The Development and Initial Validation of a Career Calling

Scale for Emerging Adults

Anna Praskova, Peter Creed, and Michelle Hood

School of Applied Psychology and Menzies Health Institute Queensland

Griffith University, Australia

Contact: Prof Peter Creed, p.creed@griffith.edu.au

Abstract

Career calling, a salient career goal that is personally meaningful and oriented towards helping others, is a developmental construct that is especially important for emerging adults when making career decisions and setting career goals. As no existing measure reflects the developmental aspect of career calling, we devised an age-appropriate measure suitable for use with this population. We reviewed the extant literature, conducted focus groups, and used expert reviews to generate 34 initial items. Item and exploratory factor analyses were employed to reduce these items to 15, representing three reliable subscales (Study 1; $N = 345$ emerging adults). Confirmatory factor analysis supported the initial factor structure (Study 2; $N = 527$). Expected correlations with adult measures of career calling (search and presence), general career indecision, and life satisfaction supported construct validity (Study 2; $N = 435$). The implications for research and practice are discussed.

Keywords: career calling; emerging adults; career goal-setting; personal meaning; other-oriented meaning; goal engagement; career development

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The construct of career calling has received increased attention in recent years. There is a greater interest in understanding why people are searching for more meaningful ways to engage with work (Weiss, Skelley, Haughey, & Hall, 2004), how they deal with concerns in the areas of career development and satisfaction, and how these concerns relate to personal well-being and growth (Elangovan, Pinder, & McLean, 2010; Hall & Chandler, 2005; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). To date, however, there is no universal agreement over the definition, origins, or developmental trajectory of career calling (Elangovan et al., 2010; Hall & Chandler, 2005; Wrzesniewski, 2012). Generally, it is agreed that adults with a calling approach their work with a stronger sense of meaning, purpose, and fulfilment, and have a greater desire to contribute to others and the community through their occupational activities (Dik & Duffy, 2009; Hall & Chandler, 2005; Steger, Pickering, Shin, & Dik, 2010). This understanding has guided the development of several career calling measures, although not all of these measures have strong theoretical underpinnings, are not assessing developmental progress towards a future career, focus mainly on those in the workforce, or need further investigation to confirm their psychometric properties (Duffy, Bott, Allan, Torrey, & Dik, 2012; Duffy & Sedlacek, 2007; Rosso, Dekas, & Wrzesniewski, 2010). Importantly, there are no scales developed specifically to assess career calling in emerging adults, whose main developmental focus is on their future career. This study reports on the development and initial validation of a scale to meet this purpose.

The Career Calling Construct

The concept of career calling has a long history in Western culture. Early conceptualisations considered it as a specific request from God for someone to fulfil a particular task or role (Colozzi & Colozzi, 2000). Later, the construct was secularised and

modified to include an emphasis on an active search for personal and professional development (Hall & Chandler, 2005; Weiss et al., 2004). Today, religious callings generally refer to missions to serve others (Dalton, 2001; Hernandez, Foley, & Beitin, 2011); whereas other traditional, non-secular definitions stress that a calling can arise from any identifiable, external source (e.g., God, family legacy; Dik & Duffy, 2009) or come from an unknown "push" to the "right place" (Bunderson & Thomson, 2009, p. 38). Most of these perspectives agree that callings are *pro-social* and *altruistic* (e.g., Dik & Duffy, 2009; Hunter, Dik, & Banning, 2010), depict a sense of *meaningfulness and mission* (Dik & Duffy, 2009), involve matching with and utilising one's *gifts, interests, talents,* and *opportunities*, include drawing on *socially significant values* and *goals,* and result in enhanced *eudemonic well-being* (Bunderson & Thompson, 2009; Hagmaier & Abele, 2012; Hardy, 1990; Hunter et al., 2010; Steger et al., 2010).

Secular callings are considered to originate within the individual (Hall & Chandler, 2005; Rosso et al., 2010; Wrzesniewski, Dekas, & Rosso, 2009), and be central to one's *identity* and *unique talents* (Dobrow, 2007; Hall & Chandler, 2005; Novak, 1996). These perspectives recognise people's efforts to find a sense of *personal, self-relevant meaning* (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Dobrow, 2004), which can apply to people of any faith, or none (Dobrow, 2007), and can reflect a desire to *contribute to the community* or larger society in some way (Dobrow, 2004; Elangovan et al., 2010; Steger et al., 2010). Individuals can understand their callings as a *consuming passion* towards a specific domain, which can generate a strong sense of *urgency*, *longevity*, and *domain-specific competence* (Dobrow, 2004, 2007; Dobrow & Tosti-Kharas, 2011), *personal mission* or a *quest for self-fulfilment* and *enjoyment* (Dobrow, 2004; Hall & Chandler, 2005; Novak, 1996), or a *work orientation*, where work is considered inseparable from one's life (Bellah et al., 1986; Wrzesniewski et al., 1997).

Rather than seeing calling as something stable in the individual (Dobrow, 2004), Hall and Chandler (2005) argued that, next to a strong *sense of purpose*, individuals with a calling needed to be internally driven by their own values and identity, motivated to follow a path (i.e., be self-directed), and be self-exploring, adaptive, and confident in manoeuvring in the career terrain. This view highlights the ongoing processes of goal-setting, goal-pursuit, adaptation, and development in a calling. In other words, the development and achievement of a calling involves *personal agency,* or an orientation that is goal- and action-orientated, and includes self-motivational and adaptive processes necessary to reach one's goals (Bandura, 1991; Elangovan et al., 2010). In the careers' area, adaptive processes include career exploration, introspection, reflection, and relational activities, such as discussions with parents and friends (Hall & Chandler, 2005).

Career calling has been distinguished from *passion* (Vallerand et al., 2003), *flow* (Csikszentmihalyi, 1990)*,* and *work engagement* (Kahn, 1990)*.* These constructs are considered to exist on an episodic basis, rather than to be more enduring, stable, and long-term, which characterizes a calling (Dik & Duffy, 2009; Dobrow & Tosti-Kharas, 2011; Elangovan et al., 2010; Hall & Chandler, 2005). It has also been differentiated from other work constructs, such as *work commitment* (Loscocco, 1989), *career salience* (Greenhaus, 1971), and *career hope* (Diemer & Blustein, 2007), which do not capture the core meaningfulness, purpose, and pro-social components of calling. Last, some concepts focus on a narrow aspect of calling, but do not capture its full, complex nature. For example, *career identity, protean career orientation,* and *work preference* are considered important career constructs, but they do not encompass all components of a calling (Amabile, Hill, Hennessey, & Tighe, 1994; Dobrow, 2004; Hall & Chandler, 2005).

Career Calling and Emerging Adults

Emerging adulthood is the transition period from adolescence to early adulthood (i.e.,

approximately 18 to 25 years; Arnett, 2000). During this period, existing goals come to an end and new more salient goals regarding study, career, and family life relevant to adulthood are developed and become the main focus (Havighurst, 1953/1961). Appraising goals in these areas as important and controllable, and establishing plans and actions to achieve them, can be used as markers of positive development and adaptation for this age group, and can translate into positive outcomes for current well-being and future functioning (Shulman & Nurmi, 2010). Developing a career calling reflects conscious and unconscious processes around goal setting and goal pursuit (Bandura, 1991; Locke & Latham, 1990); that is, career calling becomes salient for emerging adults as they formulate their career goals and engage in preparatory career actions that are focused on achieving meaningful work as an adult (Berg, Grant, & Johnson, 2010; Duffy & Sedlacek, 2010; Hall & Chandler, 2005; Nurmi, 1993). From this perspective, a career calling reflects goals that are higher-order, more abstract, and have a longer term perspective, in contrast to lower-level, more concrete, and short-term goals, which are the means by which higher-order goals are achieved (Lord, Diefendorff, Schmidt, & Hall, 2010).

Consistent with this view, career calling is increasingly regarded as a developmental and dynamic construct (Elangovan et al., 2010; Weiss et al., 2004), which begins before one enters the workplace and strengthens as one matures (Wrzesniewski, 2012). Thus, the manifestation of career calling in emerging adults, who have not yet formally entered the workforce and who are still developing and deciding on a future direction, will differ from that of adults who have decided on their career directions and who have entered the workforce. Based on this developmental and goal-setting perspective (Bandura, 1991; Havighurst, 1953/1961; Locke & Latham, 1990), career calling in emerging adulthood can be represented as a *mostly self-set, salient, higher-order, career goal, which generates meaning and purpose for the individual, and which has the potential to be strengthened (or weakened)*

by engaging in goal-directed, career-preparatory actions and adaptive processes aimed at meeting this goal. This definition is consistent with other conceptualisations that view calling as a context-specific goal (Duffy & Dik, 2013) and promote personal agency as the means for successfully pursuing it (Elangovan et al., 2010; Hall & Chandler, 2005; Dobrow, 2004).

Research on Calling in Emerging Adults

In terms of prevalence, career calling is a salient construct for more than 40% of university (Duffy & Sedlacek, 2010) and first year medical students (Burges, Manuel, & Duffy, 2013), which is similar to rates found in adults (Bunderson & Thompson, 2009; Wrzesniewski et al., 1997). Career calling is associated with more life and academic satisfaction in university students (Duffy, Allan, & Dik, 2011; Duffy, Allan et al., 2012). Additionally, those with a higher career calling show better adjustment and more positive career attitudes (Steger et al., 2010), greater engagement in career-related activities (Hirschi, 2011), and more career planning (Hirschi & Herman, 2013). They have more career insight, are more decided and comfortable about their career choice (Dobrow & Tosti-Kharas, 2011; Duffy & Sedlacek, 2007), have higher career expectations (Dik, Sargent, & Steger, 2008), and more confidence and motivation to pursue their career (Dobrow & Tosti-Kharas, 2011; Hirshi, 2011). Longitudinal relationships with career calling, however, are less clear. Dobrow and Tosti-Kharas (2011, 2012) found calling to be associated with later career satisfaction and more career-related behaviors, while Duffy, Manuel, Borges, and Bott (2011) found no causal relationship over time between calling and career development or life meaning, and Hirschi and Hermann (2013) found bidirectional associations with career planning and self-efficacy.

Existing Measures of Calling

Both the traditional and secular perspectives on calling have guided the development of career calling measures, although no measure incorporates both viewpoints. Existing

measures also have differing assessment foci (e.g., assessing the presence of, search for, experiences with, orientations for, and currently living, a calling), and not all measures have demonstrated adequate reliability and validity or have employed a sound theoretical framework, suggesting the need for more work on measurement development (Wrzesniewski, 2012). Dik, Eldridge, Steger, and Duffy (2012) devised two calling scales: (a) the 4-item Brief Calling Scale, which has two, 2-item subscales (presence of a calling and search for a calling), and (b) the 24-item Calling and Vocation Questionnaire. While both are useful, 2-item subscales cannot capture the complexities of the construct, and the longer measure is limited by focusing on those in employment (e.g., "My work contributes to the common good"). Other calling scales which focus on or have items aimed at those in the workforce include the 6-item Living One's Calling scale (Duffy, Allan, & Bott, 2012; e.g., "I am living out my calling right now in my job"); the Neoclassical Calling Questionnaire (Bunderson & Thompson, 2009), which contains a 6-item context-specific subscale (for zookeepers; e.g., "I was meant to work with animals") and a 6-item context-free subscale (for Masters students; e.g., "I was meant to do the work I do"); and the 9-item Multidimensional Measure of Calling (Hagmaier & Abele, 2012; e.g., "I am passionate about doing my job").

A further limitation is that many existing measures are unidimensional, whereas career calling is a multi-dimensional construct. Examples here include the eight calling items from the 18-item University of Pennsylvania Work-Life Questionnaire (Wrzesniewski et al., 1997); the Neoclassical Calling Questionnaire (Bunderson & Thompson, 2009), whose items predominantly reflect work as a passion; and Dobrow and Tosti-Kharas's (2011) 12-item scale that assesses multiple domains (e.g., passion, identity, urgency), but is considered unidimensional. Only two multidimensional scales were identified. First, the Calling and Vocation Questionnaire (Dik et al., 2012) includes six subscales and two composite scales (i.e., presence and search for a calling). However, the six subscales do not reflect the original

hypothesised domains, include some items that are more suitable to those in employment (e.g., "My work helps me live out my life's purpose"), and several of the six factors account for little overall variance (i.e., < 5%). Second, the Multidimensional Measure of Calling (Hagmaier & Abele, 2012) taps three domains (identification with one's work and person-environmental fit, sense and meaning and value-driven behavior, and transcendent guiding force; 3 items each). However, this is designed for adults in work already.

A final limitation of existing measures is that few utilise a language that addresses the perspective of a developing calling, which is appropriate for young and emerging adults who have not yet entered the full-time workforce or who have not yet settled into employment that reflects their calling (Sharf, 2006). Developing a career calling during late adolescence/early adulthood involves complex exploratory behaviors and a willingness to experiment and engage in activities that have the potential to develop into a calling (Elangovan et al., 2010). This process goes hand-in-hand with other career and life preparatory behaviors, such as educational planning and developing relationship skills (Arnett, 2000; Hall & Chandler, 2005; Havighurst, 1953/1961), all of which have the potential to bring a sense of purpose and meaning (Berg et al., 2010).

The Present Study

The development of a career calling scale for emerging adults needs to be based on a conceptualization that integrates existing understandings of a calling that are relevant to the developmental tasks that emerging adults must master. This conceptualization needs to recognise both self- and other-oriented purpose and meaning derived from the calling, and recognise that a calling might originate internally (e.g., from abilities and values) or externally (e.g., from opportunity, family, destiny). We report on two studies. In Study 1, we developed a new, multi-dimensional scale of career calling for emerging adults and tested its factor structure using item analysis and exploratory factor analysis. In Study 2, we confirmed

the factor structure of this new scale, and tested for criterion-related, convergent, and discriminant validity by correlating it with existing measures identified in the literature on career calling and goal-setting.

Study 1: Scale Development

Method

Item Development. Items for the new career calling scale were generated to reflect the goal-directed nature of career development in emerging adults. To inform this process, we first reviewed the literature on career calling as it applied to emerging adults, and second, conducted four focus groups with emerging adults (each $N = 12$; approximately 50% male/female mix) to explore how career calling was manifested in this population. Focus group participants were recruited from the authors' university (2 groups) and from a technical college (2 groups) located in the same city. Ethical clearance was obtained, the research was advertised via course webpages (university) and class circulars (college), and the focus groups were conducted on the students' campuses. Participants were asked to brainstorm the key aspects of career calling as they understood it, including experiences and manifestations associated with having and not having a calling. On top of this, we wanted to validate the key dimensions of the construct that we identified in the literature, and identify any additional content areas relevant to emerging adults (Vogt, King, & King, 2004).The focus groups were audiotaped, transcribed, and used as a reference for the development of the items.

A content analysis of the career calling construct derived from the literature review and the focus groups identified three elements of career calling important to this age group. First was *personal meaning,* which covers aspects of calling that acknowledge career choice as a fit with one's personal values and identity (i.e., is important to the self, is intrinsically rewarding, and generates satisfaction). Second, *other-oriented meaning* covered aspects related to helping and altruistic behaviors (i.e., engagement in socially significant goals,

contributing to the community, and sense of satisfaction from helping others). The third

domain was *active engagement*, which reflected the action orientation in pursuit of a calling

(i.e., pursuing interests and competencies, having a quest for fulfilment and enjoyment, being

driven by an inner urge or passion). To ensure a broad coverage for the three career calling

dimensions, we identified items that reflected behavioral, cognitive, and affective

manifestations of each domain (e.g., "I do things [volunteer, read, scan the internet] just to

find out more about my dream career" reflects a behavioral manifestation of the self-

directedness dimension). Our goal was to develop a scale of approximately 15 items to

minimise respondent's fatigue or response bias, while assuring sufficient content coverage

(Hinkin, 1998).

Sixty-two items were written initially, including both negatively and positively

worded items (Hinkin, 1998). These items were then reviewed by six independent experts

from the career development and test construction areas. The experts rated how adequately

each item represented the given domain, commented on the item phrasing, readability,

response format (6-point Likert-like scale with endpoints of 1 = *strongly disagree* and 6 =

strongly agree), and instructions. Based on their ratings (0 = *not at all adequate*; 4 = *very*

adequate), 52 items with a content validity index of $\geq$ .83 (i.e., five out of six experts rated

the item as adequate or better; Lynn, 1985) were retained. As Hinkin (1998) recommended

that at least twice as many items than is required for the final scale should be administered in

a survey, we removed a further 18 items that were complex or redundant, which left 34 items

that we considered best represented the domains and manifestations of a career calling.

After testing the items for readability (Flesch Reading Ease = 39.1; Flesch-Kincaid

Grade Level = 8.4), the 34 items, together with demographic questions about age, gender,

academic achievement, working situation, and study program were compiled in a

questionnaire and administered to a sample of emerging adults.

Participants. Participants were 345 emerging adults (62.9% female, mean age = 20.72, SD = 2.49; range 17 - 25 years). Their self-reported mean academic achievement level in the final year at high school ("What grade did you typically receive in your final year at high school?") was 1.99 (SD = 0.72) on a 5-point scale ranging from 1 = *very high achievement* to 5 = *very limited achievement*. Participants were working (66.2%) or non-working (30.2 %) university (degree programs of health, business, arts, design, media, law, science, education, and engineering) or technical college students (vocational certificates and diplomas for cookery, retail, and electrician) and a small group of young adults (3.6%) who were in the labour force, either working or seeking employment. All were recruited from a large regional city on the east coast of Australia, and consistent with the composition of the Australian population, the vast majority was English-speaking Caucasian.

Procedure. The study was conducted with the approval of the authors' university ethics committee. The questionnaire was administered using both online and paper-and-pencil format. University students were invited to complete an online survey that was advertised via a university-wide email, which was distributed to all staff and students. The technical college students were invited to complete a paper survey as the college was not able to disseminate information via email. These surveys were distributed by college staff and returned to the researchers in a sealed envelope. Labour force participants were young people engaged by, or on placement to, the university, who completed the online survey. All participants were able to enter a prize draw for a $50 shopping voucher.

Results

First, we assessed item distributions, checked if there were any items with floor or ceiling effects, and tested for excessively high inter-item ($r \geq .80$) or low item-total correlations ($r \leq .30$). No items were deleted as a result of these procedures. Second, we used exploratory (principal-axis) factor analysis to determine the underlying factorial structure and

identify items for removal. We selected a direct oblimin rotation as we expected the domains to correlate to represent an overall career calling measure (Hair, Black, Babin, & Anderson, 2010). The Kaiser-Meyer-Olkin measure of sampling adequacy (.95) and Bartlett's test of sphericity ($p < .001$) for the initial analysis indicated that the 34 items were suitable for factor analysis. Decisions regarding the number of factors to be retained were guided by the scree plot (Hinkin, 1998), Velicer's minimum average partial test, parallel analysis (O'Connor, 2000), having more than three items in a factor (Costello & Osborne, 2005), and factorial meaningfulness (Hinkin, 1998).

The first analysis indicated five factors with eigenvalues greater than 1. However, the scree plot, Velicer's minimum average partial test, and the parallel analysis suggested a 3-factor solution. Being consistent with our expected three domains of a calling, we accepted the 3-factor solution and removed four items that loaded strongly on the two weaker factors. Subsequent to this, items were deleted if their factor loadings were $< .40$, or they showed cross-loading on other factors ($\geq .30$; Costello & Osborne, 2005). These procedures left us with 15 items that accounted for 62.93% of the variance, exceeding the recommended minimum target of 60% (Hinkin, 1998). All items showed acceptable item-total correlations ranging from .50 to .71, and communality values $> .40$ (Costello & Osborne, 2005). Factor 1, which contained five "other-oriented meaning" items ($\alpha = .86$) accounted for 41% of the variance. Factor 2, which contained five "personal meaning" items ($\alpha = .80$) accounted for 12%, and Factor 3, with five "active engagement" items ($\alpha = .82$) accounted for 9.93% of the variance. Inter-factor correlations ranged from .37 to .58. The internal reliability coefficient for the 15 items was .88 ($M = 67.08$, $SD = 10.87$; range = 37 to 90). See Table 1 for factor loadings and eigenvalues.

Discussion

We used standard scale development procedures to develop a 15-item scale suitable to assess career calling in emerging adults. This included integration of the career calling, developmental, and goal-setting literature; use of focus groups that identified how career calling was relevant to, and how it manifests itself in, emerging adults; and expert ratings of items, all of which supported content validity. Consistent with our initial proposition, three subscales were identified. The other-oriented meaning subscale reflected a calling associated with a future career that would benefit others and contribute to the community. Personal meaning reflected a calling associated with a future career that would be personally rewarding. Active engagement reflected enthusiasm and inspiration associated with pursuing the calling. All of the subscales added meaningful variance to the overall construct and showed moderate correlations with one another, indicating that while explaining some common variance, they assessed largely independent aspects of career calling. This was expected, as meaningfulness and purpose, for example, are related concepts, but are not considered identical. The independence of the three subscales was supported by the exploratory factor analysis and the good internal reliability for each one (coefficients of .80 or better). In support of initial construct validity for the full scale, all item-total correlations were in the range of .50 to .71, and the internal reliability for the full scale was good.

The next step was to confirm the factor structure of the scale and assess the construct validity against other constructs in the nomological net. To do this, we collected data on a second sample of emerging adults, assessed the factor structure using confirmatory factor analysis, and tested the correlates of the scale against existing scales of presence and search for calling, life satisfaction, and career indecision.

Study 2: Confirmatory Factor Analysis and Construct Validity

Method

Participants and Procedure. Participants were 527 emerging adults (53.5% female;

mean age = 19.87 years, *SD* = 2.37; range = 17 to 25). Their mean final high school year

academic achievement score was 1.96 (*SD* = 0.68). The majority were working (64.2%) or

non-working (32.7%) students, enrolled in university (64.9%) or technical vocational

programs; the remainder (3.1%) were working or seeking employment. We used the same

recruitment methods, survey options, and incentives as for Study 1.

Materials.

Career Calling. We used two scales to assess career calling. The first was the 15-item

career calling scale developed in Study 1. The response format was a 6-point Likert-like scale

with endpoints of 1 = *strongly disagree* and 6 = *strongly agree*. The internal reliability

coefficients with this sample were .89 (full scale), .85 (other-oriented subscale), .80 (personal

meaning subscale), and .81 (active engagement).

The second was the 4-item Brief Calling Scale (Dik et al., 2012), which was used to

assess the presence of (2 items; e.g., "I have a calling to a particular kind of work") and the

search for calling (2 items; e.g., "I am trying to figure out my calling in my career").

Responses were given on a 6-point scale with anchors of 1 = *absolutely untrue of me* and 6 =

absolutely true of me. Duffy and Sedlacek (2007, 2010) reported correlations between the

subscale items of > .80 (presence) and > .70 (search), and correlations in the predicted

direction with career development progress, well-being, and life meaning in university

students. The inter-item correlations for our sample were .83 (presence) and .79 (search).

Well-being. We used the 5-item Satisfaction with Life Scale (Diener, Emmons,

Larsen, & Griffin, 1985) to assess general life satisfaction. Participants responded on a 6-

point Likert scale with anchors of 1 = *strongly disagree* and 6 = *strongly agree*. A sample

item was "I'm satisfied with my life". This scale has demonstrated good psychometric

properties with undergraduate students, including an internal reliability coefficient of .87, a 2-

month test-retest reliability of .82, and correlations with other scales in the expected direction

(Diener et al., 1985). The internal reliability coefficient for our sample was .88.

Career Indecision. We used the top 10 loading items of the 22-item Indecisiveness

Scale (Germeijs & De Boeck, 2002) and adapted them to reflect career decisions by adding

"career" to the scale items. Participants responded on a 6-point Likert-like scale with anchors

of 1 = *strongly disagree* and 6 = *strongly agree* (e.g., "I often reconsider my *career*

decision"). An internal consistency coefficient for the full scale of .91 was reported in senior

high school students. Higher scores on this scale were associated with lower self-esteem, less

awareness about the need to make career decisions, less career exploration, and less

commitment to study (Germeijs & Boeck, 2002; Germeijs, Verschueren, & Soenens, 2006).

We conducted a confirmatory factor analysis on the ten items used and identified a 1-factor

solution. In support of construct validity, the 10-item scale was associated with other scales in

our study in the expected directions (e.g., associated negatively with career calling), and the

reliability coefficient was sound at .87.

Results

Factor Structure. We used confirmatory factor analysis (AMOS Version 21) to

validate the factor structure of the 15-item career calling scale. We tested two models: (a) a

one-factor model, where all items were allowed to load on a single latent variable of career

calling, and (b) a higher-order factor model, where the three factors identified in the

exploratory factor analysis were allowed to load on a second-order factor of career calling.

We followed Hair et al.'s (2010) recommendations for a sample $\geq$ 250 participants with > 12

observed variables, and assessed model fit using Chi-square (χ^2; significant *p* value

expected), the Comparative Fit Index (CFI > .92 expected), the Tucker-Lewis Index (TLI >

.92), the Goodness of Fit Index (GFI > .90), the Root Mean-Square Error of Approximation

(RMSEA < .07), and the Standardized Root Mean-Square Residual (SRMR $\leq$ .08). The

Normed Chi-square (χ^2/df) was also calculated as χ^2 is sensitive to sample size. A ratio of 3:1 or less suggests a good fit.

In the first model, we allowed all 15 items to load freely on a single latent variable of career calling as a means to assess if the items could be represented as a unidimensional scale. The analysis yielded unsatisfactory fit statistics: $\chi^2(90) = 1008.80$, $p < .001$, $\chi^2/df = 11.21$, GFI = .75, SRMR = .09, CFI = .73, TLI = .69, and RMSEA = .14. The second analysis assessed the 15 items as three separate factors, which were allowed to load onto a second-order factor. This model assessed (a) if the three factors identified in Study 1 could represent the 15 items, and (b) if a second-order factor of career calling could represent the three first-order factors of other-oriented meaning, personal meaning, and active engagement (Hair et al., 2010). The fit statistics for this model were good: χ^2 (84) = 237.88, $p < .001$, $\chi^2/df = 2.83$, GFI = .95, SRMR = .05, CFI = .96, TLI = .94, and RMSEA = .06. All item-factor loadings were significant ($p < .001$), and ranged from .61 to .87 (other oriented meaning), .50 to .83 (personal meaning), and .56 to .73 (active engagement). The second-order factor loadings were .76 (other-oriented meaning), .82 (active engagement), and .86 (personal meaning). This suggested that the 15 items can be represented by three factors and the three factors can be represented by a second-order factor of career calling, which demonstrated support for our conceptualization of multi-dimensional career calling in this age group.

Construct Validity. To evaluate further the construct validity of the scale, we correlated scores from the career calling scale with scores of existing measures to test convergent, discriminant, and concurrent validity. First, we expected that our scale, which reflects setting, committing to, and pursuing strong, important, and meaningful career goals (i.e., career calling) would be associated positively with the presence of a calling scale (Dik et al., 2012), as these measures have overlapping content. Second, as future oriented pursuit of a career calling reflects having identified a career path, we expected that our scale would be

associated negatively with the search for a calling scale. This association has been found

previously (Duffy & Sedlacek, 2007). Third, as having a career calling reflects having made a

choice about a particular career direction, we expected career calling to be associated

negatively with career indecision, as previously found (Duffy & Sedlacek, 2007; Germeijs &

De Boeck, 2002). Finally, we expected that career calling would be associated positively with

subjective well-being (operationalized as judgement of one's life satisfaction). This

association between having settled on a goal and well-being is consistent with goal-setting

theory (Locke & Latham, 1990) and has been found consistently in the career literature (e.g.,

Duffy & Sedlacek, 2010; Hirschi, 2009).

Participants who had not completed the career calling scale and/or had completed less

than 40% of the whole survey were excluded. The remaining sample ($N = 435$) contained

3.49% missing values (53 cases), which were missing completely at random: Little's MCAR

test: $\chi^2(31, N = 435) = 21.89$, $p = .89$. These data were replaced using the multiple imputation

tool available in SPSS 21. The analyses were conducted on these data, while the original data

were used to calculate summary statistics (see Table 2).

As seen in Table 2, all correlations were in the predicted direction, providing initial

support for the construct validity of the career calling scale. Specifically, we found moderate,

positive correlations between career calling and the presence of a calling (full scale $r = .56$;

subscale range = .45 to .50), demonstrating that these scales shared common variance (i.e.,

calling), while not measuring the exact same thing. There were weak, negative correlations

with the search for a calling subscale (full scale $r = -.26$; subscale range = -.09 to -.38),

demonstrating that those higher on career calling were also less likely to report searching for

a direction. Similarly, we found moderate, negative associations with career indecision (full

scale $r = -.57$; subscale range = -.33 to -.50), demonstrating that individuals with higher

career calling also reported being less indecisive in regards to career choice. Finally, there

were weak but significant positive correlations with life satisfaction (full scale $r = .18$; subscale range = .14 to .17), demonstrating that when young adults have a stronger career calling they also report higher levels of satisfaction.

Discussion

In Study 2, we confirmed the factor structure of the 15-item scale identified in Study 1. As expected, the multidimensional, second-order model indicated a better fit over the unidimensional one. This supports the results of Study 1 and indicates that the three domains are largely independent of one another, but can be represented by a higher-order factor of career calling. This also supports the notion that career calling is a complex, multidimensional construct, which is in line with other multidimensional models of career calling (Dik et al., 2012; Hagmaier & Abele, 2012). Finally, we demonstrated evidence for the construct validity of the scale by finding expected associations with existing scales of presence of a calling, search for a calling, career indecision, and life satisfaction. The moderate associations between our calling scale and the presence of a calling and career indecision scales were to be expected. Those who scored higher on our scale, which reflects a developing orientation to and a working towards a personally meaningful occupational future, also can be expected to report more presence of a calling and less indecision about their career. The weaker, negative association with search for a calling is consistent with this, as searching for a calling, while related to the calling construct, implies that one desires a calling, but has not yet found it. For life satisfaction, the positive association also was to be expected, as increasing certainty about one's direction can be expected to bring positive benefits (Duffy & Sedlacek, 2010).

<div align="center">**General Discussion**</div>

Career calling is considered to be a developmental and dynamic construct (Weiss et al., 2004). It is especially important for the period encompassing emerging adulthood, as this

is when young people face the reality of making career decisions, setting career goals, and pursuing them in earnest. Therefore, it is essential to utilize an appropriate measure to assess career calling in this age population, rather than rely on calling scales that were, for example, designed for adults. By identifying the salient career calling domains for young adults, our study advances the theoretical understanding of how career calling is manifested in emerging adults. Additionally, we contribute to the career calling literature by taking an integrative approach to existing conceptualisations and presenting an age-appropriate, psychometrically sound, measure of career calling.

We operationalized career calling as a largely self-set, salient, future-oriented career goal that is *personally meaningful*, *other-oriented*, and involves *active engagement*. In measuring these three independent, but related domains, the scale assesses the main aspects of a developing career calling relevant to young adults who have not yet settled into the full-time labour force. *Personal meaning* recognises the importance of a calling that is congruent with one's identity and values; *other-oriented meaning* reflects engagement in socially significant activities and goals; while *active engagement* addresses the striving associated with these motivational orientations. By assessing these three domains, the scale is consistent with the literature on the meaning of work, which stresses the importance of developing and enacting one's calling so that one's eventual career is experienced as more meaningful, fulfilling, and having wider impact (Berg et al., 2010; Rosso et al., 2010). By tapping the behaviors and strategies associated with a career calling, our scale is consistent with the literature that suggests that the enactment of calling, which goes beyond the simple perceptions of it, is an integral component of the construct (Elangovan et al., 2010; Rosso et al., 2010). This perspective is consistent with other multi-dimensional models, such as that proposed by Duffy and Autin (2013), which suggests that calling involves both "having" and "living" a calling. This brief, 15-item, career calling scale for emerging adults provides a

practical and convenient multidimensional measure, which will be useful for research purposes, and useful to counselors and practitioners who wish to assess career progress in young people. The scale has excellent reliability for each of the three subscales as well as the full scale, and the initial support for content and construct validity is very promising.

In developing the scale, our samples contained disproportionately more university students than students from vocational institutions and non-students. Future research should assess the utility of the measure with more diverse samples of emerging adults to establish generalizability. However, we found trivial associations between the scale and self-reported educational achievement at the end of high school (full scale: $r = -.05$, subscales range: $r = -.04$ to $-.06$), which suggests that educational achievement is not related to the strength of career calling. Additionally, as our studies were cross-sectional, we were not able to test predictive validity of the new scale. This would be reflected, for example, in studies that demonstrated that higher scores on the scale at one point in time would be associated with more progress in reaching their career goals (e.g., finding a job in line with their calling) and greater well-being in the future. Longitudinal studies are also needed to demonstrate the stability of the new scale over time; for example, by assessing test-retest reliability.

Conclusions and Future Directions

Experiencing meaning and purpose regarding one's future career (i.e., career calling) is an important but under-studied construct (Dik & Steger, 2008), which is associated with the development of self-regulatory behaviors (Elangovan et al., 2010), better individual well-being (Hall & Chandler, 2005), and one's career development; although less desirable associations of a career calling, such as feeling a sense of duty, sacrifice in one's work, and a narrow career vision, have also been noted (Bunderson & Thompson, 2009; Dobrow & Tosti-Kharas, 2012). We anticipate that access to an age-appropriate measure will stimulate future research into career calling in emerging adults and add to the focus that already exists on

career calling in adults. Future research might investigate the interplay between setting strong, meaningful career goals and self-regulatory behaviors and strategies, and the effect this has on important career outcomes, such as career progress and career-related well-being. Literature and research also suggests that goal pursuit and life satisfaction is affected by personal and environmental factors (Duffy et al., 2012; Locke & Latham, 1990). Thus, examining the role of personal (e.g., career adaptability) and contextual factors (e.g., family background) on goal progress and satisfaction has the potential to shed light on the double-edged nature of career calling. Additionally, there has been little work examining variables that facilitate career calling development, the understanding of which is critical if adolescents and emerging adults are to be assisted in clarifying and developing meaningful career and life futures. These recommendations suggest that a better understanding of career calling and its relationships will depend upon researchers articulating and testing a carefully articulated nomological net of the antecedents, consequences, and correlates of the construct.

Finally, the new calling measure has application in counseling and educational programs that focus on promoting healthy, active, and adaptable career progress in young people before they fully enter the workplace. Assessments at this stage would assist individuals to identify strengths and weaknesses in their career thinking and progress. For those without a strong career calling, identifying and clarifying personal interests, values, and goals could be useful. This, in turn, could motivate active engagement and stimulate decision-making, which would help them set meaningful career goals, contribute to developing a stronger career identity, and lead them to experience greater well-being.

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Table 1

Factor Loadings for the Career Calling Scale for Emerging Adults; Sample 1 (N = 345)

Items	Factor I: Other-Oriented Meaning	Factor II: Personal Meaning	Factor III: Active Engagement
1. It is my calling to benefit others in my future chosen career	**.93**	-.09	-.02
2. I think of benefiting others through my future chosen career all the time; it is like my calling	**.81**	-.09	.07
3. It is more important that my career benefits others, rather than just benefits me	**.72**	-.03	-.04
4. I believe that I can make an important contribution to the community in my future chosen career	**.64**	.26	-.01
5. I enjoy that my future career will be recognised in the community as important	**.42**	.20	.21
6. I have no clear sense of a future career direction that would be meaningful for me	-.03	**.77**	-.10
7. I struggle to identify an important career goal that would give me a reason to get up in the morning and do something about it	-.10	**.74**	-.04
8. I feel a sense of satisfaction because I have chosen a career path that I see as personally meaningful	.12	**.57**	.19
9. Preparing for my career is contributing to my personal growth	.08	**.54**	.24
10. I have chosen a career path that will give a real purpose to my life	.28	**.51**	.14
11. All I want to do now is to pursue the career that is inspiring me	-.07	.01	**.76**
12. I am obsessed about the career I am aiming for to the point that sometimes nothing else interests me	-.07	-.11	**.73**
13. Everything I do to prepare for my career is enjoyable and draws me towards it	.17	.03	**.63**
14. When it comes to planning for my dream career, I do not waste time; it is like I am on a mission	.08	.17	**.58**
15. I take every opportunity to progress my career goals	.14	.10	**.54**
Eigenvalues	6.15	1.80	1.49
% variance explained	41.00	12.00	9.93

Note. Main loadings are highlighted in bold.

Table 2

Summary Data and Bivariate Correlations for Variables used in Study 2 (N = 435)

Variables	M	SD	Range	1	2	3	4	5	6	7	8
1. Career calling: Full scale	68.48	10.46	25-90	-	.83***	.82***	.82***	.56***	-.26***	-.57***	.18**
2. Career calling subscale: Other-oriented meaning	22.80	4.39	5-30		-	.54***	.50***	.50***	-.09	-.33***	.14**
3. Career calling subscale: Personal meaning	24.87	4.02	6-30			-	.53***	.48***	-.38***	-.59***	.14**
4. Career calling subscale: Active engagement	20.81	4.28	7-30				-	.41***	-.19***	-.50***	.17**
5. Presence of a calling	8.46	2.49	2-12					-	-.23***	-.46***	.12*
6. Search for a calling	6.40	2.72	2-12						-	.48***	.01
7. Career indecision	31.30	9.66	10-57							-	-.17***
8. Life satisfaction	20.83	5.17	5-30								-

* *p* < .05, ** *p* < .01, *** *p* < .05