

**Career identity and the complex mediating relationships between
career preparatory actions and career progress markers**

Author

Praskova, Anna, Creed, Peter A, Hood, Michelle

Published

2015

Journal Title

Journal of Vocational Behavior

Version

Accepted Manuscript (AM)

DOI

[10.1016/j.jvb.2015.01.001](https://doi.org/10.1016/j.jvb.2015.01.001)

Rights statement

© 2015, Elsevier. Licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International Licence, which permits unrestricted, non-commercial use, distribution and reproduction in any medium, providing that the work is properly cited.

Downloaded from

<http://hdl.handle.net/10072/70141>

Griffith Research Online

<https://research-repository.griffith.edu.au>

Career identity and the complex mediating relationships between career preparatory actions and career progress markers

Anna Praskova, Peter A. Creed, & Michelle Hood

School of Applied Psychology and Menzies Health Institute Queensland,

Griffith University, Australia

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

PAPER CAN BE CITED AS:

Praskova, A., Creed, P. A., & Hood, M. (2015). Career identity and the complex mediating relationships between career preparatory actions and career progress markers. *Journal of Vocational Behavior*, 87, 145-153. doi:10.1016/j.jvb.2015.01.001

Abstract

We tested a cross-sectional, moderated-mediation model of career identity in young adults ($N = 667$, 72.9% female, mean age = 20 years). In this model, career preparatory activities (career exploration and planning) were associated with perceptions of future employability and career distress. These relationships were mediated by career identity, and career identity was conditional upon level of career calling. We found that career exploration was associated with more career distress, while career planning was associated with less, and both career exploration and planning were associated with higher perceived employability. Career identity mediated between career exploration and planning and both outcomes, and these mediated relationships were stronger when career calling was higher. We interpreted the results from career construction, identity, and exploration perspectives; highlighted the applicability of these perspectives in the development of agency, career calling, and career identity; and made recommendations for testing other theory-based moderators.

Keywords: career identity, career calling, career distress, perceived employability, career exploration, career planning

Career identity and the complex mediating relationships between career preparatory actions and career progress markers

Development of a career identity, or a network of meanings in which individuals consciously link their own interests, motivation and competencies with acceptable career roles (Meijers, 1998), begins in childhood and continues throughout life (Kroger, 2007; Skorikov & Vondracek, 2011). This is a critical developmental process for young adults (Arnett, 2000). Career identity is an important marker for well-being and career and general life progress (Flum & Blustein, 2006; Kroger, 2007; Skorikov & Vondracek, 2011). It develops through career preparation activities (e.g., planning, exploration, and decision-making) and is influenced by personal factors (Flum & Kaplan, 2006; Skorikov & Vondracek, 2011). Thus, a complex interplay of mediating and moderating pathways among career and person variables and processes affect the individual's overall career development and well-being.

Few studies have investigated these complex relationships, and only with high school children (Skorikov, 2007; Skorikov & Vondracek, 2011). The current study contributes to the career identity literature by testing a model that was guided by career construction (Savickas, 2002), career identity theories (Skorikov & Vondracek, 2011), and the career exploration perspective (Flum, & Blustein, 2006; Zikic & Klehe, 2006). In a cross-sectional study using young adults, we tested whether (a) career preparatory activities (exploration and planning) were associated with a clearer career identity and better outcomes on career progress markers (perceived employability and distress), (b) career identity mediated the relationship between career preparatory activities and career progress markers, and (c) personal resources (career calling) moderated the indirect effects of career preparation on career progress markers through career identity. Teasing apart these complex relationships provides a fuller picture of the influences, processes, and outcomes of career development in young people. The study

also adds to the limited evidence on career preparation, and will inform the design of counseling programs for young people.

Career Preparation and Career Identity

According to career construction theory (Savickas, 2002), the processes of career planning and exploration reflect critical, adaptive, and lifelong activities, which are activated especially during career transitions. They help individuals manage transitions and contribute to more functional career development and better psychosocial adjustment (Savickas, 1997; Skorikov & Vondracek, 2011; Zikic & Klehe, 2006). This is consistent with the broader and more inclusive career exploration perspective (Blustein, 2001; Zikic & Hall, 2009), which proposes that proactive exploration and more positive attitudes lead to better career outcomes and higher life satisfaction. *Career exploration* involves gathering career-related information about the self and occupational environments and trialing activities, which, in young people, are focused on finding a niche, reaching career goals (Levinson, 1986; Porfeli, Lee, & Vondracek, 2013), and enhancing self and environmental knowledge (Flum & Blustein, 2006; Phillips & Blustein, 1994). Exploration activities are purposeful, goal directed, and carried out according to the individual's conscious or unconscious plans (Autin & Vancouver, 1996). Thus, *career planning* is also an important component of career preparation, reflecting goal-oriented career thinking and planning that focusses on actualizing goals (Phillips & Blustein, 1994).

A key assumption of most career theories is that active career preparation is critical for the development of career identity (Stringer, Kerpelman, & Skorikov, 2011), as it leads to greater self-awareness and knowledge about educational and career choices (Flum & Blustein, 2006; Jordaan, 1963; Skorikov, 2007). In the process of career preparation, individuals make sense of their internal and external experiences (Jordaan, 1963), become aware of their likes and dislikes (Zikic & Hall, 2009), and commit to career choices (Skorikov, 2007). Specific to

career construction theory (Savickas, 2002) and the identity-formation perspective (Flum & Blustein, 2006), active career exploration and planning are important means by which individuals construct and re-construct themselves, clarify their career path, and form a coherent and meaningful career identity. Exploration has also been recognized as a key construct in the ego-identity model (Erikson, 1968; Marcia, 1993), which has received considerable empirical support (Meeus, 2011). This view proposes that exploration and commitment are the two primary processes in identity development. Exploration is “aimed at eliciting information about oneself or one’s environment in order to make a decision about an important life choice” (Grotevant, 1987, p. 204); whereas, commitment reflects adherence to a direction and course of action. Consistent with this, career exploration has been related to career identity in samples ranging from middle adolescents to young adults (Robitschek & Cook, 1999; Turner et al., 2006; Vondracek & Skorikov, 1997).

While career planning contributes to career identity development (i.e., the construction of possible selves) and visualization of oneself in a future career (i.e., generation of career expectations; Savickas, 1997), much of the identity research to date has focused on the exploration and commitment processes. Thus, relatively little is known about the role of career planning in the development of career identity (Skorikov, 2007; Stringer et al., 2011), even though career planning is associated with the identity development dimensions of career choice confidence and indecision in young adults (Stringer et al., 2011). Based on the above, our first hypothesis was that career exploration (H1a) and career planning (H1b) would be associated positively with a clear sense of career identity.

Career Preparation, Career Identity, and Career Outcomes

Identity represents the central agency mechanism in career development. It is influenced by career preparation (i.e., exploration and planning; Stringer et al., 2011), and associated with various career-related and well-being outcomes (Skorikov & Vondracek, 2011). Fugate,

Kinicki, and Ashforth (2004), for instance, argued that career identity was the major stimulus to perceptions of one's employability. Career identity (i.e., achievement) is also related to better reasoning about future career opportunities (Klaczynski & Lavallee, 2005), less career self-doubt (Porfeli, Lee, Vondracek, & Weigold, 2011), and future occupational attainment (Schiller, 1998). In young people, *self-perceived employability* refers to "the perceived ability to attain sustainable employment appropriate to one's qualification level" (Rothwell, Herbert, & Rothwell, 2008, p. 2). It reflects internal factors, such as confidence in one's skills and abilities, and external factors, such as positive perceptions about the labor market.

In current, turbulent economic markets, it is important to possess a positive view of employability (Rothwell et al., 2008), as this helps preparing for, and coping with, expected and unexpected work transitions (Fugate et al., 2004), which are often disruptive and stressful (Rothwell, Jewell, & Hardie, 2009). A positive view is relevant also for young adults as they transition from education to work. Perceptions of employability are related to less career compromise and distress, higher social capital, and more positive self-evaluations in young adults (Creed & Gagliardi, 2014). However, perceived employability is relatively understudied, and little is known about it in the context of the individual's experiences and aspirations (Rothwell et al., 2009). From the above, our expectation was that a clear sense of career identity (H2a) would be associated positively with perceived employability. The stress associated with deciding upon, committing to, and pursuing a career goal is reflected in increased concerns about one's career future, or *subjective career distress* (Larson, Toulouse, Ngumba, Fitzpatrick, & Heppner, 1994). As career identity reflects personal agency in the career domain (Stringer et al., 2011), individuals with a more well-developed career identity should be better placed to manage these challenges and, thereby, benefit from enhanced well-being and diminished distress (Porfeli et al., 2013; Skorikov, 2007), as they have better frameworks and strategies for self-direction and problem solving. Consistent with this,

studies with young people have shown positive associations between career identity and life satisfaction (Hirschi, 2011; Hirschi & Herrmann, 2012) and negative associations with career distress and dysfunctional career thoughts (Larson et al., 1994; Strauser, Lustig, Cogdal, & Uruk, 2006). From this, we expected that a clearer career identity (H2b) would be associated negatively with career distress.

Career preparatory activities (e.g., exploration and planning) also shape career-related attitudes and thoughts (Jordaan, 1963), such as perceptions of employability (Forstenlechner & Baruch, 2013). In today's competitive labor market, young people have to be proactive in seeking career-related experiences, asking for career-relevant feedback, and developing social networks and influential contacts (van der Heiden, 2002). Career exploration and planning are, thus, important coping strategies triggered during transition. Supporting this, career preparation activities are associated with higher perceived employability in young adults (De Vos, Stobbeleir, & Meganck, 2009; Praskova, Creed, & Hood, 2014a), as well as better re-employment in unemployed individuals (Zikic & Klehe, 2006). Thus, we expected that career exploration (H3a) and career planning (H3b) would be associated positively with perceptions of future employability.

Proactive engagement in career-related activities also reduces career uncertainty and anxiety (Saks & Ashforth, 1996) and improves mood and satisfaction (Flum & Blustein, 2006). Skorikov (2007) found adolescents' career planning to be associated negatively with decision-making and anxiety and positively with life satisfaction. Similarly, others found negative associations between exploration and planning and career concerns (Creed, Fallon, & Hood, 2009) and positive associations with career preparation and life satisfaction (Duffy, Manuel, Borges, & Bott, 2011; Praskova et al., 2014a). Thus, we expected that career exploration (H4a) and planning (H4b) would be associated negatively with career distress.

Career identity as a mediator. Fugate et al. (2004) argued that career identity was the underlying cognitive mechanism that drives perceptions of employability. Similarly, Flum and Blustein (2006) suggested a specific mediation pathway, whereby career preparation (i.e., exploration and planning) leads to greater self-knowledge (i.e., identity), which, in turn, contributes to enhancing career competence (i.e., perceived employability) and mood (i.e., less career distress). However, the empirical evidence for this is sparse. Hirschi (2011) found career identity mediated between core personal attributes, including aspects related to exploration and attitudes, and life and career satisfaction, but did not examine relationships with perceived employability. We expected that career identity would mediate between the career preparation activities and the career progress outcomes: specifically, we expected that career exploration and planning would be associated positively with career identity, which, in turn, would be associated positively with perceived employability (H5a) and negatively with career distress (H5b).

Career Calling as a Personal Resource Moderator

From the career exploration perspective, young adults differ in motivation for their careers (Stringer et al., 2011; Zikic & Hall, 2009). In support of this, career identity, and attempts to engage in career preparatory activities, is believed to be shaped by a range of individual resources (Zikic & Hall, 2009). These can serve both as triggers for, and limits to, career preparation and identity development (Flum & Blustein, 2006; Porfeli et al., 2013), and affect career and personal development and well-being (Flum & Kaplan, 2006; Zikic & Hall, 2009). As the evidence for these relationships is limited, Flum and Blustein (2006) highlighted the need to gain greater understanding of the function that individual resources play in promoting active exploration.

Skorikov and Vondracek (2011) suggested that career identity is influenced by the meaning that people attach to their career; in other words, whether or not they approach their

career with a calling. *Career calling* refers to setting and pursuing a salient career goal that is purposeful, personally meaningful, and oriented towards helping others (Praskova et al., 2014b). Individuals with a stronger calling engage in more exploration (Hall & Chandler, 2005; Zikic & Hall, 2009) and are more motivated, proactive, and self-directed in planning, developing, and implementing their career (Duffy, Bott, Allan, Torrey, & Dik, 2012; Hall & Chandler, 2005). Young adults with a calling report having a more well-developed career identity (Duffy & Sedlacek, 2007; Hirschi & Herrmann, 2012), being more motivated and active in their career preparation (Fugate et al., 2004), using more career strategies and effort (Praskova et al., 2014a), and having higher academic and life satisfaction and career choice comfort (Duffy, Allan, & Bott, 2012; Duffy & Sedlacek, 2007; Hirschi & Herrmann, 2012). However, to date, no research has tested whether career calling affects the relationship between career preparatory actions and career identity, thereby influencing career-related outcomes such as distress and employability. We assessed these complex mediation and moderation effects. We expected that the relationship between career preparation (exploration and planning) and career identity would be stronger when personal resources (career calling) were higher, and that these stronger relationships, in turn, would be associated with more positive perceptions of employability and less career distress (H6).

Method

Participants

The sample comprised 667 young adults (72.9% female; 3% did not report gender) recruited from the authors' university and an associated technical college in a large regional city on the east coast of Australia. The average age was 20.24 years ($SD = 2.46$). Participants were working (63.4%) or non-working (31%) university (87%) or technical college (5.5%) students, or working (2.4%) or unemployed (0.7%) non-students (2.5% did not report study/work information). They were enrolled in a wide range of degrees, diplomas,

certificates, and apprenticeships. Their self-reported mean educational achievement was 1.98 ($SD = 0.70$; where 1 = *very high achievement*, 5 = *very limited achievement*). Participants were primarily Caucasian, which reflects the relatively homogenous composition of the Australian population and Australian tertiary institutions.

Measures

Unless otherwise noted, we used a 6-point Likert-type scale (1 = *strongly disagree* to 6 = *strongly agree*). Higher summed scores reflect higher levels of the construct.

Career exploration. The 11-item Career Exploration Survey (Stumpf, Colarelli, & Hartman, 1983) assesses environmental exploration (e.g., “I have been investigating career possibilities”) and self-exploration (e.g., “I have been reflecting on how my past integrates with my future life and career”). Participants responded to the stem of “In relation to your career exploration in the past three months...” using a 6-point Likert-like scale (1 = *almost never* to 6 = *very often*). Hirschi (2009) reported Cronbach’s alpha of .90, and demonstrated validity by finding expected correlations with career commitment and general interest in young people. Alpha for our sample was .91.

Career planning. We used the 8-item career thinking and planning subscale of the Career Salience Scale (Greenhaus, 1971). An example item is, “I enjoy thinking about and making plans for my future career”. Cronbach’s alphas for the full scale range from .70 to .80, and validity has been supported by expected associations with perceived prestige of chosen occupation and career self-efficacy (Zikic & Klehe, 2006; Praskova, Creed & Hood, 2013). Our alpha was .70.

Career identity. This was assessed with the 4-item Clarity of Professional Identity Scale (Dobrow & Higgins, 2005; e.g., “I have developed a clear career and professional identity”). The authors reported Cronbach’s alpha of .90 and demonstrated validity by differentiating the construct from career planning, self-efficacy, and career success, and finding predicted

associations with relevant post-study employment in university students. Our alpha was .85.

Perceived employability. The 16-item Self-Perceived Employability Scale (Rothwell & Arnold, 2007) assesses individuals' perceptions of their value in the labor market. We modified items to suit emerging adults who were anticipating entry to full-time employment (e.g., "People who do the same job as me in this organization are valued highly" was amended to "People with the same career choice as me are highly valued"). Cronbach's alpha for the original scale with employed adults was .83; concurrent validity was supported by expected correlations with career success and professional commitment (Rothwell & Arnold, 2007). Alpha for our amended scale was .91.

Career distress. We used the 13 subjective career distress items from the subjective career distress and obstacles subscale of the Coping with Career Indecision Scale (Larson et al., 1994), and assessed distress in relation to career decision-making and avoidance of career thoughts and goal setting. Reference to "major" was removed from all items and replaced by "career" to better suit our sample, which is less familiar with that term (e.g., "I often feel down or depressed about selecting a career"). Creed and Hughes (2013) reported Cronbach's alpha of .94 with university students, and, in terms of validity, obtained expected associations with career compromise and career development strategies. Alpha for our sample was .94.

Career calling. The 15-item Career Calling Scale for Emerging Adults (Praskova et al., 2014b) was used to assess the calling domains of personal meaning (e.g., "Preparing for my career is contributing to my personal growth"), other-oriented meaning (e.g., "It is my calling to benefit others in my future chosen career"), and action orientation (e.g., "All I want to do now is to pursue the career that is inspiring me"). The authors demonstrated validity by distinguishing the scale from search for calling and finding associations in the predicted direction with career indecision and life satisfaction. They reported Cronbach's alphas of .88

and .89 in two independent samples of young adults, and 6-month test-retest reliability of .78 (Praskova, Hood, & Creed, 2014). Alpha in the current study was .89.

Procedure

Approval for the study was granted by the authors' university ethics committee. A university-wide email invited all students and staff at the participating university to complete an online survey (via Survey Monkey; 577 completed surveys returned). Vocational college students completed a paper survey as the college could not disseminate it online (150 were distributed; 90 completed surveys were returned in sealed envelopes). Participants could enter a draw to win an AUD\$50 shopping voucher. A between-subject multivariate analysis of variance revealed no differences on any of the study variables between the two samples, $F(6, 660) = 1.03, p = .40$; thus, the samples were combined.

Results

Two analytical steps were taken. First, to assess hypotheses 1 to 5, we tested the measurement and predicted structural mediation models using latent variable analyses (i.e., structural equation modelling with maximum likelihood estimation in AMOS 22). Second, to test Hypothesis 6, we assessed the predicted moderator to this mediation model using conditional process analyses in PROCESS for SPSS (V2.13; Hayes, 2013; in press).

Items were first parceled to form observed variables to represent the latent variables (Landis, Beal, & Tesluck, 2000). To do this, we conducted separate exploratory factor analyses for each scale, rank ordered the factor loadings, and allocated items to their parcels using an item-to-construct balance approach (Hau & Marsh, 2004). Three parcels per latent variable were formed for career exploration, planning, and distress, and four parcels were created for the longer perceived employability scale. Career identity was represented by the four individual items. The moderator was not included. We followed Hair, Black, Babin, and Anderson's (2010) guidelines for a sample of > 250 participants with > 12 observed

variables, and assessed the model fit using Chi-square (χ^2 ; significant p value expected), the Normed Chi-square (χ^2/df ; < 3.0 suggests a good fit), 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; $\leq .08$).

Measurement model. The measurement model showed good fit, $\chi^2(95) = 267.81$, $p = .005$, $\chi^2/df = 2.82$, GFI = .96, SRMR = .04, CFI = .98, TLI = .97, and RMSEA = .05, and no concerning cross-loadings. All standardized loadings on the latent variables were significant ($p < .001$; range .59 to .96), supporting construct validity for all scales. All correlations among the latent variables were significant ($p < .05$; range = -.09 to .56), and were consistent with the correlations among the observed variables (see Table 1).

Structural model. Gender and age were not associated with either of the outcome variables, and, thus, were not included in the model as covariates. The structural model showed a good fit, $\chi^2(96) = 280.75$, $p = .005$, $\chi^2/df = 2.92$, GFI = .95, SRMR = .05, CFI = .98, TLI = .97, and RMSEA = .05, and all paths were significant at $p < .001$. Figure 1 depicts this final model with standardized path estimates. Positive paths from career exploration and planning to career identity indicated, that, as expected, higher levels of career exploration and planning were associated with higher levels of career identity (H1a and b). A positive path from career identity to perceived employability and a negative path from career identity to career distress, indicate that, as predicted, higher levels of career identity were associated with more positive perceptions of employability and less career distress (H2a and b).

Mediation analyses. From the above analyses, career identity potentially mediated the relationships between the career preparation activities (exploration and planning) and outcomes (perceived employability and career distress). We assessed the direct effects of the career preparatory activities on the outcome variables. As expected, career exploration (β

=.16, $p = .002$) and planning ($\beta = .14$, $p = .019$) had significant positive paths to perceived employability (H3a and b), and career planning had a significant negative path to career distress ($\beta = -.29$, $p < .001$; H4b). Career exploration had a significant path to career distress ($\beta = .20$, $p < .001$); however, contrary to our expectation (H4a), this association was positive.

Having met these conventional rules, we probed the indirect effects between career preparation and the outcomes via the mediator. We used the bootstrapping method in AMOS, which generates standard errors and 95% bias-corrected confidence intervals (CIs; 1000 bootstrapped samples; Preacher & Hayes, 2008). Mediation is indicated when the 95% CI of the indirect effect does not include zero. None of the CIs for the indirect effects of career exploration on perceived employability (CI₉₅: .06; .18) and career distress (CI₉₅: -.16; -.07), and indirect effect of career planning on perceived employability (CI₉₅: .52; .93) and career distress (CI₉₅: -.96; -.37) contained zero, indicating that, as expected, the career preparation → outcome relationships were mediated by career identity (H5). The direct paths from career exploration to perceived employability ($\beta = .12$, $p = .03$) and career distress ($\beta = .15$, $p = .003$) remained significant in the presence of the indirect paths via career identity. The direct paths from career planning to perceived employability ($\beta = .01$, $p = .91$) and career distress ($\beta = -.13$, $p = .17$) became non-significant in the presence of the indirect paths. We added the significant direct paths to Figure 1.

Conditional process analyses. To assess the role of career calling, we next conducted a formal test of moderated mediation using the PROCESS dialog for SPSS developed by Hayes (2013; in press). Mediation is moderated if the moderator has a non-zero weight in the function linking the effect of the predictor (X) on the outcome (Y) via the mediator (M) to the moderator. This weight, called the *index of moderated mediation*, is the product of regression coefficients taken from the full integrated model (Hayes, 2013). The 95% bias-corrected bootstrap CI of the index (10,000 bootstrap samples) is used as a test of statistical inference

(i.e., must not include zero), and the size and the direction of the index are used to guide interpretation of the moderated mediation (Hayes, in press).

Prior to the analyses, we reverse coded career distress items in order to remove the negative signs from the equation and simplify interpretation of the moderated mediation (higher values now indicate lower career distress). To assess career calling (moderator) in the first stage of the mediation model (between predictor and mediator), we specified Model 7 in PROCESS. We also specified to mean center the products of the interaction terms and generated heteroscedasticity-consistent *SEs*. As recommended by Hayes (2013), we ran a series of regression analyses for each outcome variable and predictor, while the other predictor was entered as a covariate, and reported unstandardized values.

The analyses showed that the indirect effects of career exploration ($CI_{95}: .001; .004$) and career planning ($CI_{95}: .001; .008$) on perceived employability were positively moderated by career calling. We can be 95% confident that the effects of career exploration (unstandardized effect = .002; $SE_{boot} = .001$) and planning (effect = .004; $SE_{boot} = .002$) on perceived employability, via enhanced career identity, increased with increasing career calling (i.e., positive indexes of moderated mediation and non-zero CIs). Similarly, the indirect effects of career exploration ($CI_{95}: .001; .008$) and career planning ($CI_{95}: .002; .017$) on career distress were moderated by career calling. We can be 95% confident that the effects of career exploration (effect = .004; $SE_{boot} = .002$) and planning (effect = .01; $SE_{boot} = .004$) on lower career distress, via enhanced career identity, increased with increasing career calling. Probing the conditional indirect effects at 1 *SD* above and below the moderator mean supported these claims and showed that the effects were only significant for those high on career calling (see Table 2). Thus, as expected, having higher levels of career calling has a facilitative effect on more positive perceptions of employability and a buffering effect against career distress (H6).

Discussion

We assessed a model that was informed by the three career developmental perspectives of career construction, career identity, and career exploration (Flum & Blustein, 2006; Savickas, 2002; Skorikov & Vondracek, 2011). The key mechanism in the model was career identity, which linked career exploration and planning to perceived employability and career distress. The effect of career calling was also assessed. Consistent with previous research, we found that young adults who engaged in more career exploration and planning reported a clearer career identity (H1a, H1b; cf. Stringer et al., 2011; Turner et al., 2006), those with a clearer career identity reported more positive perceptions of employability and less career distress (H2a, H2b; cf. Klaczynski & Lavalley, 2005; Strauser et al., 2006), career exploration and planning were related to more positive perceptions of employability (H3a, H3b; cf. Zikic & Klehe, 2006), and career planning was associated with less career distress (H4b; cf. Creed et al., 2009; Skorikov, 2007).

These results support the career development argument that taking initiatives in career preparation (i.e., collecting information about careers and the self; thinking about, visualizing, and planning for one's career future) is a critical motivational and adaptive strategy during the transition to adult working life. These strategies increase knowledge about, and competency in, young adults' career choices, and enhance their awareness of who they are in terms of their future careers. That is, the strategies help them form clear and meaningful career identities (Jordaan, 1963; Savickas, 1997, 2002; Zikic & Hall, 2009). The results also support propositions that both career preparation and a clear identity lead to reduced career uncertainty and, thus, to diminished anxiety and distress (Flum & Blustein, 2006; Porfeli et al., 2013; Saks & Ashforth, 1996) and more optimism about achieving future desired career and employment outcomes (Jordaan, 1963; van der Heiden, 2002; Zikic & Klehe, 2006); that is, a more positive view of future employability (Fugate et al., 2004).

Unexpectedly, our results also showed that greater career exploration, while associated

with a clearer career identity and more positive perceptions of employability, was associated with more, rather than less, career distress (not supporting H4a). Younger university students have higher levels of distress than older students and the general population (Stallman, 2010), mostly related to grappling with educational and career decisions (Fouad et al., 2006). Students experience pressure to perform well in their courses, receive constant feedback on their progress, and are often in competition with their peers within their institutions and later scarce occupations (Fouad et al., 2006; Stallman, 2010). It is possible that, in these circumstances, ongoing exploration about who one is and where one is going could increase uncertainty and raise stress and anxiety levels. The main career-related tasks for young people are to decide upon, commit to, plan, and successfully pursue their career goals (Havighurst, 1954/1961). Exploring options, gathering information and problem solving when conditions are not ideal potentially increases, rather than reduces, concerns about one's career choice (Larson et al., 1994). A second explanation for this unexpected finding might be that, consistent with the identity control theory (Kerpelman, Pittman, & Lamke, 1997), increased engagement in self- and occupational-exploration, which involves evaluating feedback from the self and others, might uncover uncomfortable discrepancies between the person's perceptions of their current situation and resources and their career aspirations. Negative feedback is likely to be reflected in self-doubt and career uncertainty, and lead to distress (Zikic and Klehe, 2006). As these results might be sample-sensitive, future research should include a wider range of young adults, and aim at disentangling the various conditions under which career exploration is differentially associated with well-being.

Next, we found that career identity mediated between career preparation activities and career-progress markers (H5). Both career planning and exploration were positively associated with a clearer career identity, which, in turn, was associated with greater perceived employability and less career distress. These results support the argument that career identity

is a central, cognitive mechanism in the agency of career development; that is, it develops through engagement in career preparation activities (Stringer et al., 2011) and promotes more positive career-progress and well-being outcomes (Skorikov & Vondracek, 2011).

Interestingly, the results also suggest that when young people's career exploration is related to a clearer career identity they are partially protected from experiencing higher levels of career distress. This is an important finding, which reinforces the value of career identity development in young adults as positive consequences potentially flow into other areas.

Last, when we tested the proposed facilitative role of personal resources on career development (Flum & Kaplan, 2006; Skorikov & Vondracek, 2011), we found that the indirect relationships from career preparation through career identity to perceived employability and career distress were stronger when career calling was higher (H6). However, this moderated mediation was significant only for young people with higher levels of career calling. This is consistent with Skorikov and Vondracek (2011), who stressed the importance of attaching meaning to a career for career development. It means that young people who had a higher calling were more likely to engage in career preparation and develop a clearer sense of career identity. These stronger relationships, in turn, related to perceiving greater employability and less career distress.

Although the direct relationships between study variables have been found previously, we add to the career literature by testing a more inclusive model of career identity in a single study. We contribute to the relatively limited literature on career preparation in young adults (Skorikov, 2007), and especially the scarce literature on career planning (Stringer et al., 2011). We assessed two career preparatory processes (exploration and planning), which are essential for the development of a clearer career identity, and which, although working hand-in-hand, are often assessed in isolation (Skorikov, 2007; Skorikov & Vondracek, 2011). Last, by assessing how career calling influences the career-developmental processes, we answered

the call of Skorikov and Vondracek (2011) for greater attention in this regard. We contribute to current theory, and advance current research on careers and identity by providing support for a moderated-mediation model of career identity, which has strong theoretical foundations, but lacked empirical evidence.

Our study has some limitations. First, our sample had disproportionately more females than males, and more university students than non-students, and, thus, generalizability is limited. We found no differences based on gender or educational attainment; however, future studies need to test these results with other populations. Second, our study was cross-sectional, and, thus, could not confirm the causal, developmental relationships proposed in the model. Future research needs to track individual trajectories over time and test reverse and reciprocal models to confirm the direction of these hypothesized relationships. Longitudinal approaches will provide stronger support for the argument that career identity evolves over time and represents a life-long process of progressive and reciprocal relationships with other developmental variables (Dobrow & Higgins, 2005; Fugate et al., 2004; Skorikov & Vondracek, 2011). Third, we assessed the influence of one important personal resource in the moderated-mediation model (career calling), but career identity and preparatory activities are believed to be shaped also by other personal and contextual factors (Flum & Blustein, 2006). Future work should assess the influence of other potentially important constructs on identity development and its outcomes. Personal attributes, social supports, and career-related barriers have the potential to hinder or facilitate identity development and the consequent markers of career progress (Blustein, 2001; Flum & Kaplan, 2006). Social support and core self-evaluations, for example, are related to both employability and wellbeing (Creed & Gagliardi, 2014; Rothwell et al., 2008).

Implications and Conclusion

Our study demonstrated the important facilitating effect of career calling, which strengthened the relationships between engagement in career preparation activities, career identity, and career outcomes. The study supported the notion that career identity is a central driving force between career preparatory activities and positive career outcomes. These are important findings, which support current literature on career identity, and also address the question of what motivates individuals to engage in career developmental tasks (Phillips & Blustein, 1994). The findings can inform career guidance and intervention programs. Specifically, these results suggest that, for optimal career outcomes, counselors should focus on encouraging their clients to engage in career preparation activities (i.e., exploration and planning), set personally meaningful career goals (i.e., develop a career calling), and clarify who they are and where they want to be occupationally (i.e., work on their career identity). For example, the life-design framework for narrative career counseling, which is built on the constructivist view of career development, could be used to assist young people in developing agency, meaning (e.g., career calling), and career identity. In this method, counselors assist individuals collaboratively to explore their personal meanings, identify important life themes, and script their own personal and career stories (narratives) from a holistic and contextual point of view. According to this framework, this process facilitates individual career decision-making, promotes engagement in career-related actions, and, ultimately, leads to constructing meaningful careers (McIlveen & Patton, 2007; Savickas, 2011). If young people are motivated to engage in effective exploration and planning, develop a calling, and clarify their career identity, they will continue to grow personally and professionally, and increase their chances of achieving their desires and better lives.

References

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55, 469-480. doi:10.1037/0003-066X.55.5.469

- Autin, J. T., & Vancouver, J. B. (1996). Goal constructs in psychology: Structure, process, and content. *Psychological Bulletin, 120*, 338-375. doi:10.1037/0033-2909.120.3.338
- Blustein, D. L. (2001). Extending the reach of vocational psychology. *Journal of Vocational Behavior, 59*, 171-182. doi:10.1006/jvbe.2001.1823
- Creed, P. A., Fallon, T., & Hood, M. (2009). The relationship between career adaptability, person and situation variables, and concerns in young adults. *Journal of Vocational Behavior, 74*, 219-229. doi:10.1016/j.jvb.2008.12.004
- Creed, P. A., & Gagliardi, R. E. (2014). Career compromise, career distress, and perceptions of employability: The moderating roles of social capital and core self-evaluations. *Journal of Career Assessment*. Advanced online publication. doi:10.1177/1069072714523082
- Creed, P. A., & Hughes, T. (2013). Career development strategies as moderators between career compromise and career outcomes in emerging adults. *Journal of Career Development, 40*, 146-163. doi:10.1177/0894845312437207
- De Vos, A., De Stobbeleir, K., & Meganck, A. (2009). The relationship between career-related antecedents and graduates' anticipatory psychological constructs. *Journal of Business Psychology, 24*, 289-298. doi:10.1007/s10869-009-9107-3
- Dobrow, S. R., & Higgins, M. C. (2005). Developmental networks and professional identity. *Career Development International, 10*, 567-583. doi:10.1108/13620430510620629
- Duffy, R. D., Allan, B. A., & Bott, E. M. (2012). Calling and life satisfaction among undergraduate students: Investigating mediators and moderators. *Journal of Happiness Studies, 13*, 469-479. doi:10.1007/s10902-011-9274-6
- Duffy, R. D., Bott, E. M., Allan, B. A., Torrey, C. L., & Dik, B. J. (2012). Perceiving a calling, living a calling, and job satisfaction: Testing a moderated, multiple mediator model. *Journal of Counseling Psychology, 59*, 50-59. doi:10.1037/a0026129
- Duffy, R. D., Manuel, R. S., Borges, N. J., & Bott, E. M. (2011). Calling, vocational

- development, and well being: A longitudinal study of medical students. *Journal of Vocational Behavior*, 79, 361-366. doi:10.1016/j.jvb.2011.03.023
- Duffy, R. D., & Sedlacek, W. E. (2007). The presence of and search for calling. *Journal of Vocational Behavior*, 70, 590-601. doi:10.1016/j.jvb.2007.03.007
- Erikson, E. (1968). *Identity: Youth and crisis*. New York, NY: Norton.
- Flum, H., & Blustein, D. L. (2006). Reinvigorating the study of vocational exploration. *Journal of Vocational Behavior*, 56, 380-404. doi:10.1006/jvbe.2000.1721
- Flum, H., & Kaplan, A. (2006). Exploratory orientation as an educational goal. *Educational Psychologist*, 41, 99-110. doi:10.1207/s15326985ep4102_3
- Forstenlechner, I., & Baruch, Y. (2013). Contemporary career concepts and their fit for the Arabian Gulf context: A sector level analysis of psychological contract breach. *Career Development International*, 18, 629-648. doi:10.1108/CDI-07-2013-0084
- Fouad, N. A., Guillen, A., Harris-Hodge, E., Henry, C., Novakovic, A., Terry, S., & Kantamneni, N. (2006). Need, awareness, and use of career services for college students. *Journal of Career Assessment*, 14, 407-420. doi:10.1177/1069072706288928
- Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability. *Journal of Vocational Behavior*, 65, 14-38. doi:10.1016/j.jvb.2003.10.005
- Greenhaus, J. (1971). An investigation of the role of career salience in vocational behavior. *Journal of Vocational Behavior*, 1, 209-216. doi:10.1016/0001-8791(71)90022-4
- Grotevant, H. D. (1987). Toward a process model of identity formation. *Journal of Adolescent Research*, 2, 203-222. doi:10.1177/074355488723003
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. (2010). *Multivariate data analysis. A global perspective*. (7th ed.). New Jersey, NJ: Prentice Hall.
- Hau, K., & Marsh, H. W. (2004). The use of item parcels in structural equation modelling: Non-normal data and small sample sizes. *British Journal of Mathematical and Statistical*

- Psychology*, 57, 327-351. doi:10.1111/j.2044-8317.2004.tb00142.x
- Havighurst, R. J. (1953/1961). *Developmental tasks and education*. New York, NY: Longman.
- Hayes, A. F. (in press). An index and test of linear moderated mediation. *Multivariate Behavioral Research*.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: The Guilford Press.
- Hirschi, A. (2009). Career adaptability development in adolescence. *Journal of Vocational Behavior*, 74, 145-155. doi:10.1016/j.jvb.2009.01.002
- Hirschi, A. (2011). Vocational identity as a mediator of the relationship between core self-evaluations and life and job satisfaction. *Applied Psychology: An International Review*, 60, 622-644. doi:10.1111/j.1464-0597.2011.00450.x
- Hirschi, A. & Herrmann, A. (2012). Vocational identity achievement as a mediator of presence of calling and life satisfaction. *Journal of Career Assessment*, 20, 309-321. doi:10.1177/1069072711436158
- Jordaan, J. P. (1963). Exploratory behavior. In D. E. Super (Ed.), *Career development: Self-concept theory* (pp. 42-78). New York, NY: College Entrance Examination.
- Kerpelman, J. L., Pittman, J. F., & Lamke, L. K. (1997). Toward a microprocess perspective on adolescent identity development: An identity control theory approach. *Journal of Adolescent Research*, 12, 325-346. doi:10.1177/0743554897123002
- Klaczynski, P. A., & Lavalley, K. L. (2005). Domain-specific identity, epistemic regulation, and intellectual ability as predictors of belief-biased reasoning. *Journal of Experimental Child Psychology*, 92, 1-24. doi:10.1016/j.jecp.2005.05.001
- Kroger, J. (2007). *Identity development* (2nd ed.). Thousand Oaks, CA: Sage.

- Landis, R. S., Beal, D. J., & Tesluck, P. E. (2000). A comparison of approaches to forming composite measures in structural equation models. *Organizational Research Methods, 3*, 186-207. doi:10.1177/109442810032003
- Larson, L. M., Toulouse, A. L., Ngumba, W. E., Fitzpatrick, L. A., & Heppner, P. P. (1994). The development and validation of Coping with Career Indecision. *Journal of Career Assessment, 2*, 91-110. doi:10.1177/106907279400200201
- Levinson, D. J. (1986). A conception of adult development. *American Psychologist, 41*, 3-13. doi:org/10.1037/0003-066X.41.1.3
- Marcia, J. E. (1993). The ego identity status approach to ego identity. In J. E. Marcia, A. S. Waterman, D. R. Matteson, S. L. Archer, & J. L. Orlofsky (Eds.), *Ego identity: A handbook for psychosocial research*. New York, NY: Springer-Verlag.
- McIlveen, P. F. & Patton, W. A. (2007). Narrative career counselling: Theory and exemplars of practice. *Australian Psychologist 42*, 226-235. doi:10.1080/00050060701405592
- Meeus, W. (2011). The study of adolescent identity formation 2000-2010. *Journal of Research on Adolescence, 21*, 75-94. doi:10.1111/j.1532-7795.2010.00716.x
- Meijers, F. (1998). The development of a career identity. *International Journal for the Advancement of Counselling, 20*. 191-207. doi.10.1023/A:1005399417256
- Phillips, S. D., & Blustein, D. L. (1994). Readiness for career choices. *The Career Development Quarterly, 43*, 63-71. Retrieved from <http://search.proquest.com>
- Porfeli, E. J., Lee, B., & Vondracek, F. W. (2013). Identity development and careers in adolescents and emerging adults. In W. B. Walsh, M. L. Savickas, & P. Hartung (Eds.), *Handbook of vocational psychology* (pp. 133-154). New York, NY: Routledge Press.
- Porfeli, E. J., Lee, B. Vondracek, F. W., & Weigold, I. K. (2011). A multi-dimensional measure of vocational identity status. *Journal of Adolescence, 34*, 853-871. doi:10.1016/j.adolescence.2011.02.001

- Praskova, A., Creed, P. A., & Hood, M. (2013). Facilitating engagement in new career goals: The moderating effects of personal resources and career actions. *International Journal of Educational and Vocational Guidance, 13*, 115-134. doi:10.1007/s10775-013-9242-2
- Praskova, A., Creed, P. A., Hood, M. (2014a). Self-regulatory processes mediating between career calling and perceived employability and life satisfaction in emerging adults. *Journal of Career Development*. Advance online publication. doi:10.1177/0894845314541517
- Praskova, A., Creed, P. A., Hood, M. (2014b). The development and initial validation of a career calling scale for emerging adults. *Journal of Career Assessment*. Advance online publication. doi:10.1177/1069072714523089
- Praskova, A., Hood M., & Creed, P. A. (2014). Testing a calling model of perceived career success in Australian emerging adults: A longitudinal study. *Journal of Vocational Behavior, 85*, 125-135. doi.org/10.1016/j.jvb.2014.04.004
- Preacher, K., & Hayes, A. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891. doi:10.1177/1069072707305763
- Robitschek, C. & Cook, S. W. (1999). The influence of personal growth initiative and coping styles on career exploration and vocational identity. *Journal of Vocational Behavior, 54*, 127-141. doi:10.1006/jvbe.1998.1650
- Rothwell, A. & Arnold, J. (2007). Self-perceived employability: Development and validation of a scale. *Personnel Review, 36*, 23-41. doi:10.1108.00483480710716704
- Rothwell, A., Herbert, I., & Rothwell, F. (2008). Self-perceived employability: Construction and initial validation of a scale for university students. *Journal of Vocational Behavior, 73*, 1-12. doi:10.1016/j.jvb.2007.12.001

- Rothwell, A., Jewell, S. & Hardie, M. (2009). Self-perceived employability: Investigating the responses of post-graduate students. *Journal of Vocational Behavior*, 75, 152-161.
doi:10.1016/j.jvb.2009.05.002
- Saks, A. M., & Ashforth, B. E. (1996). Proactive socialization and behavioural self-management. *Journal of Vocational Behavior*, 48, 301-323. doi:10.1006/jvbe.1996.0026
- Savickas, M. L. (1997). Career adaptability. *The Career Development Quarterly*, 45, 247-259. doi:10.1002/j.2161-0045.1997.tb00469.x
- Savickas, M. L. (2002). Career construction. In D. Brown & Associate (Eds.), *Career choice and development* (4th ed., pp. 149–205). San Francisco, CA: Jossey-Bass.
- Savickas, M. L. (2011). *Career counseling*. Washington, DC: American Psychological Association.
- Schiller, R. A. (1998). The relationship of developmental tasks to life satisfaction, moral reasoning, and occupational attainment at age 28. *Journal of Adult Development*, 5, 239-254. Retrieved from <http://download.springer.com>
- Skorikov, V. B. (2007). Continuity in adolescent career preparation and its effects on adjustment. *Journal of Vocational Behavior*, 70, 8-24. doi:10.1016/j.jvb.2006.04.007
- Skorikov, V. B., & Vondracek, F. W. (2011). Occupational identity. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (pp. 693-714). New York, NY: Springer. doi:10.1007/978-1-4419-7988-9_29
- Stallman, H. M. (2010). Psychological distress in university students. *Australian Psychologist*, 45, 249-257. doi:10.1080/00050067.2010.482109
- Strauser, D. R., Lustig, D. C., Cogdal, P. A., & Uruk, A. C. (2006). Trauma symptoms: Relationship with career thoughts, vocational identity, and developmental work personality. *The Career Development Quarterly*, 54, 346-360. doi:10.1002/j.2161-0045.2006.tb00199.x

- Stringer, K., Kerpelman, J. L., & Skorikov, V. B. (2011). Career preparation. *Journal of Vocational Behavior, 79*, 158-169. doi:10.1016/j.jvb.2010.12.012
- Stumpf, S. A., Colarelli, S. M., & Hartman, K. (1983). Development of the Career Exploration Survey (CES). *Journal of Vocational Behavior, 22*, 191-226. doi:10.1016/0001-8791(83)90028-3
- Turner, S. L., Trotter, M. J., Lapan, R. T., Czajka, K. A., Yang, P., & Brissett, A. E. (2006). Vocational skills and outcomes among Native American adolescents. *Career Development Quarterly, 54*, 216-226. doi:10.1002/j.2161-0045.2006.tb00153.x
- van der Heijden, B. (2002). Prerequisites to guarantee life-long employability. *Personnel Review, 31*, 44-61. doi:10.1108/00483480210412418
- Vondracek, F. W., & Skorikov, V. B. (1997). Leisure, school, and work activity preferences and their role in vocational identity development. *The Career Development Quarterly, 45*, 322-340. doi:10.1002/j.2161-0045.1997.tb00537.x
- Zikic, J., & Hall, D. T. (2009). Toward a more complex view of career exploration. *The Career Development Quarterly, 58*, 181-191. doi:10.1002/j.2161-0045.2009.tb00055.x
- Zikic, J., & Klehe, U. C. (2006). Job loss as a blessing in disguise: The role of career exploration and career planning in predicting reemployment quality. *Journal of Vocational Behavior, 69*, 391- 409. doi:10.1016/j.jvb.2006.05.007

Table 1

Summary Data, Bivariate Correlations (above Diagonal), and Correlations among the Latent Variables (below Diagonal); N = 667

Variable	<i>M</i>	<i>SD</i>	Range	1	2	3	4	5	6	7	8
1. Career exploration	45.64	10.66	11-66	-	.43***	.34***	-.10*	.35***	.42***	.12**	.02
2. Career planning	35.80	5.82	17-48	.56***	-	.36***	-.22***	.24***	.49***	-.03	.18***
3. Career identity	15.02	4.34	4-24	.38***	.56***	-	-.49***	.35***	.51***	.12**	.01
4. Career distress	38.14	13.82	13-78	-.09*	-.32***	-.46***	-	-.29***	-.46***	-.02	-.07
5. Perceived employability	68.95	11.24	21-96	.34***	.37***	.43***	-.28***	-	.50***	.05	-.07
6. Career calling	67.95	10.58	25-90	-	-	-	-	-	-	.06	.07
7. Age	20.24	2.46	17-25	-	-	-	-	-	-	-	-.07
8. Gender	-	-	-	-	-	-	-	-	-	-	-

Note. Age, gender, and career calling were not included in the latent variable analyses. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 2

Probing Conditional Indirect Effects via Career Identity (N = 667)

Value of Moderator	Outcome variables							
	Career employability				Career distress ^a			
	Indirect effect	Boot SE	Boot LLCI	Boot ULCI	Indirect effect	Boot SE	Boot LLCI	Boot ULCI
Career calling x career exploration								
-1SD (-10.58)	.02	.02	-.01	.04	.04	.03	-.03	.10
+1SD (10.58)	.05	.02	.02	.09*	.13	.04	.05	.20*
Career calling x career planning								
-1SD (-10.58)	.02	.03	-.03	.07	.04	.06	-.07	.16
+1SD (10.58)	.10	.03	.05	.18*	.25	.06	.13	-.38*

^a Career distress scores were reverse coded to remove negative signs from the equation; * Significant conditional indirect effect for the value of the moderator. Bootstrap sample size = 10,000. Unstandardized coefficients are reported.

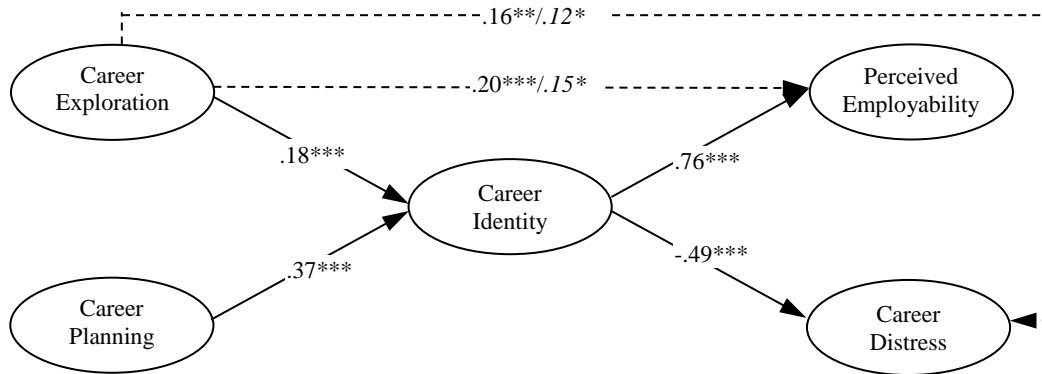


Figure 1. Final structural mediation model (full lines), and the direct effects between career exploration and the outcome variables identified in the mediation analysis (dashed lines). Standardized coefficients are reported; those in italics are path coefficients when the mediator was included. * $p < .05$; ** $p < .01$; *** $p < .001$.