




SAPIENZA  
UNIVERSITÀ EDITRICE

Work published in open access form  
and licensed under Creative Commons  
Attribution – NonCommercial  
ShareAlike 4.0 International (CC BY-NC-SA 4.0)

 © Author(s)  
E-ISSN 2724-2943  
ISSN 2723-973X

Psychology Hub (2022)  
XXXIX, 2, 65-76

## Article info

Submitted: 04 April 2022  
Accepted: 20 April 2022  
DOI: 10.13133/2724-2943/17716

## Proactive, boundaryless, and confident graduates entering the labour market: does need for cognitive closure play a role as a moderator?

Marina Mondoa, Barbara Barbierib, Silvia De Simonea, Jessica Pileric, Alessandro Lo Prestid

<sup>a</sup>*Department of Pedagogy, Psychology, Philosophy, University of Cagliari, Cagliari, Italy*

<sup>b</sup>*Department of Political and Social Sciences, University of Cagliari, Cagliari, Italy*

<sup>c</sup>*Department of Dynamic and Clinical Psychology, and Health studies, Sapienza University of Rome, Rome, Italy*

<sup>d</sup>*Department of Psychology, University of Campania “Luigi Vanvitelli”, Caserta, Italy*

## Abstract

The university to work transition is a crucial and delicate stage for graduates, as it involves an essential change of role. Previous studies have shown that proactive personality, boundaryless mind-set and career self-efficacy are critical variables for a successful labour market integration/entry. This study analyzes the involvement of the need for cognitive closure as an individual variable that can both favor and hinder this process. Specifically, this work examines the moderating role of need for cognitive closure in the indirect association between proactive personality and career self-efficacy through boundaryless mind-set in a sample of 762 adults enrolled at the university or recently graduated therein. Results showed that career self-efficacy was positively predicted by proactive personality and boundaryless mind-set. Although a significant indirect effect was present thus confirming our first hypothesis, it did not vary depending on the need for cognitive closure proving that need for cognitive closure did not act as a moderator of this indirect association, hence not supporting our second hypothesis. These findings were discussed concerning the complexity of students' choices in transition and the nature of the information processing process needed for those choices.

**Keywords:** University-to-work transition; proactive personality; boundaryless mind-set; career self-efficacy; need for cognitive closure.

\*Corresponding author.

Barbara Barbieri  
Department of Political and Social  
Sciences  
University of Cagliari  
Viale Sant'Ignazio 78, 09123, Cagliari,  
Italy  
Phone: + 39 070 6753781  
E-mail: barbara.barbieri@unica.it  
(B. Barbieri)

## Introduction

The university to work transition is a crucial and delicate stage for graduates, as it involves an essential change of role. Starting a new stage in life as a worker requires decisions that can affect future career success (Saks, 2014). With little or no previous professional experience, graduates may have some difficulty finding their way in an uncertain labour market that requires proactive career management (Koen et al., 2012). In addition, finding an unsatisfactory job may seem preferable than being unemployed; however, the consequences can be detrimental and impact well-being and life satisfaction (Bol et al., 2019; McKee-Ryan & Harvey, 2011).

Graduates' career success has always attracted scholars' interest, given the complexity of the integration process for those entering the labour market for the first time, also in light of the growing number of unemployed after graduation (Ma, 2021) and the difficulties not only in finding a job but also in being able to keep it (Clarke, 2018; Helyer & Lee, 2014). Despite a greater sensitivity on the part of universities to this issue, curricula often focus more on specific disciplinary knowledge and not on the acquisition of multidisciplinary and transferable skills (Kinash et al., 2016), and probably also for this reason, programs to support the search for employment for recent graduates have not shown long-term efficacy (Card et al., 2018). While career-related decisions can be difficult, making them is critical to graduate employment results (Walker & Tracey, 2012).

The earlier career decision-making is initiated, the more likely it will be beneficial, as a previous decision allows university students more time to gather and acquire the skills, experience, and knowledge needed to find a job (Kim & Park, 2017). Several studies have focused on understanding and exploring which variables could be involved in this process, among which we could mention: employability (Lo Presti et al., 2022), career adaptability (Guan et al., 2019), protean and boundaryless career orientations (Cortellazzo et al., 2020), human and social capital (Haenggli & Hirschi, 2020), professional identity and career self-efficacy (Kezar et al., 2020; Santisi et al., 2018). All these variables share the typical emphasis on the 'agentic' idea that individuals must know how to adapt to the different circumstances that may arise, by exploiting social supports or by relying on individual characteristics able to support them during the exploration and decision-making processes, specific of the phases of change and transition that characterize entry into the world of work. In line with the emphasis on personal agency in career-building theory, the proactive perspective postulates that individuals are not always passive recipients of environmental constraints; on the contrary, they can enact change to improve their current circumstances (Crant, 2000). Empirical evidence has supported the influence of personality on career decision-making process. According to Lent and colleagues (1994) social cognitive career theory, personality traits play an essential role in developing career self-efficacy through learning experiences.

Seibert and colleagues (2001, p. 847) described proactive personality as "a stable disposition to take personal initiative in a broad range of activities and situations." According to Zhang and colleagues (2012), proactive personality is the most

crucial dispositional antecedent influencing career self-efficacy. Furthermore, within the theoretical framework of attitudes as an antecedent to behavior (Ajzen, 1991), researchers have hypothesized that individuals with boundaryless mind-set show an overall psychologically healthy response to uncertain career environments (Arthur & Rousseau, 1996; Waters et al., 2014).

Hall (2004) argued that confidence in one's ability to adapt is a key factor enabling individuals to be willing to face uncertainty and take responsibility for their careers. Based on Sullivan and Arthur (2006), Drenzo and Greenhaus (2011, p. 576) have similarly defined boundaryless mind-set as "the subjective assessment of one's ability to perform career transitions" and evaluate their career progress and success.

However, apart from classical vocational variables that may be helpful in facilitating the transition to the labour market, other alternative variables, that have been ignored up to now, may play a role in this process. Among these, the need for cognitive closure, defined by Kruglanski and Webster (1996) as the "individual's desire for a firm answer to a question and an aversion toward ambiguity" (p. 264) may be included. In fact, the need for cognitive closure is a variable that has been successfully studied in many fields, often as a moderator, but substantially ignored in the vocational field. Researcher argued that individuals might have high or low levels of need for cognitive closure, positioning themselves along a continuum according to perceived costs and benefits (Webster & Kruglanski, 1994), which may depend on time pressure, boredom, noise, and fatigue (Kruglanski, 2004).

Generally, people with a higher need for cognitive closure tend to quickly reduce any situation of ambiguity and uncertainty, while individuals with lower levels are more likely to consider new stimuli and new information and possibly modify their judgments (Kruglanski & Webster, 1996).

Available evidence also shows that a high need for cognitive closure is associated with social psychological phenomena, including the tendency to remain crystallized on first impressions, greater anchoring to information more consistent with stereotypes, and resistance to persuasion (Dijksterhuis et al., 1996; Heaton & Kruglanski, 1991; Kruglanski et al., 1993). In contrast, individuals with a low need for cognitive closure would rely less on stereotypes in assessment processes and be more open-minded to change (Livi et al., 2015; Sun et al., 2016).

Other scholars suggested that a high need for cognitive closure is directly related to intolerance to uncertainty (Berenbaum et al., 2008), defined by Dugas and colleagues (2003) as the tendency to react negatively to uncertain situations and events to risk avoidance. Conversely, individuals with a low need for cognitive closure have a greater tolerance to uncertainty about decision-making in unpredictable situations (Chirumbolo & Areni, 2010) and have less anxiety and distress in conditions of ambiguity (White, 2021).

Said differently, individual characteristics, which make people more resistant to face new and evolving situations with flexibility, could affect the ability to adapt and react to the continuous changes present in the university-to-work transition, an ability that appears to be crucial in the current turbulent labour market (Holtschlag et al., 2020; Jackson & Tomlinson, 2020).

For about thirty years the construct of the need for cognitive closure has been studied to account for the motivational basis of knowledge formation, processes related to decision-making, judgment, and social and group cognition (Roets et al., 2015). Only in the last few years has research on the construct entered a more applicative phase, studying the effects of high and low need for cognitive closure on groups and organizations (Bélanger et al., 2015a, 2015b; Livi et al., 2015; Tesi et al., 2020).

However, it would be worthwhile to study the influence of high and low levels of need for cognitive closure on individual choices in a situation that require adaptation, self-efficacy and open-mindedness, such as the transition from university to the labour market. To the knowledge of the authors, no studies have previously used the need for cognitive closure as a moderator of the relationship between the individual vocational variables considered in this study.

For this reason, this study aims to examine the moderating role of the need for cognitive closure in the indirect association between proactive personality and career self-efficacy through boundaryless mind-set.

### *Theoretical framework*

Contemporary careers are characterized by greater mobility and a demand for a greater variety of skills (Frese & Fay, 2001; Fugate et al., 2004; Waterman, 1994). This scenario implies a shift in career development management responsibility from organizations to individuals. The current careers literature, particularly the boundaryless and protean careers paradigms, continues to emphasize personal agency in achieving desired outcomes (Akkermans et al., 2018). Therefore, it is crucial that the career decision-making process begins before entering the labour market, as during university years. This long period of high education allows students more time to collect and acquire the skills, experience and knowledge necessary to find a job in such a complex labour market. Several researchers focused on identifying variables related to the early career decision-making process (Kim & Park, 2017). Literature suggests that career self-efficacy represents one of the main cognitive variables affecting career development behaviors and outcomes (Chan, et al., 2018; Lent et al., 2005). According to the social cognitive career theory (SCCT) (Lent et al., 2005), based on Bandura's triadic mutual determinism (1986; 1997), individuals' cognition influences their behaviors and is influenced by their environment. Confidence in one's abilities helps initiate and maintain effective behaviors over time despite obstacles or adverse experiences (Lent & Hackett, 1987). Specifically, career self-efficacy refers to the belief that individuals can manage their careers independently and successfully (Betz, 2007; Kossek et al., 1998). It affects the career decisions made by individuals, allowing them to overcome difficulties (Cheng et al., 2016; Lent et al., 2008). Furthermore, it is a significant predictor of labour market entry (Boswell et al., 2012; Van Hoof, 2014) and is related to career development (Chan et al., 2018), employability (Guan et al., 2013; Ngo et al., 2017), job satisfaction (Fogarty & McGregor-Bayne, 2008), and active exploration (Houle & Kluck, 2015), especially when enhanced

through programs that can support the placement of recent graduates in the labour market (Kezar et al., 2020).

Prior studies have shown that personality characteristics influence the making of self-efficacy beliefs and play an important role in self-efficacy career development (Brown et al., 2003; Di Fabio & Saklofske, 2014; Fuller & Marler, 2009). In particular, proactive personality is closely related to the individual's career and is a valuable complement to personality theories (Major et al., 2006), and appears to be predictive of a range of career development outcomes (Hough, 2003). Proactive personality is deemed a stable disposition that makes individuals more independent of situational factors (Wang & Wanberg, 2017) and more success-oriented (Pan et al., 2018; Seibert et al., 2001). Individuals with higher proactivity vs. lower are normally action-oriented (Jiang, 2017), they cope more effectively with career-related changes and opportunities for improvement (Tolentino et al., 2014). Also, they are more likely to carry on a good socialization process in organizations and achieve better performance (Li et al., 2011).

Kim and Park (2017) studied proactive personality in relation to all processes related to career development, including self-efficacy, and found that proactive personality can be considered a predictor of career self-efficacy in a sample of students enrolled in psychology courses; in the same way, Brown and colleagues (2006) have tested a model of proactive personality and job-search behavior in college graduates and found that proactive personality can be considered an antecedent of career-related self-efficacy. Hsieh and Huang (2014) confirmed a significant and positive relationship between proactive personality and career self-efficacy in a sample of college students. Their findings suggest that university students with a high proactive personality appear more capable of managing their careers independently and successfully.

Several meta-analyses have connected proactive personality and self-efficacy to boundaryless career orientations (e.g. Fuller & Marler, 2009; Ng & Feldman, 2014). One of the components of boundaryless career orientations concerns psychological mobility, i.e. the desire for variety in one's work environments, and confidence in one's ability to transition between these environments (Sullivan & Arthur, 2006). This psychological mobility has been defined by Briscoe and colleagues (2006) as boundaryless mind-set. The boundaryless mind-set is related to variables that affect career development such as proactive personality (Lochab & Nath, 2019), protean career (Kundi et al., 2021) and employability (Lo Presti et al., 2018). Wiernik & Kostal (2019) state that boundaryless mind-set is closer to career management behaviors, a sort of behavioral predisposition to change. For these authors, boundaryless mind-set can be considered a construct that lies somewhere between proactive personality and self-efficacy or, better said, "it could be considered a contextualized assessment of proactivity and self-efficacy specifically focused on career management and self-efficacy professional attitudes" (Wiernik & Kostal, 2019, p. 5).

Here, we posit that boundaryless mind-set mediates the positive association between proactive personality and career self-efficacy. Available evidence shows that these variables are often positively associated: proactive personality is related to

both career self-efficacy (Kim and Park, 2017; Mondo et al., 2021) and boundaryless mind-set (Lochab & Nath, 2019); in turn, career self-efficacy is related to boundaryless mind-set (Abdalla & Al-Zufairi, 2020; Cheng et al., 2020). Thus, we hypothesize that boundaryless mind-set may mediate the relationship between proactive personality and self-efficacy career and contribute to a successful job placement.

H1: boundaryless mind-set will mediate the positive association between proactive personality and career self-efficacy.

### *The moderating role of need for cognitive closure*

The need for cognitive closure is a variable that has been successfully studied in many fields, often as a moderator, but ignored in the vocational field. This study focused on the need for cognitive closure, considering it as an individual variable that influence how people perceive the social world and make decisions (Yilmaz, 2018).

According to Kruglanski and Webster (1996) the need for cognitive closure is defined as the disposition for definitive order and structure, the desire for a firm or stable knowledge, as well as the tendency to simplify complex information from the environment and avoid uncertainty by reaching a decision or choice as quickly as possible. According to these authors (1994), people with higher levels of need for cognitive closure have a tendency to evaluate based on first impressions and to ignore other aspects, to provide a quick response when faced with uncertain conditions and once a decision is made they are not willing to change it and indeed tend to consolidate it as the only one possible. Other authors confirmed that individuals with a higher need for cognitive closure, are characterized by greater rigidity of thought and a lower tolerance for ambiguity (Wąsowska, 2016). Whenever individuals have to make a decision, they are exposed to uncertainty, and every decision carries more or less a risk (Lee, 2017). High or low levels of need for cognitive closure influence the individual's decision-making process and risk perception (Kruglanski & Webster, 1996). Specifically, individuals with higher levels of need for cognitive closure have greater difficulties in the process of career decision-making, in the processing of complex information and in the ability to cope with changes than those with lower levels. Then it could be argued that a condition of high levels of need to cognitive closure can influence the transition into the labour market characterized by multiple and complex choices.

Available evidence highlights significant differences between individuals with a low or high need for cognitive closure (Topa et al., 2018). People with a lower need for cognitive closure are able to process information better in quantitative terms and at a greater level of complexity (Dolinski et al., 2016; Szumowska & Kossowska, 2017), have less difficulty in making decisions in situations of uncertainty and in the presence of ambiguous rules (Jaško et al., 2015), and have less resistance to considering new information that may change decisions already made (Disatnik & Steinhart, 2015).

On the opposite, people with higher need for cognitive closure have greater difficulty concentrating and a tendency to exclude complex and difficult to process information (Fortier

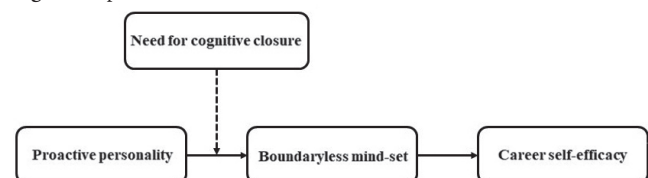
& Burkell, 2014; Livi et al., 2015). DeBacker and Crowson (2008) found that a high need for cognitive closure was negatively related to the self-efficacy of undergraduate students in low-structured courses.

According to Gati and colleagues (2011), emotional and personality-related career decision-making difficulties are directly related to high levels of need for cognitive closure as a result of research done on a sample of people in job transition, students and young adults, as well as a high need for cognitive closure would be related to low levels of entrepreneurial intentions (Wąsowska, 2016). In their study on a sample of university students, Shu-feng and colleagues (2017) highlighted significant differences between individuals with low vs. high levels of need for cognitive closure regarding career decision-making. Specifically, individuals with higher levels had much shorter decision times, put forth a less cognitive effort, and the information sought were lower in both quantitative and qualitative terms. Because of their desire for stability individuals with high need for cognitive closure lack an attitude to change (Kruglanski et al., 1993). In another study carried out on a sample of Italian workers, Kruglanski and colleagues (2007) pointed out that a high need for cognitive closure was negatively related to successful coping with change.

For this reason, in our second hypothesis the need for cognitive closure is considered a moderator of the indirect positive effect between proactive personality and career self-efficacy, mediated in turn by the boundaryless mind-set.

H2: The need for cognitive closure will moderate the indirect positive effect of proactive personality on career self-efficacy through boundaryless mind-set, as the indirect effect will be weaker at higher moderator values. Figure 1 depicts our empirical model.

Fig. 1. Empirical model



## Method

### *Participants and procedure*

We sampled 762 adults enrolled at the University of Cagliari (Italy), or recently graduated therein. Participants, after receiving an invitation via their institutional university email, volunteered to participate in an online survey by self-completing a questionnaire administered in November 2019. Participation in the study was on a voluntary basis, and the data collected were anonymous and confidential. The participants were informed of details concerning the aim of the data collection, and they gave their consent to the data treatment. The protocol was administrated through the Google Drive forms, using the lists of students enrolled in the Career Day of the University of Cagliari. All ethical guidelines were applied, following the procedures defined by the institutional research committee, by the American Psychological Association (APA), by the Italian Association

of Psychology (AIP), and by the 1964 Helsinki declaration (with their and subsequent amendments). As for gender, 416 (54.6%) were women and 346 (45.4%) were men. Mean age was 26.05 years ( $SD = 6.54$ ). Three hundred twenty-five (42.7%) graduates received their degree in STEM subjects (e.g., Engineering, ITC), while 437 (57.3%) in other subjects (i.e., Economics, Law, Political Sciences).

### Measures

**Proactive personality.** The Proactive Personality (PP) scale was developed by Bateman and Crant (1993), and in this study we used the version of Seibert and colleagues (1999), validated in Italy by Trifiletti and colleagues (2009). Responses were collected on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach's alpha was .81.

**Need for cognitive closure.** The NCC Scale developed by Webster and Kruglanski (1994). We used the 14-item (e.g., "Any solution to a problem is better than remaining in a state of uncertainty") Italian version by Pierro and colleagues (1995; 2005). Responses were collected on a Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). Cronbach's alpha was .70.

**Boundaryless mind-set.** We used the 8-item (e.g., "I seek job assignments that allow me to learn something new") scale by Briscoe et al. (2006; Italian version by Lo Presti et al., 2011). Responses were collected on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha was .84.

**Career self-efficacy.** We used the Career self-efficacy scale (Kossek et al., 1998) composta da 4 items, (e.g., "I rely on myself to achieve my career goals"). Responses were collected on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Cronbach's alpha was .81. For this study, the authors adapted the Career self-efficacy scale into Italian using a forward and backward translation process to guarantee semantic correspondence between the Italian and English versions. Sex and age were assessed as control variables.

### Data analysis

Missing values (.006% of possible cases) were replaced by the Expectation Maximization method (Schlomer et al., 2010).

Due to the cross-sectional nature of our research design, to avoid any bias due to common method variance (Podsakoff et al., 2003) we resorted to structural equation modelling analyses (Lisrel 9.3) using Maximum Likelihood estimation method (along with the indicators' covariance matrix) to evaluate the measurement model (i.e., Confirmatory Factor Analysis) concerning the study variables, contrasting a one-factor model (all items loading on a general latent variable) with a four-factor model (items loading on their respective latent variable). Moreover, scales had different endpoints and included also reverse items to avoid response biases.

Descriptive statistics and zero-order correlations were calculated through IBM SPSS 21 to describe associations between variables. Moreover, direct, indirect, and moderated associations between variables were tested via regressions

computed with bootstrapping (5000 samples; Process Macro for SPSS; Hayes, 2018), model no. 7. Bs and construct bias-corrected 95% confidence intervals (hereafter 95% CI; [LL = lower level of confidence interval, UL = upper level of confidence interval]) were computed for each estimated interaction.

## Results

### Preliminary analyses

A measurement model was developed to examine the construct validity of study measures using Confirmatory Factor Analysis (CFA); a common method is to compare two models (nested models): a one-factor model and a final one containing as many factors as the included measures (in our case, four latent variables). The two models were compared on the basis of chi-square/degrees of freedom scores, and on different goodness of fit indices (Table 1).

Tab. 1. Alternative measurement models on study variables

	$\chi^2$	df	RMSEA	SRMR
Model 1 – one factor	5643.95	945	.081	.088
Model 2 – complete model	3412.16	939	.059	.073

A remarkable improvement of all goodness of fit indexes of Model 2 (complete) compared to Model 1 (one factor) could be observed. Moreover, the  $\chi^2(df)$  difference test between the two measurement model is equal to 2231.79(6) and is significant at  $p < .001$ . In particular, Model 2 showed satisfactory goodness of fit indexes ( $\chi^2 = 3412.16$ ,  $df = 939$ ,  $RMSEA = .059$ ,  $SRMR = .073$ ) providing adequate support for construct validity of all study variables.

### Descriptive findings

Table 2 depicts all study variables' descriptive statistics and zero-order correlations.

Tab. 2. Descriptive statistics, and zero-order correlations

	M (SD)	1.	2.	3.	4.	5.
1. Sex <sup>1</sup>	-					
2. Age	26.05 (6.54)	<-.01				
3. Proactive personality	5.20 (.75)	.02	<.01			
4. Need for cognitive closure	3.17 (.60)	.02	<.01	<-.01		
5. Boundaryless mind-set	3.90 (.55)	.08*	.13**	.41***	-.18***	
6. Career self-efficacy	3.90 (.50)	.05	.04	.55***	-.18***	.36***

Note. <sup>1</sup> 0 = men, 1 = women; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Proactive personality positively correlated with boundaryless mind-set ( $r = .41, p < .001$ ) and career self-efficacy ( $r = .55, p < .001$ ). Need for cognitive closure negatively correlated with boundaryless mind-set ( $r = -.18, p < .001$ ) and career self-efficacy ( $r = -.18, p < .001$ ). Finally, boundaryless mind-set positively correlated with career self-efficacy ( $r = .36, p < .001$ ).

### Analysis of moderated mediation

A multiple linear regression was computed regressing career self-efficacy (Y) on sex and age as control variables, proactive personality as a predictor, need for cognitive closure as a moderator, and boundaryless mind-set as a mediator. Five thousand subsamples were used recurring to bootstrapping and for each parameter 95% confidence intervals were computed (Table 3).

Tab. 3. Moderated mediation analysis

	Boundaryless mind-set	Career self-efficacy
	B 95% CI [LL, UL]	
<b>Control variables</b>		
Sex <sup>1</sup>	.09* [.02, .16]	.03 [-.03, .09]
Age	.01*** [<.01, .02]	<.01 [<-.01, <.01]
<b>Predictor</b>		
Proactive personality	.25* [.03, .47]	.32*** [.28, .37]
Need for cognitive closure	-.26 [-.62, .10]	
Interaction term	.02 [-.05, .08]	
<b>Mediator</b>		
Boundaryless mind-set		.13*** [.08, .19]
<b>Conditional indirect effect</b>		
LOW NCC <sup>2</sup>		.04*** [.02, .06]
MED NCC		.04*** [.02, .06]
HIG NCC		.04*** [.02, .06]
<b>Index of moderated mediation</b>		
		<.01 [-.01, .01]
R <sup>2</sup>	.22***	.32***

Note. <sup>1</sup> 0 = men, 1 = women; <sup>2</sup> Need for Cognitive Closure; \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

Career self-efficacy was positively predicted by proactive personality (B = .32 95% CI [.28, .37]) and boundaryless mind-set (B = .13, 95% CI [.08, .19]). Although a significant indirect effect (B = .04 95% CI [.02, .06]) was present thus confirming H1, it did not vary depending on the levels of need for cognitive closure (Index of moderated mediation = <.01

95% CI [-.01, .01]) proving that need for cognitive closure did not act as a moderator of this indirect association, hence not supporting H2. As for explained variance, predictors explained 32% of career self-efficacy's variance.

## Discussion

This study examined the moderating role of the need for cognitive closure in the indirect association between proactive personality and career self-efficacy through boundaryless mind-set in a sample of graduates in the transition from the university to the labor market.

Starting from the assumption that some variables, such as proactive personality, career self-efficacy, and boundaryless mind-set, can account for career success, especially during occupational transitions as the university-to-work one, this study analyzed the existing relationships between them, including the need for cognitive closure as a possible moderator of such relationships. Findings suggest that proactive personality positively and indirectly affected career self-efficacy, consistently with available evidence (Wiernik & Kostal, 2019) and with our H1. Moreover, we found that the effect of proactive personality was stronger than the effect of boundaryless mind-set. As for the indirect effect, results showed that it did not vary depending on the values of need for cognitive closure, contrary to our H2.

Individuals who tend to be proactive would also have a tendency to develop career self-efficacy. This relationship is partly explained by having a boundaryless mind-set.

However, we have not found empirical support for H2: the need for cognitive closure did not moderate the indirect association between proactive personality and career self-efficacy through boundaryless mind-set. This result could be linked to the complex nature of students' process choices in the university-to-work transition. Although several studies have highlighted how a high need for cognitive closure is associated with a narrow search for information, this only occurs in the face of situations in which there is already sufficient information to make a decision (Roets et al., 2015). If they are sufficient it is possible to achieve closure and crystallize decisions; otherwise, individuals must increase the processing of information and the effort to achieve this closure (Houghton & Grewal, 2000; Vermeir et al., 2002). In a transition condition, the information to be found to choose to enter the labour market is qualitatively complex and quantitatively high, which could cancel the individual differences between those with a low and a high need for cognitive closure and justify the fact that this construct is not an "effective" moderator of the indirect association between proactive personality and professional self-efficacy, through the borderless mentality.

Furthermore, decision-making during occupational transitions involve motivational and risk tolerance aspects. The willingness of individuals with a high need for cognitive closure to take risks depends on the extent to which the acted-out behavior allows them to achieve and maintain closure. People with a high need for cognitive closure are more likely to take risks when the benefits of the behavior are clear or

easy to establish while the potential future costs are difficult to calculate (Schumpe et al., 2017), present conditions of the transition phase.

## Practical implications

Beyond the findings of this study, support for building a career path and transition to work remain, together with the implementation of professional knowledge, a specific mission of universities. The years of study spent at university must be considered a fundamental part of the more general process of building a professional career because individuals do not operate independently of their social environment and develop values based on the environmental support they receive (Weisenberg & Aghakhani, 2007). We are facing a paradigm shift that sees the transition from the concept of professional maturity to professional adaptability (Savickas, 2013), according to which individuals must develop the ability to maintain professional growth objectives within career paths that are no longer linear but ever-changing (Briscoe et al., 2006). Then, to achieve these objectives, it is necessary to offer, from the very beginning of the university course, spaces for reflection and experimentation on one's skills and individual characteristics through the use of specific training, working group, and career guidance that encourage proactive behaviors (Kirby et al., 2002). All skills and some personality traits, such as proactivity, are not stable over time and can be implemented (Kirby et al., 2002) to make students better able to respond more effectively to requests of the labour market (Creed et al., 2011). Waters and colleagues (2014) argued that the presence of a boundaryless mind-set is a psychologically healthy response to a complex environment. When it is associated with proactivity, it supports the career-building process. Based on this reasoning, other researchers have argued the importance of the boundaryless mind-set within career guidance processes (Taber & Briddick, 2011; Verbruggen & Sels, 2008; Waters et al., 2014).

In conclusion, those who work with young adults in the transition from university to work should support them in understanding how the working world is changing and making them aware of the skills and strategies helpful in achieving career success.

## Conclusions and limitations

Entering for the first time in the labour market is a fundamental moment in the individuals' careers (Alisic & Wiese, 2020; Carter, 2019; Cortellazzo et al., 2020; Lo Presti et al., 2022).

We considered a series of positively related variables that could contribute to success in job placement, namely proactive personality, boundaryless mind-set, and career self-efficacy. Being proactive and pursuing goals while remaining more independent from situational factors, not perceiving psychological boundaries, and being oriented in managing own career independently and successfully allows students

to better adapt to the many challenges that arise during the transition phases. Other variables can potentially impact career development and enactment. Among these, we hypothesized that the need for cognitive closure could, due to its peculiarities, influence this process of achieving career self-efficacy, moderating the relationship between proactive personality and boundaryless mind-set. Indeed, some authors have highlighted the role that the need for cognitive closure has in the decision-making process in university students and how it significantly affects decision styles (Jaško et al., 2015; Yilmaz et al., 2018). As with most psychological situations, the demand for constant change can elicit different reactions from different people. People who crave stability may fear frequent demands for change. Others who loathe daily routines and monotony can welcome change and relish the psychological mobility it offers (see for example Kruglanski et al., 2007). Understanding the psychological background of such diverse reactions can be important for several reasons in the transition from university to work. First, it can allow for the identification of individuals who feel particularly comfortable or particularly uncomfortable in rapidly changing situations. Second, it can promote understanding of the psychological dynamics of resistance and acceptance of change and, therefore, allow universities to design interventions aimed at promoting appropriate reactions to change in various contexts. This is the reason why we thought it might be interesting to consider the need for cognitive closure as a variable capable of moderating the relationship between the variables considered in this study.

This study comes with some limitations. In the first place, it uses a cross-sectional design and self-reporting measures, furthermore the sample collected cannot be considered representative of the student population and this limits the generalizability of the results. It would be interesting in the future to broaden the sample, to relate other variables involved in the university-to-work transition, and carrying out a longitudinal design that allows precise monitoring one year after graduation.

### Author Contributions

The authors contributed equally to this manuscript.

### Compliance with Ethical Standards

### Conflict of interest

The authors declare that they have no competing interests.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

## References

- Abdalla, I., & Al-Zufairi, A. (2020). Antecedents of career self-management: home country and international careers in Kuwait. *Career Development International*, 25(7), 715-730. doi.org/10.1108/CDI-12-2018-0320
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50 (2), 179-211. http://dx.doi.org/10.1016/0749-5978(91)90020-T
- Akkermans, J., Seibert, S. E., & Mol, S. T. (2018). Tales of the unexpected: Integrating career shocks in the contemporary careers literature. *SA Journal of Industrial Psychology*, 44(1), 1-10. http://dx.doi.org/10.4102/sajip.v44i0.1503
- Alisic, A., & Wiese, B. S. (2020). Keeping an insecure career under control: The longitudinal interplay of career insecurity, self-management, and self-efficacy. *Journal of Vocational Behavior*, 120, 103431. doi.org/10.1016/j.jvb.2020.103431
- Arthur, M., & Rousseau, D. (1996). Conclusion: A lexicon for the new organizational era. In M. Arthur, & D. Rousseau (Eds.), *The boundaryless career: A new employment principle for a new organizational era* (pp. 370-382). Oxford University Press.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman
- Bateman, T. S., & Crant, J. M. (1993). The proactive component of organizational behavior. *Journal of Organizational Behavior*, 14(2), 103-118. doi.org/10.1002/job.4030140202
- Bélanger, J. J., Pierro, A., & Kruglanski, A. W. (2015a). Social power tactics and subordinates' compliance at work: The role of need for cognitive closure. *European Review of Applied Psychology*, 65(4), 163-169. doi.org/10.1016/j.erap.2015.05.001
- Bélanger, J. J., Pierro, A., Barbieri, B., De Carlo, N. A., Falco, A., & Kruglanski, A. W. (2015b). One size doesn't fit all: the influence of supervisors' power tactics and subordinates' need for cognitive closure on burnout and stress. *European Journal of Work and Organizational Psychology*, 25(2), 287-300. doi.org/10.1080/1359432X.2015.1061999
- Berenbaum, H., Bredemeier, K., & Thompson, R. J. (2008). Intolerance of uncertainty: Exploring its dimensionality and associations with need for cognitive closure, psychopathology, and personality. *Journal of anxiety disorders*, 22(1), 117-125. doi.org/10.1016/j.janxdis.2007.01.004
- Betz, N. E. (2007). Career self-efficacy: Exemplary recent research and emerging directions. *Journal of career assessment*, 15(4), 403-422. https://psycnet.apa.org/doi/10.1177/1069072707305759
- Bol, T., Ciocca Eller, C., van de Werfhorst, H., & DiPrete, T. (2019). School-to-Work Linkages, Educational Mismatches, and Labor Market Outcomes. *American Sociological Review*, 84(2), 275-307. doi.org/10.1177%2F0003122419836081
- Boswell, W. R., Zimmerman, R. D., & Swider, B. W. (2012). Employee job search: Toward an understanding of search context and search objectives. *Journal of Management*, 38(1), 129-163. https://psycnet.apa.org/doi/10.1177/0149206311421829
- Briscoe J. P., Hall D. T., & DeMuth R. L. F. (2006), *Protean and Boundaryless Career: An Empirical Exploration*, *Journal of Vocational Behavior*, 69(1), 30-47. http://dx.doi.org/10.1016/j.jvb.2005.09.003
- Brown, D. J., Cober, R. T., Kane, K., Levy, P. E., & Shalhoop, J. (2006). Proactive personality and the successful job search: a field investigation with college graduates. *Journal of applied psychology*, 91(3), 717- 726. doi.org/10.1037/0021-9010.91.3.717
- Brown, C., George-Curran, R., & Smith, M. L. (2003). The role of emotional intelligence in the career commitment and decision-making process. *Journal of career assessment*, 11(4), 379-392. doi.org/10.1177/1069072703255834
- Card, D., Kluge, J., & Weber, A. (2018). What Works? A Meta Analysis of Recent Active Labor Market Program Evaluations. *Journal of the European Economic Association*, 16(3), 894-931. doi.org/10.1093/jeea/jvx028
- Carter, A. J. (Ed.). (2019). *Young People, Employment and Work Psychology: Interventions and Solutions*. Routledge.
- Chan, C. C. (2018). The relationship among social support, career self-efficacy, career exploration, and career choices of Taiwanese college athletes. *Journal of hospitality, leisure, sport & tourism education*, 22, 105-109. doi.org/10.1016/j.jhlste.2017.09.004
- Cheng, G. H. L., Chan, D. K. S., & Au, W. T. (2020). Profiles of employability and their career and psychological implications among unemployed youth. *Applied Research in Quality of Life*, 16(5), 2205-2219. doi:10.1007/s11482-020-09869-4
- Cheng, C. F., Tsai, H. H., & Kao, C. C. (2016). The construction of a career developmental counselling model for Taiwanese athletes. *Physical Education Journal*, 49(4), 443-464.
- Chirumbolo, A., & Areni, A. (2010). Job insecurity influence on job performance and mental health: Testing the moderating effect of the need for closure. *Economic and Industrial Democracy*, 31(2), 195-214. doi.org/10.1177%2F0143831X09358368
- Clarke, M. (2018). Rethinking graduate employability: The role of capital, individual attributes and context. *Studies in Higher Education*, 43(11), 1923-1937. doi.org/10.1080/03075079.2017.1294152
- Cortellazzo, L., Bonesso, S., Gerli, F., & Batista-Foguet, J. M. (2020). Protean career orientation: Behavioral antecedents and employability outcomes. *Journal of Vocational Behavior*, 116, 103343. doi.org/10.1016/j.jvb.2019.103343
- Crant, J. M. (2000). Proactive behavior in organizations. *Journal of management*, 26(3), 435-462. http://dx.doi.org/10.1016/S0149-2063(00)00044-1
- Creed, P., Macpherson, J., & Hood, M. (2011). Predictors of "new economy" career orientation in an Australian sample of late adolescents. *Journal of Career Development*, 38(5), 369-389. https://doi.org/10.1177/0894845310378504
- DeBacker, T. K., & Crowson, H. M. (2008). Measuring need for closure in classroom learners. *Contemporary Educational Psychology*, 33(4), 711-732. doi.org/10.1016/j.cedpsych.2007.06.001
- Di Fabio, A., & Saklofske, D. H. (2014). Comparing ability and self-report trait emotional intelligence, fluid intelligence, and personality traits in career decision. *Personality and Individual Differences*, 64, 174-178. doi.org/10.1016/j.paid.2014.02.024
- Dijksterhuis, A. P., Van Knippenberg, A. D., Kruglanski, A. W., & Schaper, C. (1996). Motivated social cognition: Need for



- closure effects on memory and judgment. *Journal of Experimental Social Psychology*, 32(3), 254-270. doi.org/10.1006/jesp.1996.0012
- Direnzo, M. S., & Greenhaus, J. H. (2011). Job search and voluntary turnover in a boundaryless world: A control theory perspective. *Academy of Management Review*, 36(3), 567-589. http://dx.doi.org/10.5465/AMR.2011.61031812
- Disatnik, D., & Steinhart, Y. (2015). Need for cognitive closure, risk aversion, uncertainty changes, and their effects on investment decisions. *Journal of Marketing Research*, 52(3), 349-359. https://psycnet.apa.org/doi/10.1509/jmr.13.0529
- Dolinski, D., Dolinska, B., & Bar-Tal, Y. (2016). Need for closure moderates the break in the message effect. *Frontiers in psychology*, 7, 1879. doi.org/10.3389/fpsyg.2016.01879
- Dugas, M. J., Ladouceur, R., Léger, E., Freeston, M. H., Langelis, F., Provencher, M. D., & Boisvert, J. M. (2003). Group cognitive-behavioral therapy for generalized anxiety disorder: treatment outcome and long-term follow-up. *Journal of consulting and clinical psychology*, 71(4), 821-825. doi.org/10.1037/0022-006x.71.4.821
- Frese, M., & Fay, D. (2001). Personal initiative: An active performance concept for work in the 21st century. *Research in organizational behavior*, 23, 133-187. http://dx.doi.org/10.1016/S0191-3085(01)23005-6
- Fogarty, G. J., & McGregor-Bayne, H. (2008). Factors that influence career decision-making among elite athletes. *Australian Journal of Career Development*, 17(3), 26-38. doi.org/10.1177/103841620801700306
- Fortier, A., & Burkell, J. (2014). Influence of need for cognition and need for cognitive closure on three information behavior orientations. *Proceedings of the American Society for Information Science and Technology*, 51(1), 1-8. doi.org/10.1002/meet.2014.14505101066
- Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions and applications. *Journal of Vocational Behavior*, 65(1), 14-38. doi.org/10.1016/j.jvb.2003.10.005
- Fuller Jr, B., & Marler, L. E. (2009). Change driven by nature: A meta-analytic review of the proactive personality literature. *Journal of vocational behavior*, 75(3), 329-345. doi.org/10.1016/j.jvb.2009.05.008
- Gati, I., Gadassi, R., Saka, N., Hadadi, Y., Ansenberg, N., Friedmann, R., & Asulin-Peretz, L. (2011). Emotional and personality-related aspects of career decision-making difficulties: Facets of career indecisiveness. *Journal of Career Assessment*, 19(1), 3-20. https://psycnet.apa.org/doi/10.1177/1069072710382525
- Guan, Y., Arthur, M. B., Khapova, S. N., Hall, R. J., & Lord, R. G. (2019). Career boundarylessness and career success: A review, integration and guide to future research. *Journal of Vocational Behavior*, 110(Part B), 390-402. doi.org/10.1016/j.jvb.2018.05.013
- Guan, Y., Deng, H., Sun, J., Wang, Y., Cai, Z., Ye, L., ... & Li, Y. (2013). Career adaptability, job search self-efficacy and outcomes: A three-wave investigation among Chinese university graduates. *Journal of Vocational Behavior*, 83(3), 561-570. https://psycnet.apa.org/doi/10.1016/j.jvb.2013.09.003
- Haeggli, M., & Hirschi, A. (2020). Career adaptability and career success in the context of a broader career resources framework. *Journal of vocational behavior*, 119, 103414. doi.org/10.1016/j.jvb.2020.103414
- Hall, D. T. (2004). The protean career: A quarter-century journey. *Journal of Vocational Behavior*, 65, 1-13. http://dx.doi.org/10.1016/j.jvb.2003.10.006
- Hayes, A. F. (2018). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.
- Heaton, A. W., & Kruglanski, A. W. (1991). Person perception by introverts and extraverts under time pressure: Effects of need for closure. *Personality and Social Psychology Bulletin*, 17(2), 161-165. https://psycnet.apa.org/doi/10.1177/014616729101700207
- Helyer, R., & Lee, D. (2014). The role of work experience in future employability of higher education graduates. *Higher Education Quarterly*, 68(3), 348-372. doi.org/10.1111/hequ.12055
- Holtschlag, C., Masuda, A. D., Reiche, B. S., & Morales, C. (2020). Why do millennials stay in their jobs? The roles of protean career orientation, goal progress and organizational career management. *Journal of Vocational Behavior*, 118, 103366. doi.org/10.1016/j.jvb.2019.103366
- Hough, L. M. (2003). Emerging trends and needs in personality research and practice: Beyond main effects. In M. R. Barrick & A. M. Ryan (Eds.), *Personality and work: Reconsidering the role of personality in organizations* (pp. 289-325). Jossey-Bass.
- Houghton, D. C., & Grewal, R. (2000). Please, let's get an answer—any answer: Need for consumer cognitive closure. *Psychology & Marketing*, 17(11), 911-934. doi.org/10.1002/1520-6793(200011)17:11%3C911::aid-mar1%3E3.0.co;2-4
- Houle, J. L., & Kluck, A. S. (2015). An examination of the relationship between athletic identity and career maturity in student-athletes. *Journal of Clinical Sport Psychology*, 9(1), 24-40. http://dx.doi.org/10.1123/jcsp.2014-0027
- Hsieh, H. H., & Huang, J. T. (2014). The effects of socioeconomic status and proactive personality on career decision self-efficacy. *The Career Development Quarterly*, 62(1), 29-43. doi.org/10.1002/j.2161-0045.2014.00068.x
- Jackson, D., & Tomlinson, M. (2020). Investigating the relationship between career planning, proactivity and employability perceptions among higher education students in uncertain labour market conditions. *Higher education*, 80(3), 435-455. doi.org/10.1007/s10734-019-00490-5
- Jaško, K., Czernatowicz-Kukuczka, A., Kossowska, M., & Czarna, A. Z. (2015). Individual differences in response to uncertainty and decision making: The role of behavioral inhibition system and need for closure. *Motivation and Emotion*, 39(4), 541-552. http://dx.doi.org/10.1007/s11031-015-9478-x
- Jiang, Z. (2017). Proactive personality and career adaptability: The role of thriving at work. *Journal of Vocational Behavior*, 98, 85-97. https://psycnet.apa.org/doi/10.1016/j.jvb.2016.10.003
- Kezar, A., Hypolite, L., & Kitchen, J. A. (2020). Career self-efficacy: A mixed-methods study of an underexplored research area for first-generation, low-income, and underrepresented college students in a comprehensive college transition pro-

- gram. *American Behavioral Scientist*, 64(3), 298-324. doi.org/10.1177/0002764219869409
- Kim, H. S., & Park, I. J. (2017). Influence of proactive personality on career self-efficacy. *Journal of Employment Counseling*, 54(4), 168-182. doi.org/10.1002/joec.12065
- Kinash, S., Crane, L., Judd, M. M., & Knight, C. (2016). Discrepant stakeholder perspectives on graduate employability strategies. *Higher education research & development*, 35(5), 951-967. doi.org/10.1080/07294360.2016.1139555
- Kirby, E. G., Kirby, S. L., & Lewis, M. A. (2002). A study of the effectiveness of training proactive thinking. *Journal of Applied Social Psychology*, 32, 1538-1549. doi:10.1111/j.1559-1816.2002.tb01451.x
- Koen, J., Klehe, U. C., & Van Vianen, A. E. (2012). Training career adaptability to facilitate a successful school-to-work transition. *Journal of Vocational Behavior*, 81(3), 395-408. doi.org/10.1016/J.JVB.2012.10.003
- Kossek, E. E., Roberts, K., Fisher, S., & Demarr, B. (1998). Career self-management: A quasi-experimental assessment of the effects of a training intervention. *Personnel Psychology*, 51(4), 935-960. <http://dx.doi.org/10.1111/j.1744-6570.1998.tb00746.x>
- Kruglanski, A. W. (2004). *The psychology of closed mindedness*. Psychology Press.
- Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing." *Psychological Review*, 103(2), 263-283. <https://psycnet.apa.org/doi/10.1037/0033-295X.103.2.263>
- Kruglanski, A. W., Webster, D. M., & Klem, A. (1993). Motivated resistance and openness to persuasion in the presence or absence of prior information. *Journal of Personality and Social Psychology*, 65(5), 861-876. <https://psycnet.apa.org/doi/10.1037/0022-3514.65.5.861>
- Kruglanski, A. W., Pierro, A., Higgins, E. T., & Capozza, D. (2007). "On the Move" or "Staying Put": Locomotion, need for closure, and reactions to organizational change. *Journal of Applied Social Psychology*, 37(6), 1305-1340. doi.org/10.1111/j.1559-1816.2007.00214.x
- Kruglanski, A. W., & Webster, D. M. (1996). Motivated closing of the mind: "Seizing" and "freezing." *Psychological Review*, 103(2), 263-283. <https://psycnet.apa.org/doi/10.1037/0033-295X.103.2.263>
- Kundi, Y. M., Hollet-Haudebert, S., & Peterson, J. (2021). Linking protean and boundaryless career attitudes to subjective career success: a serial mediation model. *Journal of Career Assessment*, 29(2), 263-282. doi.org/10.1177/1069072720959782
- Lee, N. Y. L. (2017). Cross-Cultural Differences in Thinking: Some Thoughts on Psychological Paradigms. *Rationality*, 61-73. doi:10.1016/b978-0-12-804600-5.00004-0
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45, 79-122. doi:10.1006/jvbe.1994.1027
- Lent, R. W., Brown, S. D., Sheu, H. B., Schmidt, J., Brenner, B. R., Gloster, C. S., Schmidt, L. C., Lyons, H., & Treisman, D. (2005). Social cognitive predictors of academic interests and goals in engineering: Utility for women and students at historically black universities. *Journal of counseling psychology*, 52(1), 84-92. doi.org/10.1177/0894845313519703
- Lent, R. W., & Hackett, G. (1987). Career self-efficacy: Empirical status and future directions. *Journal of Vocational Behavior*, 30(3), 347-382. doi.org/10.1016/0001-8791(87)90010-8
- Lent, R. W., Lopez Jr., A. M., Lopez, F. G., & Sheu, H. B. (2008). Social cognitive career theory and the prediction of interests and choice goals in the computing disciplines. *Journal of Vocational Behavior*, 73(1), 52-62. doi.org/10.1016/j.jvb.2008.01.002
- Li, N., Harris, B., Boswell, W. R., & Xie, Z. (2011). The role of organizational insiders' developmental feedback and proactive personality on newcomers' performance: An interactionist perspective. *Journal of Applied Psychology*, 96(6), 1317-1327. doi.org/10.1037/a0024029
- Livi, S., Kruglanski, A., Pierro, A., Mannetti, L., & Kenny, D. (2015). Epistemic motivation and perpetuation of group culture. Effects of need for cognitive closure on trans-generational norm transmission. *Organizational Behavior and Human Decision Processes*, 129, 105-112. doi.org/10.1016/j.obhdp.2014.09.010
- Lochab, A., & Nath, V. (2019). Proactive personality, goal orientation and meta-skills as predictors of protean and boundaryless career attitudes. *South Asian Journal of Business Studies*, 9(1), 130-143. doi.org/10.1108/sajbs-01-2019-0014
- Lo Presti, A., Capone, V., Aversano, A., & Akkermans, J. (2022). Career competencies and career success: On the roles of employability activities and academic satisfaction during the school-to-work transition. *Journal of Career Development*, 49(1), 107-125. doi.org/10.1177%2F0894845321992536
- Lo Presti, A., Nonnis, M., & Briscoe, J. (2011). The protean and boundaryless career in Italy: Game on?. In G. Tanucci, M. Cortini, & E. Morin (Eds), *Boundaryless careers and occupational wellbeing. An interdisciplinary approach* (pp. 7-16). Palgrave Macmillan.
- Lo Presti, A., Pluviano, S. & Briscoe, J.P. (2018). Are freelancers a breed apart? The role of protean and boundaryless career attitudes in employability and career success. *Human Resource Management Journal*, 28(3), 427-442. doi.org/10.1111/1748-8583.12188
- Ma, J. (2021). *A Study on the Relationship Between College Students' Psychological Capital and Their Employability* [Paper presentation]. 6th Annual International Conference on Social Science and Contemporary Humanity Development (pp. 536-540). Atlantis Press.
- Major, D. A., Turner, J. E., & Fletcher, T. D. (2006). Linking proactive personality and the Big Five to motivation to learn and development activity. *Journal of Applied Psychology*, 91(4), 927-935. doi:10.1037/0021-9010.91.4.927
- McKee-Ryan, F. M., & Harvey, J. (2011). "I have a job, but . . .": A review of underemployment. *Journal of Management*, 37(4), 962-996. <http://dx.doi.org/10.1177/0149206311398134>
- Mondo, M., Barbieri, B., De Simone, S., Bonaiuto, F., Usai, L., & Agus, M. (2021). Measuring Career Adaptability in a Sample of Italian University Students: Psychometric Properties and Relations with the Age, Gender, and STEM/No STEM Courses. *Social Sciences*, 10(10), 372. doi.org/10.3390/socsci10100372

- Ng, T. W. H., & Feldman, D. C. (2014). Subjective career success: A meta-analytic review. *Journal of Vocational Behavior, 85*(2), 169–179. <http://dx.doi.org/10.1016/j.jvb.2014.06.001>
- Ngo, H., Liu, H., & Cheung, F. (2017). Perceived employability of Hong Kong employees: its antecedents, moderator and outcomes. *Personnel Review, 46*(1), 17–35. [doi.org/10.1108/pr-01-2015-0015](https://doi.org/10.1108/pr-01-2015-0015)
- Pan, J., Guan, Y., Wu, J., Han, L., Zhu, F., Fu, X., & Yu, J. (2018). The interplay of proactive personality and internship quality in Chinese university graduates' job search success: The role of career adaptability. *Journal of Vocational Behavior, 109*, 14–26. [doi.org/10.1016/j.jvb.2018.09.003](https://doi.org/10.1016/j.jvb.2018.09.003)
- Pierro, A., & Kruglanski, A. W. (2005). *Revised need for cognitive closure scale* (Unpublished manuscript). Università di Roma "La Sapienza".
- Pierro, A., Mannetti, L., Converso, D., Garsia, V., Miglietta, A., Ravenna, M. & Rubini, M. (1995). Caratteristiche strutturali della versione italiana della scala di Bisogno di Chiusura Cognitiva (di Webster e Kruglanski) [Structural characteristics of the Italian Version of the Cognitive Closing Need Scale of Webster e Kruglanski]. *Testing, Psicometria, Metodologia, 2*(3-4), 125–141.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903. [doi.org/10.1037/0021-9010.88.5.879](https://doi.org/10.1037/0021-9010.88.5.879)
- Roets, A., Kruglanski, A. W., Kossowska, M., Pierro, A., & Hong, Y. Y. (2015). The motivated gatekeeper of our minds: New directions in need for closure theory and research. *Advances in experimental social psychology, 52*, 221–283. <http://dx.doi.org/10.1016/bs.aesp.2015.01.001>
- Saks, A. M. (2014). Job search and the school-to-work transition. In U. C. Klehe, & E. A. J. Van Hooft (Eds.), *Handbook of job loss and job search* (pp. 1–29). Oxford University Press.
- Santisi, G., Magnano, P., Platania, S., & Ramaci, T. (2018). Psychological resources, satisfaction, and career identity in the work transition: an outlook on Sicilian college students. *Psychology Research and Behavior Management, 11*, 187–195. <https://psycnet.apa.org/doi/10.2147/PRBM.S164745>
- Savickas, M.L. (2013). Career construction theory and practice. In R.W. Lent, S.D. Brown (Eds.), *Career development and counseling: Putting theory and research to work* (2nd ed.) (pp. 147–183). John Wiley & Sons.
- Schlomer, G. L., Bauman, S., & Card, N. A. (2010). Best practices for missing data management in counseling psychology. *Journal of Counseling Psychology, 57*(1), 1–10. [doi.org/10.1037/a0018082](https://doi.org/10.1037/a0018082)
- Schumpe, B. M., Brizi, A., Giacomantonio, M., Panno, A., Kopetz, C., Kosta, M., & Mannetti, L. (2017). Need for cognitive closure decreases risk taking and motivates discounting of delayed rewards. *Personality and Individual Differences, 107*, 66–71. [doi.org/10.1016/j.paid.2016.11.039](https://doi.org/10.1016/j.paid.2016.11.039)
- Seibert, S. E., Crant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology, 84*(3), 416–427. [doi.org/10.1037/0021-9010.84.3.416](https://doi.org/10.1037/0021-9010.84.3.416)
- Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology, 54*(4), 845–874. [doi.org/10.1111/j.1744-6570.2001.tb00234.x](https://doi.org/10.1111/j.1744-6570.2001.tb00234.x)
- Shu-feng, Z., Ji-Wei, S., Zheng, Z., & Jie, D. (2017). Effects of Need for Cognitive Closure and Anticipated Regret on Individuals' Processing of Career Decision-Making. *Journal of Psychological Science, 40*(5), 1182–1188.
- Sullivan, S. E., & Arthur, M. B. (2006). The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behavior, 69*(1), 19–29. <http://dx.doi.org/10.1016/j.jvb.2005.09.001>
- Sun, S., Zuo, B., Wu, Y., & Wen, F. (2016). Does perspective taking increase or decrease stereotyping? The role of need for cognitive closure. *Personality and Individual Differences, 94*, 21–25. [doi.org/10.1016/j.paid.2016.01.001](https://doi.org/10.1016/j.paid.2016.01.001)
- Szumowska, E., & Kossowska, M. (2017). Need for cognitive closure and attention allocation during multitasking: Evidence from eye-tracking studies. *Personality and Individual Differences, 111*, 272–280. [doi.org/10.1016/j.paid.2017.02.014](https://doi.org/10.1016/j.paid.2017.02.014)
- Taber, B. J., & Briddick, W. C. (2011). Adlerian-based career counseling in an age of protean careers. *Journal of Individual Psychology, 67*, 107–121. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&dbaph&AN 66566781>
- Tesi, A., Pratto, F., Pierro, A., & Aiello, A. (2020). Group dominance in hierarchy-attenuating and hierarchy-enhancing organizations: The role of social dominance orientation, need for cognitive closure, and power tactics in a person-environment (mis) fit perspective. *Group Dynamics: Theory, Research, and Practice, 24*(2), 102–114. [doi.org/10.1037/gdn0000117](https://doi.org/10.1037/gdn0000117)
- Tolentino, L. R., Garcia, P. R. J. M., Lu, V. N., Restubog, S. L. D., Bordia, P., & Plewa, C. (2014). Career adaptation: The relation of adaptability to goal orientation, proactive personality, and career optimism. *Journal of Vocational Behavior, 84*(1), 39–48. [doi.org/10.1016/j.jvb.2013.11.004](https://doi.org/10.1016/j.jvb.2013.11.004)
- Topa, G., Hernández-Solís, M., & Zappalà, S. (2018). Financial Management behavior among young adults: The role of Need for Cognitive Closure in a three-wave moderated mediation model. *Frontiers in Psychology, 9*, 2419. [doi.org/10.3389/fpsyg.2018.02419](https://doi.org/10.3389/fpsyg.2018.02419)
- Trifiletti, E., Capozza, D., Pasin, A., & Falvo, R. (2009). A validation of the proactive personality scale. *Testing, Psychometrics, Methodology in Applied Psychology, 16*(2), 77–93.
- Van Hooft, E. A. J. (2014). Motivating and hindering factors during the reemployment process: The added value of employment counselors' assessment. *Journal of Occupational Health Psychology, 19*(1), 1–17. [doi.org/10.1037/a0035118](https://doi.org/10.1037/a0035118)
- Verbruggen, M., & Sels, L. (2008). Can career self-directedness be improved through counseling? *Journal of Vocational Behavior, 73*(2), 318–327. <http://dx.doi.org/10.1016/j.jvb.2008.07.001>
- Vermeir, I., Van Kenhove, P., & Hendrickx, H. (2002). The influence of need for closure on consumer's choice behaviour. *Journal of Economic Psychology, 23*(6), 703–727. [doi.org/10.1016/s0167-4870\(02\)00135-6](https://doi.org/10.1016/s0167-4870(02)00135-6)
- Walker, T. L., & Tracey, T. J. (2012). The role of future time perspective in career decision-making. *Journal of Vocational Behavior, 81*(2), 150–158. [doi.org/10.1016/j.jvb.2012.06.002](https://doi.org/10.1016/j.jvb.2012.06.002)

- Waterman Jr, R. H. (1994). Toward a career-resilient workforce. *Harvard Business Review*, 72(4), 87-95. doi.org/10.4324/9781315004662-20
- Wang, M., & Wanberg, C. R. (2017). 100 years of applied psychology research on individual careers: From career management to retirement. *Journal of Applied Psychology*, 102(3), 546–563. doi:10.1037/apl0000143
- Waters, L., Briscoe, J., & Hall, D. T. (2014). Using protean career attitude to facilitate a positive approach to unemployment. In M. Coetzee (Ed.), *Psycho-social career meta-capacities* (pp. 19–33). Heidelberg, Germany: Springer. http://dx.doi.org/10.1007/978-3-319-00645-1\_2
- Wąsowska, A. (2016). Who doesn't want to be an entrepreneur? The role of need for closure in forming entrepreneurial intentions of polish students. *Entrepreneurial Business and Economics Review*, 4(3), 27-39. doi.org/10.15678/eber.2016.040303
- Webster, D. M., & Kruglanski, A. W. (1994). Individual differences in need for cognitive closure. *Journal of personality and social psychology*, 67(6), 1049-1062. doi.org/10.1037/0022-3514.67.6.1049
- Weisenberg, F., & Aghakhani, A. (2007). An exploration of graduate students' career transition experiences. *Canadian Journal of Counselling*, 41, 107–123. Retrieved from http://cjc.synergiesprairies.ca/cjc/index.php/rcc
- White, H. A. (2021). Need for cognitive closure predicts stress and anxiety of college students during COVID-19 pandemic. *Personality and Individual Differences*, 187, 111393. doi.org/10.1016/j.paid.2021.111393
- Wiernik, B. M., & Kostal, J. W. (2019). Protean and boundaryless career orientations: A critical review and meta-analysis. *Journal of Counseling Psychology*, 66(3), 280–307. https://psycnet.apa.org/doi/10.1037/cou0000324
- Yilmaz, H. (2018). Comparison of the University Students in Turkey and Central Asia with Regards to Their Characteristics of Thinking, Decision Making and Cognitive Closure. *Asian Journal of Education and Training*, 4(4), 309-318. doi.org/10.20448/journal.522.2018.44.309.318
- Zhang, Z., Wang, M. O., & Shi, J. (2012). Leader-follower congruence in proactive personality and work outcomes: The mediating role of leader-member exchange. *Academy of management journal*, 55(1), 111-130. doi.org/10.5465/amj.2009.0865