. **p < .01.

Table 4. Regression Results for the Relationship Between Perceiving a Calling and School and Career Outcomes.

	DV = School Engagement		DV = Career Outcome Expectations		DV = School Absenteeism	
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Covariates and main effects						
Age	.01 (.01)	.01 (.01)	.00 (.01)	.00 (.01)	−.01 (.01)	−.01 (.01)
Gender [a]	−.03 (.06)	.00 (.06)	−.17 (.08)*	−.04 (.06)	.08 (.09)	.02 (.09)
Race [b]	.04 (.07)	.05 (.06)	.01 (.08)	.03 (.07)	−.11 (.09)	−.11 (.09)
School type [c]	.17 (.07)*	.17 (.07)*	.25 (.08)**	.22 (.07)**	.07 (.10)	.09 (.10)
Ability	.18 (.05)**	.13 (.06)*	.41 (.07)**	.17 (.06)**	−.03 (.08)	.07 (.08)
Social comfort	.01 (.04)	−.00 (.04)	.05 (.05)	−.02 (.04)	−.05 (.06)	−.02 (.06)
Behavioral involvement	.00 (.03)	−.00 (.03)	−.00 (.04)	−.01 (.03)	.00 (.05)	.01 (.04)
Insight experience	.06 (.04)	.01 (.04)	.21 (.05)**	−.03 (.04)	−.08 (.06)	.02 (.06)
High-quality mentor [d]	.22 (.06)**	.19 (.06)**	.20 (.08)**	.07 (.07)	−.20 (.10)*	−.15 (.10)
Perceiving a calling	—	.16 (.05)**	—	.82 (.06)**	—	−.33 (.08)**
Regression statistics						
R^2	.08	.10	.21	.44	—	—
ΔR^2	—	.02**	—	.23**	—	—
−2 Loglikelihood	—	—	—	—	3,271.81	3,208.46
$\Delta \chi^2$	—	—	—	—	—	63.35**

Note. $N = 536$. Unstandardized coefficients are reported with standard errors in parentheses. Models 1–4 are ordinary least squares models. Models 5 and 6 are Poisson regression models.
[a] 1 = *male*, 0 = *female*. [b] 1 = *person of color*, 0 = *non-Hispanic White*. [c] 1 = *private university*, 0 = *public university*. [d] 1 = *presence of a high-quality mentor*, 0 = *no mentor or low-quality mentor*.
*p < .05. **p < .01.

Implications for Theory and Research

First, results revealed a positive relationship between students' perceptions of a calling and their relationship with a high-quality mentor. This finding contributes to a body of mentoring research documenting a range of benefits for students with mentors. For example, the Strada-Gallup Engagement Survey, which includes about 100,000 college graduates, showed that a connection with a mentor was a crucial element for student satisfaction (see Bruni, 2018). Others too have recognized mentoring as a means to facilitate college student success (Johnson, 2007). The current study also builds on recent mentoring research highlighting the importance of the quality of a mentoring relationship (Ragins et al., 2017). Researchers have shown that mentoring relationships are not always successful, with protégés even being at risk of negative experiences in some situations (Eby et al., 2004). Our findings support the premise offered by mentoring scholars that high-quality mentors can enliven individuals' careers (Ragins, 2017), here by playing a role in helping students identify a calling for a particular career.

The second antecedent we examined, insight experience, also had a positive relationship with students' perception of a calling. Although the concept of an insight experience dates to the earliest research on religious callings (Elangovan et al., 2010), only recently have researchers suggested that insight experiences may matter for callings in a work or career context (e.g., Yaden & Newberg, 2015). This work, however, has primarily been conceptual or qualitative in nature. In contrast, we provide quantitative empirical evidence for a connection between insight experiences and callings. To this end, the current study also contributes to the callings literature by providing researchers with a validated tool for measuring insight experience in future studies.

Our findings for mentoring relationships and insight experiences as calling antecedents also have important implications for career calling theories. For example, in what is arguably the most comprehensive theoretical model of callings to date, Work as Calling Theory describes a process by which individuals come to live out a calling and the benefits that may ensue (Duffy et al., 2018). As part of their theory, Duffy and colleagues identify perceiving a calling as a key predictor of living a calling, observing that "one cannot live out a calling unless one perceives a calling in the first place" (Duffy et al., 2018, p. 426). Still, while the perception of a calling clearly plays a crucial role, absent in Work as Calling Theory is any attention to factors that may allow individuals to come to perceive a calling for a particular career. Our findings for a relationship between students' perception of a calling and both the presence of a high-quality mentor and insight experiences may therefore extend the scope of this theory, allowing scholars greater insight into the callings process—from the development of a perceived calling, to translating a perceived calling into a lived calling, and ultimately to the outcomes that follow. Future longitudinal research that follows recent college graduates through the early stages of their career could serve as a useful study design to examine this process.

In considering the connection between this study and career calling theories, another interesting question is whether the variables we examined as calling antecedents for students may actually play a different theoretical role when applied to adult samples. For example, while Work as Calling Theory positions perceiving a calling as a predictor of living a calling (Duffy et al., 2018), researchers also observe that the ability to live out one's perceived calling may be limited by various constraints (Thompson & Bunderson, 2019), including restricted access to a career field. It would seem reasonable, though, that mentors may be in position to provide their protégés with opportunities and access that can help them to overcome such entry barriers, especially if the mentor themself is in the career field. This logic suggests a moderated effect for the presence of certain types of mentors for the relationship between perceiving and living a calling and may be an interesting question to examine in an adult sample.

Beyond adding to our knowledge of calling antecedents, this research also increased our understanding of outcomes associated with perceiving a calling for emerging adults. Consistent with

research from the workplace (e.g., Hirschi & Herrmann, 2013), we found that students who perceived a calling for a particular career expressed greater school engagement. This is important because engagement in school activities leads to happier, more productive students who are more likely to reap the full rewards of a university education (Barnard, 2018; Bruni, 2018). Still, it is useful to keep in mind that some research points to a dark side of callings in the sense that those who perceive a calling may become so engrossed in their work activities that their personal life, relationships, and even health, suffer (Duffy et al., 2016). This may be especially relevant for today's college students who have been described as "the most anxious generation" (Shellenbarger, 2019). More research that examines the optimal point for perceiving a calling and school engagement would therefore be helpful.

Of course, students cannot be psychologically engaged in their school activities if they are not also physically present. Accordingly, we found a negative relationship between perceiving a calling and school absenteeism. As absenteeism has a direct impact on tangible outcomes like grades, along with intangible outcomes such as relationships with professors and peers, this represents an important finding (Anaya & Cole, 2001; Marburger, 2006). In addition, the negative relationship between perceiving a calling and school absenteeism uncovered in this study offers an important contribution to callings research insomuch as behavioral outcomes have received only scant attention in the literature (Duffy & Dik, 2013). Finally, extending research on the career outcomes of callings, our results showed that students who perceived a calling also reported greater career outcome expectations. This makes sense as students who perceive a calling can better direct their efforts with respect to pursuing career leads, along with building relationships and networking with those in their career field of interest.

Implications for Practice

This study also has important practical implications for those engaged in the career development of university students. In particular, our findings for a relationship between students' perception of a calling and both the presence of a high-quality mentor and insight experiences raise two key questions: (1) How can administrators, faculty, and university career centers help students procure high-quality mentors? and (2) How can these same constituents work together to provide opportunities for students to encounter insight experiences?

With respect to the first question, including opportunities for students to network with potential mentors, as well as educating students on strategies for connecting with mentors as part of their course curricula, would be helpful. Such efforts should moreover involve integrated efforts between faculty and university career counselors. In addition, where opportunities for students to build mentoring relationships are in place, mentor training is often neglected, with some programs working under the erroneous assumption that professional achievement will automatically make mentors effective with students. In contrast, established professional-student mentoring programs (e.g., the STEM-focused MentorNet.net program) provide comprehensive mentor training and ongoing coaching and support—elements that should be incorporated as best practices. Finally, programs may be improved by administrators giving attention to how different types of mentors (such as alumni and faculty) can be utilized in helping students discern callings.

In terms of opportunities for students to encounter insight experiences, university administrators, faculty, and career centers also have a variety of options. From a curriculum standpoint, requiring an international experience as part of students' course sequence may be a useful consideration. While this may not be viable for all programs, service-learning course components could also be a reasonable, effective alternative. Such opportunities may moreover take on greater importance for students with certain majors. For example, while majors such as accounting have a fairly well-defined trajectory of curriculum, extracurricular activities, and work, majors such as management have a less well-defined path. Students in less-defined majors may need more help discerning their callings and could benefit even more from opportunities to encounter insight experiences (or from the presence of a

mentor). Finally, research also offers that individuals may vary in their readiness for recognizing and internalizing insight experiences (Dane, 2020), a finding that suggests universities can contribute to students' opportunities for encountering insight experiences by increasing their preparedness. For example, encouraging students to be open-minded to new perspectives and opportunities may better prepare them to encounter insight experiences, as can practices that enhance the overall mood and state of mind of students such as mindfulness (Subramaniam et al., 2009).

In short, it is important that administrators, faculty, and university career centers work together to provide an integrated approach consisting of curricula, programs, and experiences that enable students to connect with mentors and develop insight. As we show, doing so can better allow students to come to perceive a calling for a particular career and, in turn, promote increased school engagement and outcome expectations, along with decreased absenteeism.

Limitations and Conclusion

Finally, study limitations must be acknowledged. One limitation was that our findings were based on self-report data, which raises the threat of common method bias. We took steps to address this issue in our research design. For example, we gave respondents information about the steps taken to ensure their confidentiality, which reduces socially desirable responding. Moreover, many of the variables of interest reflected cognitions and attitudes—constructs that are appropriately measured using self-reports (Conway & Lance, 2010). Another limitation was that we used a few measures developed or adapted for this study. Because of this, we conducted a separate validation study, along with tests to ensure the construct validity of these measures. Still, future tests to further examine their validity in different samples is warranted.

Notwithstanding these limitations, this research increases our understanding of the antecedents and outcomes of students' perceptions of callings. As we show, the presence of a high-quality mentor and the encounter of an insight experience each contribute to students perceiving a calling. In addition, perceiving a calling promotes school engagement and career outcome expectations and reduces the likelihood of school absenteeism. In short, callings matter for students' career growth, yet a sizable number find their calling to be elusive. We hope that administrators, counselors, and faculty can use our findings to encourage mentoring and provide insight experiences so that the path to perceiving a calling may be better illuminated.

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Notes

1. In addition to a Poisson regression analysis, we also assessed Hypothesis 4 using a zero-inflated Poisson, negative binomial, and zero-inflated negative binomial regression analysis and results were replicated.
2. As a robustness test, we also reexamined the study hypotheses using a structural equation model. Results replicated support for each of the study hypotheses.

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