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Career Adaptability and Career Success in the Context of a Broader Career Resources Framework

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Highlights

- We consider career adaptability (CA) resources in a broader resource framework.
- CFA support the theoretically presumed distinction between CA and other career resources.
- Subjective career success (SCS) was assessed with a multidimensional measurement.
- Objective career success (OCS) was assessed in terms of salary.
- We found incremental utility of different career resources for SCS and OCS beyond CA.

Abstract

Increasing dynamics of careers make the development and application of different career resources important for successful career development. The study aimed to understand how different career resources are related to each other and different forms of career success. Examining 574 employees with 3-waves of 1-month time lags, we assessed relations between key resources (i.e., self-esteem and optimism), career adaptability resources (i.e., concern, control, curiosity, confidence), and knowledge/skills, motivational, and environmental career resources and their predictive utility for different forms of subjective and objective career success (i.e., salary). Results showed that career adaptability resources are highly related to other types of career resources, but career adaptability and other career resources each explain unique variance in different facets of career success. Using relative weight analyses, we found that especially motivational and environmental career resources are meaningfully positively related to different facets of subjective career success, whereas knowledge and skills career resources are most prominently positively related to objective career success. Under consideration of other career resources, career adaptability related negatively to salary. The findings contribute to career construction theory by situating career adaptability within a broader resource framework in relation to career success.

Keywords: Career adaptability; Career resources; Key resources; Subjective career success; Objective career success; Career construction theory

Career Adaptability and Career Success in the Context of a Broader Career Resources Framework

Now more than ever, individuals are faced with a constantly changing work environment which is a result of job restructuring, technological advancements, and globalization (Greenhaus, Callanan, & Godshalk, 2009). These changes have made careers less predictable, and people need to take increasing responsibility for their own career development (e.g., Lawrence, Hall, Arthur, De Vos, Van der Heijden, 2015). As a consequence, self-directed and individually customized career paths have gained importance, and personal resources (e.g., career adaptability resources) are becoming more and more relevant for successful career development (Savickas, 2013). Career adaptability (CA) is defined as a psychosocial resource that represents “the readiness to cope with the predictable tasks of preparing for and participating in the work role, and with the unpredictable adjustments prompted by changes in work and working conditions (Savickas, 1997, p. 254)”. It comprises four factors: *concern* about the future helps individuals look ahead and prepare for what might come next, *control* refers to taking responsibility for one’s career by using self-discipline, *curiosity* means having an inquisitive attitude toward possible future selves, and *confidence* refers a person being able to actualize choices to implement their life design. CA is a core construct in career construction theory (CCT; Savickas, 2005), which posits that individuals differ in their willingness (adaptivity) and ability (adaptability) to engage in positive career-related behaviors (adapting). These adapting behaviors, in turn, lead to successful adaptation, experienced as career success (Savickas, 2013).

Research on CA has considerably increased in recent years, and most studies have focused on predictors and outcomes of CA (Johnston, 2018; Rudolph, Lavigne, & Zacher, 2017). This research generally supports the utility of the four CA resources for explaining a range of outcomes, for example, career satisfaction (Rudolph et al., 2017). However, few studies have examined CA in the context of other pivotal career resources or attempted to evaluate the incremental utility of CA in a broader career resources context. This seems important because the four specific resources that constitute CA in terms of concern, control, curiosity, and confidence are only some of many career resources that allow people to successfully manage their careers (Hirschi, 2012). In fact, in an overview of relevant literature, Hirschi, Nagy, Baumeler, Johnston, and Spurk (2018) have identified ten important career resources that encompass knowledge and skills, and motivational and environmental resources, all of which have been shown to be critical for career success (e.g., Ng & Feldman, 2014a; Ng & Feldman, 2014b). The large number of resources potentially important for successful career development

raises the question of how different types of resources are related to each other, and what their combined and unique effect is on pivotal career outcomes, such as subjective and objective career success. However, few studies have used a resource framework to investigate predictors of subjective and objective career success (e.g., Spurk, Hirschi, & Dries, 2018). Based on a systematic review of the career success literature, Spurk et al. (2018) concluded that more research is needed not only to identify the most important antecedents of career success, but also to identify the relative importance of different factors for various aspects of career success.

To address these issues, in the current paper, we draw on conservation of resources (COR) theory (Hobfoll, 2002; Hobfoll, Halbesleben, Neveu, & Westman, 2018) to provide an integrative framework of CA resources in relation to other types of (career) resources and career success. COR theory is, in its essence, a motivational theory that explains human behavior based on the evolutionary need to acquire and conserve personal and social resources for survival (Hobfoll et al., 2018). COR theory is thus a meta-theory of how people use different resources to attain personally valued goals. Within this general theoretical approach, CA resources and other (career) resources can be seen in an integrative way as factors that help people attain the personally valued aims of subjective and objective career success. In the present study, we focus on CA in relation to other career-specific resources which we assume to be on the same conceptual level (e.g., no traits and developable). In addition, we include general psychological resources (i.e., key resources) which are relevant for career development. Specifically, these key resources (e.g., self-esteem) are important, based on conservation of resources (COR) theory, because they represent resources that enable the selection, alteration, and implementation of other resources, e.g. CA, knowledge and skills, and motivational and environmental resources (Hobfoll, 2002; Hobfoll et al., 2018). Thus, these key resources are necessary for other resources to be obtained and applied. Also, in career construction theory, such key resources may be seen as adaptivity, or the adaptive readiness of a person (Porfeli & Savickas, 2012). However, existing research has not addressed the issue how such key resources are related to CA versus other career resources.

In sum, although the utility of CA is well demonstrated, we currently lack an understanding of how CA relates to other career resources, how key resources differently relate to CA and other career resources, and what the relative importance of CA versus other career resources is in relation to pivotal career outcomes (i.e., adaptation results), such as subjective and objective career success. This knowledge would be important for a deeper understanding of the functioning of CA vis-à-vis other career resources and could thus meaningfully contribute to

career construction theory specifically, and research on career development and career success more broadly.

To address these issues, the main objectives of the present paper are, first, to examine the relation of CA resources to other types of career resources (i.e., knowledge/skills, motivational, environmental) and key resources (i.e., self-esteem and optimism) and second, to examine the relative importance and incremental utility of CA resources compared to other types of career resources in relation to different facets of career success. Hence, our study contributes to a better understanding of the specific role of CA resources for subjective and objective career success within a larger nomological net of resources.

The Role of Career Resources for Career Development

In recent years, a number of researchers have demonstrated the importance of different career resources for career development (Hirschi, 2012; Hobfoll, 2002; Hobfoll et al., 2018). Generally, career resources can be defined as entities that are valuable in their own right (e.g., self-esteem) or entities that can act as means to acquiring valued (career) outcomes (e.g., career satisfaction: Hobfoll, 2002; Hobfoll et al., 2018). A growing body of research has focused on CA as a career resource in the last decade (e.g., Johnston, 2018; Maggiori, Johnston, Krings, Massoudi, & Rossier, 2013; Zacher, 2014). In career construction theory, the model of adaptation (Hirschi, Herrmann, & Keller, 2015; Savickas, 2013; Savickas & Porfeli, 2012; Tolentino et al., 2014) suggests that CA is significantly related to adaptivity (e.g., self-esteem or optimism) and adaptation outcomes (e.g., career success). A recent meta-analysis from Rudolph et al. (2017) confirmed that CA is significantly associated with measures of adaptivity (e.g., self-esteem and optimism), adapting responses (e.g., career exploration and career planning), and adaptation results (e.g., career identity, career satisfaction). However, CA resources are only some among several critical resources necessary for successful career development (Hirschi, 2012). We thus aim to situate CA resources within a broader career resources framework that also encompasses key resources and different personal and environmental career resources.

Key Resources for Career Development

Apart from CA resources, one important type of resource relevant for successful career development are key resources. Key resources (such as self-esteem and optimism) describe a specific subtype of personal resources according to COR theory (Hobfoll, 2002; Hobfoll et al., 2018). In essence, key resources are typically considered as stable traits (Ten Brummelhuis & Bakker, 2012), which enable the selection, utilization, and alteration of other personal resources (Hobfoll et al., 2018). The concept of key resources helps us to understand how other resources

are utilized (Ten Brummelhuis & Bakker 2012). Thus, people employ key resources not only to deal with stressors, but also to build or sustain a reservoir of resources for times of future need (Hobfoll et al., 2018). Such a reservoir of sustaining resources might consist of CA or other career resources relevant for successful career development.

In our study, we specifically focus on the key resources of self-esteem and optimism, which are specifically mentioned as key resources in previous studies (e.g., Ten Brummelhuis & Bakker, 2012; Hobfoll et al., 2018) and are broadly recognized as important personality traits in career developmental studies (e.g., Rudolph et al., 2017). Self-esteem is important because a growing body of evidence supports the notion that self-esteem does have substantial consequences in different life domains (Orth, 2017; Orth & Robins, 2014). More specifically, a recent meta-analysis showed that self-esteem is an important factor for being satisfied and successful at work (Orth, Erol, & Luciano, 2018). There is also evidence from longitudinal studies (e.g. Kuster, Orth, & Meier, 2013, Orth, Robins, & Widaman, 2012) that suggests that self-esteem is positively related to work success. Similarly, many studies have investigated the relation between optimism and being successful and satisfied. A substantial amount of literature confirms that people who are higher in dispositional optimism have higher levels of subjective well-being, and a larger number and higher quality of social relationships (Mens, Scheier, Carver, 2016). Several studies have suggested that optimism creates an approach orientation such that people feel empowered to work towards goals rather than feel a need to withdraw or avoid harm, which makes desirable outcomes less likely (Lyubomirsky, King, & Diener, 2005; Wrosch, Scheier, & Miller, 2003). Specifically, people who are more optimistic will improve performance which then increases the chance of success (Tenney, Logg, More, 2015). Research has also specifically confirmed that optimism is positively related to subjective (e.g., Spurk, Kauffeld, Barthauer, & Heinemann, 2015) and objective (Lounsbury et al., 2003) career success. In addition, previous studies (e.g., Cai et al., 2015; Rudolph et al., 2017; Tolentino et al., 2014) found a positive relation of self-esteem and optimism and CA resources. In sum, a substantial body of research supports the importance of self-esteem and optimism as two pivotal key resources according to COR theory for successful career development. Moreover, in CCT, these key resources can be conceptualized as representing adaptivity which is the personality trait of flexibility of willingness to adapt (Savickas, 2013). Hence, based on previous theoretical implications and previous research, considering self-esteem and optimism in a broader resource framework that links CA resources with other resources and career success seems important and meaningful.

Knowledge/Skills, Motivational, and Environmental Career Resources

To deal successfully with career challenges and achieve career success, a range of different resources are important (Ng & Feldman, 2014a, 2014b). For this study, we draw on the career resources framework by Hirschi (2012) and its further development and operationalization by Hirschi et al. (2018). Hirschi et al. (2018) developed a framework of pivotal career resources that integrates existing empirical and theoretical work on different resources that are needed for successful career development. To identify these critical resources, Hirschi et al. (2018) did an extensive literature search in career studies concentrating on predictors of career success that can be actively developed. This resulted in the identification of three main resources categories, which are confirmed by international research to be critical for attaining career success (e.g., Ng & Feldman, 2014a; Ng & Feldman, 2014b): knowledge and skills resources, motivational resources, and environmental resources. Each of the three resource domains consists of three to four specific resources (e.g., occupational expertise, clarity, job challenge). The study conducted by Hirschi et al. (2018) demonstrated that all postulated factors correlated significantly and positively with career satisfaction, job satisfaction, salary, and promotions. Thus, the career resources model suggests a broad set of resources that are important for attaining career success.

Several studies have suggested that CA resources are related to other types of career resources. Regarding knowledge and skills resources, positive associations between problem-solving and decision-making skills, interactive (team) skills, communication skills, and CA were confirmed (Coetzee, Ferreira, & Potgieter, 2015; de Guzman & Choi, 2013). Regarding motivational career resources, Haibo, Xiaoyu, Xiaoming, and Zhijin (2017) tested the relation between CA, organizational success, and individual career success with the moderating effect of career identity. Career adaptability was positively related to career satisfaction and, in addition, stronger for employees with high levels of career identity. For environmental resources, Savickas and Porfeli (2012) stated that employees with high levels of CA can maintain good relationships with their supervisors and co-workers and are therefore more likely to stay in organizations with comfortable social relations and networks. In line with that, several studies confirmed the relation of career adaptability resources and certain environmental features, such as social support (Duffy, 2010; Tian & Fan, 2014).

In sum, studies showed that CA relates positively to specific different career resources in terms of human capital, and motivational, and environmental resources. However, no study systematically investigated CA in a broader resource framework, which would be important for gaining a better understanding of the broader nomological net of CA in relation to other resources. Therefore, the empirical relation of CA, key resources, and other career resources

should be clarified, especially the incremental utility of CA beyond other career resources for subjective and objective career success. Combining CCT and COR theory, we conceptualize CA, knowledge and skills, motivational, and environmental career resources on the same level of analysis as psycho-social resources that are predicted by more basic key resources (i.e., adaptiveness). Therefore, we propose that the adaptive readiness of a person (or adaptivity), in terms of the key resources self-esteem and optimism, is positively related to increased CA and other career resources. Moreover, we presume that CA is positively related to other types of career resources.

Hypothesis 1: Key resources, in terms of self-esteem and optimism, are positively related to (a) CA resources, (b) knowledge and skills career resources, (c) motivational career resources, and (d) environmental career resources.

Hypothesis 2: CA resources are positively related to (a) knowledge and skills career resources, (b) motivational career resources, and (c) environmental career resources.

Predictive Utility of Career and Key Resources for Career Success

Past research has revealed that CA is positively related to career success (Haibo et al., 2017; Tolentino et al., 2014, Zacher, 2014). Subjective career success is typically measured by variables that capture individuals' subjective judgments about their career attainment, such as career satisfaction (Greenhaus, Parasuraman, & Wormley, 1990). Objective career success is defined as directly observable by others and typically measured by standardized indicators such as salary (Spurk et al., 2019). Theoretically, CA is an important individual resource that can help employees to successfully manage their career development, thereby enhancing their career success (Savickas, 1997; Savickas & Porfeli, 2012). In addition to CA, research has also confirmed that several other types of career resources, in terms of knowledge and skills career resources, motivational career resources, and environmental career resources, are also positively related to subjective and objective career success (Hirschi et al., 2018; Ng & Feldman, 2014a; Ng & Feldman, 2014b). These resources are critical for people to manage their careers successfully and represent important personal means to achieve career goals.

Hypothesis 3. (a) CA, (b) knowledge and skills career resources, (c) motivational career resources, and (d) environmental career resources are positively related to subjective and objective career success.

Relative Importance of Resources in Predicting Career Success Dimensions

In addition to examining the relation of CA with other resources and career success, we were interested in investigating the utility of CA relative to other career resources in predicting

different career success dimensions. The unidimensional measurement of subjective career success has been criticized in several studies (e.g., Shockley, Ureksoy, Rodopman, Poteat, & Dullaghan, 2016). Based on qualitative and quantitative research, Shockley et al. (2016) introduced a multidimensional conceptualization of subjective career success comprising eight facets: authenticity (shaping the direction of one's career according to personal need and preferences), growth and development (growing in one's career through the development of new knowledge and skills), influence (having an impact on others within the organization and on the organization itself), meaningful work (engaging in work that is personally or socially valued), personal life (having a career that positively impacts life outside of work), quality work (producing a high-quality product or providing high-quality service), recognition (being formally or informally acknowledged for your work by valued others), and satisfaction (positive affect or feelings toward one's career in general).

However, existing research on CA has not yet taken into account that subjective career success can consist of different facets. Indeed, most studies focused only on the general representation of subjective career success in terms of career satisfaction (Rudolph et al., 2017). Advancing these studies, we herein focus on a multidimensional measure of subjective career success to explore the unique relations of CA and other career resources for different facets of subjective career success. In addition, we also examine how CA and other career resources uniquely relate to objective career success in terms of salary. Assessing the unique contribution of each resource can facilitate the understanding of the relative importance of certain resources for specific career success aspects. Owing to the fact that the relative importance of different career resources for career success facets has not yet been investigated, we decided to address this question in an exploratory way:

Research Question: What is the relative importance of CA and other career resources (knowledge and skills, motivation, environment) in predicting different dimensions of subjective career success (recognition, quality work, meaningful work, influence, authenticity, personal life, growth and development, and career satisfaction) and objective career success (salary)?

Methods

Sample and Procedure

Participants were recruited through an online panel service that invited people on the basis of our selection criteria: employed in private industry (not self-employed or in public service), aged between 18 and 65, and working a minimum of 16 h/week. Initially, 734 people filled in the survey, of which 160 (22%) were excluded because they failed to correctly answer

quality check items ($n = 148$) or showed patterns of speeding (less than 2 s/item; Huang, Curran, Keeney, Paposki, & DeShon, 2012) or streamlining (patterns based on clicking through the survey, e.g., flatlining; DeSimone & Harms, 2018) ($n = 12$). The final sample at T1 thus consisted of 574 people (55% women), 30% had secondary school as their highest educational achievement, 13% had obtained a high school degree, 33% had completed vocational training, and 23% had a university degree. The majority of the participants were German (98%) and worked an average of 35 h per week (ranging from 16 to 80 h), had an average organizational tenure of 10 years (ranging from 0 to 45 years), and earned EUR 2'522 per month on average (ranging from EUR 250 to EUR 20'000 per month converted to a workload of 100%). The participants were working in a wide range of fields, including health care (14%), trade (12%), private services (7%), transport/logistics (7%) production (6%), education (6%), construction (3%), financial services (3%), and IT (3%).

All responders were invited to participate in a follow-up survey one month later (T2; 395 responders; response rate 69%) and two months later (T3; 360 responders; total response rate from T1 63%). The purpose of a time-lagged data collection was to reduce common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Self-esteem and optimism were assessed at T1, CA and the three career resources at T2, and subjective career success at T3. We checked for attrition effects but found that participants who completed the survey only at T1 did not differ significantly from those who completed two or all three measurement points on the T1 variables. To avoid listwise deletion that can bias results, data were analyzed for the entire sample participating at T1 ($N = 574$), and missing data were estimated with Full Information Maximum Likelihood (FIML) in R.

Measures

Unless otherwise stated, all measures used a five-point response scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Mean, standard deviations, and Cronbach alphas are reported in Table 1.

Self-esteem. We used the German adaptation of Rosenberg's self-esteem scale (RSES; Ferring & Filipp, 1996; revised version from von Collani & Herzberg, 2003) consisting of ten items (e.g., "On the whole, I am satisfied with myself"). Supporting criterion validity, the RSES correlated significantly and positively with different affective-motivational constructs, such as hopelessness or emotional mental state (Ferring & Filipp, 1996). Also, the Cronbach alpha for the global scale showed a satisfactory value with $\alpha = .88$ in other samples (Roth, Decker, Herzberg, & Brähler, 2008).

Optimism. Dispositional optimism was assessed with the German Life-Orientation Test (LOT-R; Scheier, Carver, Bridges, 1994; German version from Glaesmer, Hoyer, Klotsche, & Herzberg, 2008). The scale consists of six items (e.g., “In uncertain times, I usually expect the best”). Supporting criterion validity, the LOT-R correlated significantly and positively with quality of life and negatively with depression (Herzberg, Glaesmer, & Hoyer, 2006). Despite the relatively low reliability value in some other samples ($\alpha = .59$; Glaesmer et al., 2008), the Cronbach’s alpha in our sample was satisfactory with $\alpha = .89$.

Career adaptability. We used the short form German Career Adapt-Ability Scale (CAAS-SF; Savickas & Porfeli, 2012; German version: Maggiori et al., 2017). Participants were asked to evaluate their skills using a five-point Likert-type response scale ranging from 1 (*not strong*) to 5 (*strongest*). The scale consists of 12 items divided equally into the four subscales: concern (e.g., “Thinking about what my future will be like”), control (e.g., “Making decisions by myself”), curiosity (e.g., “Looking for opportunities to grow as a person”), and confidence (e.g., “Performing tasks efficiently”). Whereas the four aspects of CA are not redundant, research supports the applicability of the scale by using a total score (Maggiori et al., 2017). For our research purposes, the total score seemed more appropriate because we are interested in examining CA in relation to other types of resources, and not in the functioning of specific facets of CA resources. Supporting criterion validity, the CA resources correlated significantly and positively with different work and career variables, such as work engagement, employability, and job satisfaction (Maggiori et al., 2017). Also, the Cronbach alpha of each dimension ($\alpha = .76 - .83$) and the global score ($\alpha = .90$) showed satisfactory values in other samples (Maggiori et al., 2017).

Career resources. We used the Career Resources Questionnaire (CRQ; Hirschi et al., 2018; German version from Hirschi et al., 2019) to assess knowledge and skills, motivational and environmental career resources. *Knowledge and skills resources* encompass three subscales: occupational expertise (3 items; e.g., “I have a very high level of expertise and skill in my occupation”), job market knowledge (3 items; e.g., “I have a good overview of employment trends in the labor market”), and soft skills (3 items; e.g., “I have many skills that I could use in a range of different occupations”). *Motivational career resources* encompass three subscales: involvement (3 items; e.g., “Work is an essential part of my life”), confidence (4 items; e.g., “I believe that I can successfully manage career-related challenges”), and clarity (3 items; e.g., “I have a clear understanding of what I want to achieve in my career”). *Environmental resources* encompass four subscales: career opportunities (3 items; e.g., “My organization holds many interesting positions for my future career”), organizational support (3 items; e.g., “My

organization actively supports my career development”), job challenge (3 items; e.g., “My work allows me to fully utilize my professional skills”), and social support (4 items; e.g., “I receive a high level of career support from my social environment”). Confirmatory factor analyses showed that the 3-factor solution with the 3 higher-level dimensions knowledge and skills career resources, motivational career resources, and environmental career resources (Hirschi et al., 2019; Hirschi et al., 2018) exhibited satisfactory fit in our sample ($\chi^2 = 1192.270$, $df = 451$, CFI = .92, RMSEA = .07, TLI = .91). We thus focused on the total scores of these three resource types, and not the single resources facets (in correspondence with our treatment of CA). Supporting construct validity, the scale is highly correlated with existing scales measuring closely related constructs, for example, occupational awareness, career self-efficacy, and organizational support for development. Supporting criterion validity, all CRQ factors correlated significantly and positively with important subjective and objective career outcomes, such as career and job satisfaction, as well as salary and promotions (Hirschi et al., 2019; Hirschi et al., 2018). Also, the Cronbach alpha of each scale showed satisfactory values ($\alpha = .82$ - .92) in other samples (Hirschi et al., 2019; Hirschi et al., 2018).

Subjective career success. Multidimensional subjective career success was assessed with the Subjective Career Success Inventory (SCSI; Shockley et al., 2016). The scale was translated by the authors into German with a double-blind translation followed by a reconsolidation meeting and final version upon mutual agreement (Van de Vijver & Leung, 1997). Participants were asked to answer the questions by using the stem “Considering my career as a whole...”. The scale consists of 24 items divided equally into eight subscales, with three items each: satisfaction (e.g., “My career is personally satisfying”), growth and development (e.g., “I have stayed current with changes in my field”), authenticity (e.g., “I have chosen my own career path”), influence (“decisions that I have made have impacted my organization”), personal life (“I have been able to have a satisfying life outside of work”), meaningful work (e.g., “I believe my work has made a difference”), quality work (e.g., “I am proud of the quality of the work I have produced”), and recognition (e.g., “I have been recognized for my contributions”). Regarding construct validity, Shockley et al. (2016) report satisfactory evidence for criterion-related, convergent, and discriminant validity for each of the eight dimensions, as well as for the global scale. Also, the Cronbach alpha of each dimension ($\alpha = .74$ - .92) and the global score ($\alpha = .94$) showed satisfactory values in other samples Shockley et al. (2016).

Objective career success. We assessed salary as a typical indicator of objective career success (Spurk et al., 2019) measured as gross income in the last month ranging from (1) < EUR

500 to (21) > EUR 10'000. We converted the indicated salary into a logarithmic value standardized for a workload of 100% (40 h per week).

Control variables. We considered age in years, gender (1 = female, 2 = male), educational level (1 = secondary school; 2 = vocational training, 3 = high school degree, 3 = university degree), organizational tenure in years, and working hours per week as control variables.

Analytical Procedure

We used R Version R 3.4.3 (R Core Team, 2017) to estimate confirmatory factor analysis (CFA), for structural equation modelling (SEM), and conduct relative weight analyses using the packages psych (Revelle, 2017), lavaan (Rosseel, 2012), and relaimpo (Grömping, 2006). In a first step, we tested the data for multivariate normality and found that the data showed significant multivariate skewness and kurtosis, indicating multivariate nonnormality (Cain, Zhang, & Yuan, 2017). To account for this, we estimated all models using the robust maximum likelihood estimation method. Model fit was assessed with the root mean squared error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI). Values below .08 for RMSEA and above .90 for CFI and TLI indicate a good model fit (Cheung & Rensvold, 2002; Vandenberg & Lance, 2000).

Before testing the time-lagged model, we first established the foundation for the measurement model by conducting several CFA to examine whether CA and the other three career resources are unique constructs (Table 2). In each model, the higher-order constructs were represented by the scale scores of their respective subscales. These subscales, in turn, were represented by their respective items. For example, CA was represented by the scores for concern, control, curiosity, and confidence; knowledge and skills were represented by the scores for occupational expertise, job market knowledge, and soft skills and each of these subscales was presented by their respective items. To assess whether alternative models show equal or superior fit to the data, we compared the theoretically assumed four-factor solution distinguishing between CA, knowledge and skills, motivation, and environmental career resources to several alternative models. Specifically, we estimated different combinations of a three-factor model in which CA was combined with each career resource factor (Models 2–4). These models would suggest that CA cannot be differentiated from one of the three career resources. Next, we estimated a two-factor model with CA, where the three career resources of knowledge and skills, motivation, and environment formed one factor (Model 5). Finally, we tested a one-factor model, which would suggest that the four assessed constructs cannot be empirically differentiated at all

(Model 6). The results revealed that the proposed four-factor solution fitted the data well ($\chi^2 = 1655.893$, $df = 882$, $CFI = .92$, $RMSEA = .05$, $TLI = .91$), and significantly better than all other models (Table 2). The results suggest that CA and the three other types of career resources are empirically distinct. Additionally, we conducted CFA on the item level for each subscale separately (e.g., for CAAS-concern and CRQ-clarity). These results are reported in Appendix A and supported construct distinctness of each scale.

To assess our hypotheses, we used SEM. Due to the large number of assessed constructs with a total of 94 items, we did not model each scale on the item level as this would result in an unfavorable sample size-to-parameter ratio and an increased likelihood of identification problems in CFA (Williams & O'Boyle, 2008). We used the single items as indicators of self-esteem and optimism and the respective subscales as indicators for CA, knowledge and skills, motivational, environmental resources, and subjective career success. For a more in-depth analysis of the effects of CA and career resources for different dimensions of subjective career success, we also tested the model in Figure 1 for each facet of subjective career success as an outcome separately. These results are reported in Appendix B. Finally, as posthoc tests, we also assessed the model in Figure 1 for each career adaptability subdimension separately, to examine potential differences between different facets of CA. The results of these analyses are reported in Appendix C.

Concerning our research question, the relative importance of CA and the three career resources for different dimensions of career success were tested using relative weights analysis. This analysis overcomes limitations associated with multiple regression when predictors are highly correlated, as is the case with our predictors. Relative weight analyses partition the R^2 into pseudo-orthogonal sections, each section representing the relative contribution of a predictor variable. This makes it possible to quantify the relative contribution of each predictor to the model's total explanatory value regardless of the ordering of the predictors. So, the central idea is that the correlated predictors are transformed into new variables that are uncorrelated with each other but maximally correlated to their own respective original predictor variable (Johnson, 2000; Stadler, Cooper-Thomas, Greiff, 2017). Analyses were conducted following the procedures of Grömping (2006). The relative weights indicate the percentage of variance that each predictor accounts for in the total R^2 for each dimension of subjective and objective career success.

Results

Correlations Between Assessed Constructs

Means, standard deviations, and correlations of the study variables are displayed in Table 1. Bivariate correlations among the assessed constructs demonstrated that CA resources, the three career resources (i.e., knowledge and skills, motivation, environment), and both key resources (i.e., self-esteem, optimism) were all significantly positively related to each other, with r between .15 and .89 (Table 1), providing initial support for Hypotheses 1 and 2.

Time-Lagged Model

We conducted SEM to examine how CA and the three career resources are connected with the key resources of self-esteem and optimism, as well as with subjective and objective career success (Figure 1). Specifically, we estimated a model where the two key resources self-esteem and optimism acted as predictors of CA and the three career resources (knowledge and skills, motivation, and environment). Additionally, subjective and objective career success was regressed on CA and the three career resources. We also included the direct paths from self-esteem and optimism on subjective and objective career success and allowed self-esteem and optimism, career adaptability, and the three career resources of knowledge and skills, motivation, and environment, as well as subjective and objective career success to freely correlate.

Partially supporting *Hypothesis 1*, the results showed that optimism was significantly positive related to CA and all career resources. However, self-esteem did significantly negatively predict environmental resources ($b = -.60$, $SE = .19$, $\beta = -.35$, $p = .001$) beyond the effect of optimism. In turn, except for CA ($b = .18$, $SE = .15$, $\beta = .13$, $p = .22$), and motivation ($b = .01$, $SE = .19$, $\beta = .01$, $p = .969$), the other two career resources were positively related to subjective career success (for knowledge and skills: $b = .47$, $SE = .19$, $\beta = .36$, $p = .011$; for environment: $b = .21$, $SE = .09$, $\beta = .27$, $p = .016$), partially supporting *Hypothesis 3*. Additionally, direct effects from self-esteem and optimism to subjective career success were not significant. Two out of the four career resources showed a significant relation with objective career success: CA resources ($b = -.14$, $SE = .04$, $\beta = -.34$, $p = .001$) were negatively related to objective career success, whereas knowledge and skills resources ($b = .25$, $SE = .07$, $\beta = .63$, $p = .001$) were positively related to objective career success, partially supporting *Hypothesis 3*. Additionally, there was a positive direct effect from optimism ($b = .13$, $SE = .04$, $\beta = .46$, $p = .001$) but not for self-esteem on objective career success.

As a robustness check, we also estimated the model while controlling for age, gender, educational level, organizational tenure and weekly working hours. The results did not change in

terms of direction and general strength of effects. To increase the power and interpretability of the results we thus report the model results without the consideration of control variables (Bernerth & Aguinis, 2016).

As a post-hoc analysis, we examined the indirect effects of self-esteem and optimism through CA, and the three career resources on subjective and objective career success, with bootstrap analyses (full results are reported in Appendix D). For subjective career success, the sum of indirect effect from optimism ($b = .34, p < .001$) through CA, and the three career resources on subjective career success were significant, but this was not the case for self-esteem ($b = -.05, p < .681$). Among the specific indirect effects, only the effects from self-esteem through environment ($b = -.12, p = .047$) and the effects from optimism through environment ($b = .18, p = .022$) reached significance. For objective career success, both sums of indirect effects from optimism and self-esteem were not significant. Among the specific indirect effects, the effects from optimism through CA ($b = -.50, p = .026$) and knowledge and skills ($b = .45, p = .028$) reached significance.

In another set of post-hoc analyses, we assessed the model in Figure 1 for each CA subscale separately (full results in Appendix C). The results showed that self-esteem significantly predicted only the CA dimension control ($b = .39, p = .003$). Optimism, in turn, predicted the CA dimensions of concern ($b = .32, p < .000$), curiosity ($b = .27, p = .012$), and confidence ($b = .21, p = .001$). Whereas none of the CA dimensions significantly predicted subjective career success, the CA dimensions of concern ($b = -.11, p = .001$), curiosity ($b = -.12, p = .004$), and confidence ($b = -.18, p < .003$) significantly negatively predicted objective career success.

In further post-hoc analyses, we assessed the model in Figure 1 for each dimension of subjective career success separately (full results in Appendix B). CA did not show a significant prediction of any of the subjective career success dimension whereas the career resources of knowledge and skills, motivation, and environment reached significance in different dimensions of subjective career success. However, CA significantly and negatively predicted objective career success in all assessed models.

Relative Weight Analyses

To address the research question and examine in more detail which career (adaptability) resources are more or less important for different aspects of career success, we conducted relative weight analyses. In detail, we evaluated the relative importance of CA compared to the three career resources regarding the eight different aspects of subjective career success as well as salary. The results (Table 3) indicated that motivational and environmental career resources

explained more variance in all facets of subjective career success compared to CA. Only for *quality work* and salary did the career resources knowledge and skills explain more variance than the other three career resources. However, CA also explained a significant variance of approximately one quarter in *quality work, meaningful work, authenticity, personal life, and growth and development*. These results indicate that the relative importance differs across CA and the other career resources, depending on the specific facet of career success.

In another set of post-hoc analyses, we assessed each CA dimension separately (full results in Appendix E). The results showed the same pattern: motivational and environmental career resources explained more variance in different facets of subjective career success than knowledge and skills or the different dimensions of career adaptability. Only for *quality work* did CA control, CA confidence, knowledge and skills, and motivation explain a roughly equal amount of about 20% of variance each.

Discussion

Although the importance of CA for career outcomes has been broadly investigated (Johnston, 2018; Rudolph et al., 2017), its larger nomological net in relation to other career resources has received comparably little attention. Moreover, the incremental effects of CA on career success beyond other types of career resources need further clarification. Addressing these issues, this study investigated the relation between key resources, CA resources, other types of career resources (i.e., knowledge and skills, motivational career resources, and environmental career resources), and subjective and objective career success. Furthermore, our study analyzed the relative importance of CA resources and other types of career resources for different facets of career success. The study found support for the notion that key resources (i.e., optimism) are meaningfully related to CA and a range of other career resources, possibly because these key resources enable the selection, alteration, and implementation of other resources (Hobfoll, 2002; Hobfoll et al., 2018). Moreover, our results specifically suggest that optimism is important in this regard.

The results also demonstrated that CA should be conceptualized using a larger network of resources relevant for attaining career success. As our study indicates, CA is significantly related to other types of career resources, but CA resources, knowledge and skills, and motivational and environmental career resources each explain unique variance in different facets of career success. Specifically, the relative weight analyses suggest that especially motivational and environmental career resources may be more important to attaining subjective career success compared to CA

resources. Moreover, knowledge and skills career resources seem to be most important to attain objective career success in terms of salary.

With this study, we extend current career adaptability research and contribute to CCT. Previous studies based on CCT have primarily focused on CA as a key component (Rudolph et al., 2017), and have not sufficiently investigated CA in a broader framework of important factors. Savickas (2005) has suggested that CA is the core resource for adapting to new circumstances and for solving unfamiliar, complex, and ill-defined situations in career development. Thus, an adaptive individual is conceptualized as having high CA. The findings of our study expand this notion and show that besides CA resources, other key and career resources are also relevant for successful career development. More precisely, our study suggests that specifically motivational and environmental resources seem to have incremental utility beyond CA resources in predicting different faces of career success. Our study thereby also supports a basic assumption of COR theory (Hobfoll, 2002; Hobfoll et al., 2018) that different resources often coexist and jointly lead to positive outcomes. As we could show, each of the different resources (CA, knowledge and skills, motivation, environment) contributes differently to subjective and objective career success. This confirms our assertion that CA needs to be considered in a broader resource framework to better understand its functioning and unique value. For example, based on the results of this study, it seems that CA resources (in relation to other career resources) are especially important for attaining subjective career success in terms of quality and meaningful work and authenticity, but less so for recognition, influence, and overall career satisfaction. Moreover, when considering the effects of other types of career resources, CA resources seem to be negatively related to objective career success in terms of salary. This indicates that CA resources might not be entirely positive for career development outcomes and calls for future research into such potentially negative effects of CA.

There were also some unexpected results in our study. First, CA resources were not significantly correlated with salary and significantly negatively related when also considering the effects of the other resources. Thus, CA might indeed be more important for subjective success which is also in line with the assumptions of CCT. This can be explained by the higher importance of other factors for salary as also suggested in many other studies, including meta-analyses (e.g., Rudolph et al. 2017). However, the negative effect in the overall model might be a suppressor effect. Suppressor effects are operating when the addition of a predictor increases the predictive power of another variable. The results thus show that CA is meaningfully related to other resources (see Table 1), but if CA is present without other career resources (as when their effects are controlled in the overall model), then just being adaptable might be negative for

salary. Second, in the overall model, self-esteem and environmental resources were negatively related. However, the correlation between these variables was positive, indicating a possible suppression effect due to the effects of other variables in the overall model. We assume that this finding specifically occurred due to the fact that self-esteem was highly related to optimism. We could speculate that high self-esteem without optimism leads people to develop less environmental resources because they might rely only on themselves in a lack of a clear positive outlook on future outcomes. However, we call for future studies to explore under what circumstances different resources are differently related to each other as well as to important career outcomes.

Conversely, knowledge and skills resources seem particularly important for salary and quality work. This suggests that CA and knowledge and skills resources are crucial to experience success in terms of conducted quality work and knowledge and skills resources is especially important for attaining a high salary. Motivational resources relate strongly to authenticity, meaningful work, growth and development, and general satisfaction, but less so to influence. This means that motivational resources are of great importance to attain personal satisfaction at work but less so for having influence. Finally, environmental resources seem especially relevant for influence, recognition, personal life, and general satisfaction, but less so for quality work or growth and development. This means that environmental resources play a crucial role for types of success that center on impactful work and work-nonwork balance. Future theoretical and empirical work is now needed to expand upon these initial findings on the different functioning of CA versus other types of career resources in relation to different types of career success.

Limitations and Future Research

This study has a number of limitations that could be addressed in future studies. First, the data relied on single source and self-reported data. Even though we used a time-lagged design to reduce the common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), future studies should use multisource data (e.g., assessment of resources and outcomes by supervisors) to further reduce potential common method bias. Second, we assessed data over three time points, but this does not allow for conclusions about the direction of the causal relations. It may be possible that career success positively predicts career adaptability and career resources over time. Longitudinal studies across several months or years are necessary to examine cross-lagged effects of potentially mutual influences between career success and different types of resources.

Future longitudinal studies could also assess change over time in the different career resources and thus test specifically resources gain and loss spirals (Hobfoll, 2002; Hobfoll et al.,

2018) with the assumption that key resources enable the selection, alteration, and implementation of other resources. Relatedly, future studies should also examine changes of different career resources over time, including potential mutual effects. Indeed, Savickas (2005) conceptualized CA as a dynamic construct that changes over time. Also, the career resources proposed by Hirschi et al. (2019, 2018) are not static. In this regard, researchers should apply longitudinal research designs or conduct intervention studies. It would specifically be interesting to see how interventions can change different types of career resources, and which type of intervention has more effect on one type of resource compared to others.

Second, we chose self-esteem and optimism as representatives of key resources. These two have been mentioned in several conceptual works (e.g., Ten Brummelhuis & Bakker, 2012; Hobfoll, 2002; Hobfoll et al., 2018) and been investigated in many previous empirical studies (e.g. Rudolf et al., 2017, Orth et al., 2018). Nevertheless, there are other important general psychological resources that can be considered as key resources according to COR theory. In future studies, it would be interesting to see which of these could be important for which other resources.

Finally, Savickas (2005) suggested that CA represent psycho-social resources for adapting to new circumstances and for solving unfamiliar, complex, and ill-defined situations in career development. In this light, CA might be especially relevant for more complex and ill-defined situations. Theoretically, this would also be true for the assessed knowledge and skills, motivation, and environment career resources. However, we do not know to what extent the investigated sample in the current study is currently facing important career transitions, complex work situations, or precarious work conditions. It could be that in such situations, CA resources would be activated and used more intensely. To investigate how and under what circumstances different career resources are activated, we call for future studies to replicate our findings with different samples in different working situations and environments.

Implications for Practice

One practical implication of the study is that organizations and career counselors might need to focus on more than just the psychosocial CA resources of concern, control, curiosity, and confidence to promote career success. Moreover, because our results suggest that different resources relate differently to different aspects of career success, professionals could clarify with their clients what they understand by career success (e.g., having meaningful work or being acknowledged by others), and then derive tailored interventions that focus on those career resources most likely to benefit this type of success. To foster subjective career success in

general, it would be a good recommendation, based on our study results, to focus on motivational (e.g., career involvement) or environmental (e.g., career opportunities within the organization) career resources because they related most strongly to different facets of subjective career success and general career satisfaction. To foster objective career success, our results imply that promoting knowledge and skills resources is critical, for example, by motivating employees and clients to take part in training courses. Moreover, environmental resources, in particular, appear to be important for various facets of career success. Environmental career resources include aspects such as career opportunities, organizational support for development, job challenge, and social support (Hirschi et al., 2018). Such resources could be promoted by adequate job design and by implementing corresponding human resource practices and structures. Furthermore, Hobfoll and colleagues (2018) state that resources do not exist in isolation, but travel in “caravans” and influence each other, leading to resources gain and loss spirals. That means that existing resources make it easier to build more resources and deal with resource loss. Accordingly, career counselors and human development professionals could focus on the resources that correspond to immanent needs and which can be effectively and efficiently increased considering the individual and contextual conditions. Increasing a specific resource (e.g., motivation) could then also trigger an increase in other resources (e.g., concern and control).

Conclusion

Our study contributes to a better understanding of the specific role of CA resources for subjective and objective career success relative to other types of (career) resources. As such, our paper contributes to career construction theory specifically and the understanding of predictors of career success more generally. The findings help to better position CA within a more general resources framework, including offering greater insight into the unique contribution of CA resources and other types of resources in relation to different aspects of career success.

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Table 1

Means, Standard Deviations, Cronbach's Alphas, and Pearson's Correlations for the Study Variables.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Self-esteem (T1)	2.78	.53	(.89)															
2 Optimism (T1)	2.60	.66***	.70***	(.81)														
3 Career adaptability (T2)	3.64	.58	.29***	.34***	(.89)													
4 Knowledge and skills (T2)	3.46	.66	.26***	.30***	.51***	(.87)												
5 Motivation (T2)	3.44	.77	.27***	.40***	.57***	.65***	(.90)											
6 Environment (T2)	2.90	.85	.14***	.28***	.42***	.46***	.72***	(.94)										
7 Subjective career success (T3)	3.51	.66	.35***	.47***	.51***	.52***	.61***	.58***	(.95)									
8 Recognition (T3)	3.26	.89	.21***	.31***	.35***	.33***	.41***	.51***	.80***	(.92)								
9 Quality work (T3)	3.68	.75	.35***	.34***	.41***	.45***	.46***	.31***	.75***	.53***	(.80)							
10 Meaningful work (T3)	3.50	.78	.26***	.38***	.40***	.41***	.48***	.41***	.76***	.50***	.57***	(.78)						
11 Influence (T3)	3.19	.88	.17***	.30***	.42***	.44***	.47***	.55***	.82***	.68***	.63***	.62***	(.81)					
12 Authenticity (T3)	3.60	.83	.30***	.45***	.48***	.46***	.58***	.50***	.86***	.60***	.57***	.58***	.62***	(.84)				
13 Personal life (T3)	3.39	.89	.29***	.38***	.31***	.32***	.36***	.37***	.73***	.57***	.67***	.42***	.52***	.64***	(.82)			
14 Growth and development (T3)	3.89	.70	.30***	.40***	.51***	.54***	.59***	.47***	.84***	.59***	.54***	.61***	.60***	.72***	.54***	(.79)		
15 Satisfaction (T3)	3.44	.95	.33***	.46***	.42***	.41***	.58***	.58***	.84***	.61***	.75***	.59***	.65***	.78***	.56***	.65***	(.88)	
16 Salary (T1)	.71	.23	.22***	.30***	-.02	.19***	.10	.09	.16*	.06	.17**	.12*	.15**	.13*	.13*	.09	.21***	(-)

Note. $N = 574$ (missings estimated with full-maximum likelihood method). In brackets internal consistency (Cronbach alpha).

*** $p < .001$

** $p < .01$

* $p < .05$

Table 2

Model Fit for Confirmatory Factor Analyses

Model	χ^2	df	CFI	TLI	RMSEA [90% CI]	Δ CFI	$\Delta\chi^2$ (df)
(1) Four factors (each resource separately)	1655.893	882	.916	.910	.047 [.044; .050]		
(2) Three factors (CA combined with KNSK)	1766.434	885	.905	.898	.050 [.047; .053]	.011	130.94 (3) ^{***}
(3) Three factors (CA combined with MOT)	1870.930	885	.894	.886	.053 [.050; .056]	.022	253.41 (3) ^{***}
(3) Three factors (CA combined with ENV)	2076.751	885	.871	.863	.058 [.055; .061]	.045	492.55 (3) ^{***}
(5) Two factors (CA vs. KNSK/MOT/ENV)	1930.375	887	.887	.880	.055 [.052; .058]	.029	322.55 (5) ^{***}
(6) Single factor (all resources combined)	2175.223	888	.861	.852	.061 [.058; .064]	.064	611.76 (6) ^{***}

Note. $N = 395$ (T2 data). CA = Career adaptability, KNSK = Knowledge and skills, MOT = Motivation, ENV = Environment; all constructs were modelled second order. χ^2 = chi-square test statistic; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; CI = confidence interval; Δ CFI = change in comparative fit index; $\Delta\chi^2$ = change in SB-scaled chi-square test statistic. All models compared to Model (1). Satorra-Bentler corrected chi-square difference tests for all comparisons were significant.

^{***} $p < .001$

Table 3

Results of Relative Weight Analyses

Predictors	Percentage share of explained variance								
	Recogni- tion	Quality work	Meaningful work	Influence	Authenti- city	Personal life	Growth and develop- ment	Satis- faction	Salary
Career adaptability	17% (.05)	26% (.07)	24% (.07)	19% (.07)	24% (.10)	23% (.04)	25% (.11)	16% (.06)	20% (.03)
Knowledge and skills	11% (.03)	33% (.09)	22% (.06)	20% (.07)	18% (.07)	21% (.03)	27% (.12)	11% (.04)	61% (.01)
Motivation	20% (.06)	30% (.08)	34% (.09)	18% (.07)	34% (.14)	25% (.04)	31% (.14)	34% (.14)	10% (.01)
Environment	51% (.15)	11% (.03)	20% (.05)	43% (.16)	24% (.09)	32% (.05)	17% (.07)	39% (.16)	9% (.01)
R ₂ total	100%(.29)	100%(.27)	100%(.27)	100%(.37)	100%(.40)	100%(.17)	100%(.44)	100%(.40)	100%(.05)

Note. The sum of the raw relative weights is equal to the value of R₂ and the sum of the rescaled relative weights is 100%. In parentheses: relative weight coefficients.

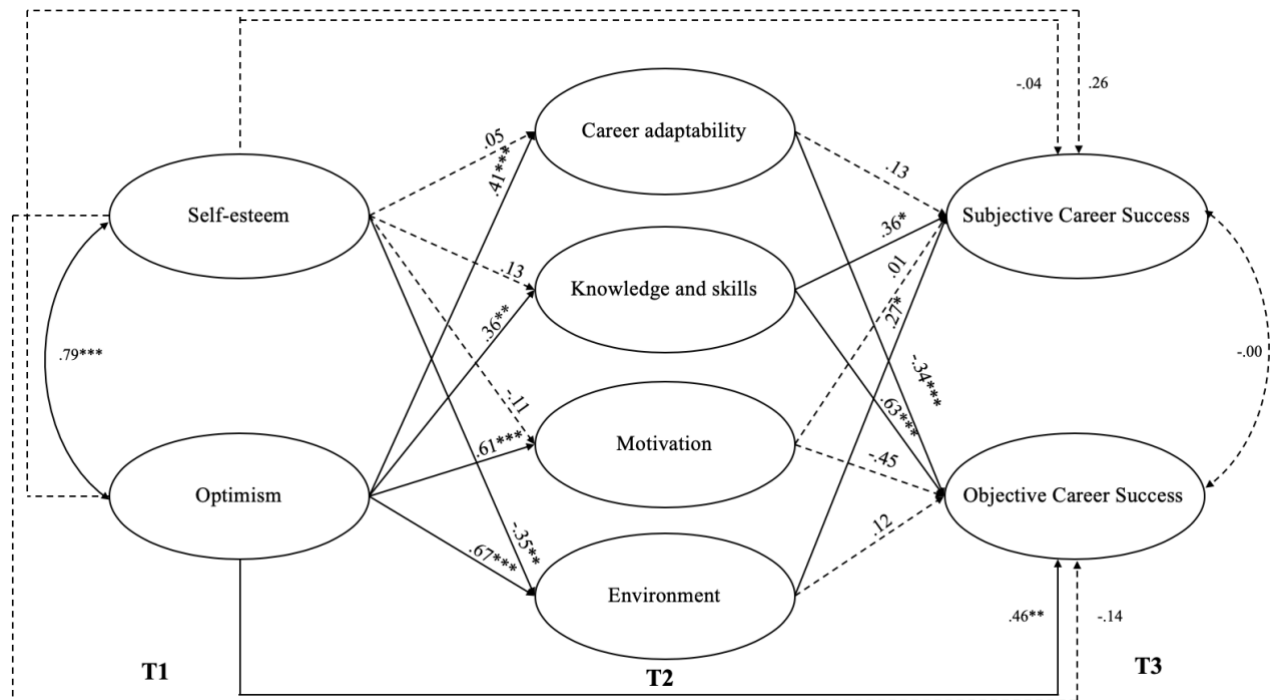


Figure 1. Standardized estimates of structural equation modelling testing the time-lagged model of predictive utility of key resources self-esteem and optimism on CA and the three career resources (knowledge and skills, motivation, environment), and on subjective and objective career success. Correlations between career adaptability, knowledge and skills, motivation, and environment at (T2) were allowed but are not displayed. The path diagram shows significant and nonsignificant (in dashes) paths.

* $p < .05$; ** $p < .01$; *** $p < .001$.

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Appendix A

Model Fit for Confirmatory Factor Analyses: Career Adaptability (CA) Subscales of Concern, Control, Curiosity, Confidence and Career Resources Questionnaire Knowledge and Skills (CRQ KNSK) Subscales of Occupational Expertise, Job Market Knowledge, Soft Skills

Model	χ^2	df	CFI	TLI	RMSEA [90% CI]	Δ CFI	$\Delta\chi^2$ (df)
<i>CA Subscale Concern</i>							
(1) Four factors (each subscale separately)	81.789	48	.983	.976	.042 [.027; .056]		
(2) Three factors (con combined with oe)	256.31	51	.894	.863	.101 [.090; .112]	.089	207.24 (3)***
(3) Three factors (con combined with jmk)	271.454	51	.886	.853	.105 [.093; .116]	.097	224.79 (3)***
(3) Three factors (con combined with ssk)	280.096	51	.882	.847	.107 [.096; .118]	.163	238.58 (3)***
(5) Two factors (con vs. oe/ssk/jmk)	851.274	53	.588	.487	.195 [.185; .206]	.395	916.91 (5)***
(6) Single factor (all subscales combined)	1017.765	54	.502	.392	.213 [.202; .223]	.481	1109.4 (6)***
<i>CA Subscale Control</i>							
(1) Four factors (each subscale separately)	69.213	48	.990	.986	.033 [.015; .049]		
(2) Three factors (col combined with oe)	257.795	51	.898	.868	.101 [.090; .113]	.092	223.05 (3)***
(3) Three factors (col combined with jmk)	422.712	51	.816	.762	.136 [.125; .147]	.174	429.44 (3)***
(3) Three factors (col combined with ssk)	306.485	51	.874	.836	.113 [.102; .124]	.116	292.83 (3)***
(5) Two factors (col vs. oe/ssk/jmk)	822.615	53	.619	.526	.192 [.181; .202]	.371	916.25 (5)***
(6) Single factor (all subscales combined)	997.331	54	.533	.430	.210 [.200; .221]	.457	1154.2 (6)***

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<i>CA Subscale Curiosity</i>							
(1) Four factors (each subscale separately)	73.373	48	.986	.981	.037 [.020; .051]		
(2) Three factors (cur combined with oe)	212.672	51	.914	.889	.090 [.078; .101]	.072	167.05 (3)***
(3) Three factors (cur combined with jmk)	234.447	51	.902	.874	.095 [.084; .107]	.084	192.24 (3)***
(3) Three factors (cur combined with ssk)	193.195	51	.924	.902	.084 [.073; .096]	.062	145.19 (3)***
(5) Two factors (cur vs. oe/ssk/jmk)	817.682	53	.593	.493	.191 [.181; .202]	.393	902.84 (5)***
(6) Single factor (all subscales combined)	910.098	54	.544	.443	.200 [.190; .211]	.442	1028.7 (6)***
<i>CA Subscale Confidence</i>							
(1) Four factors (each subscale separately)	82.665	48	.983	.976	.043 [.028; .057]		
(2) Three factors (cof combined with oe)	270.279	51	.891	.858	.104 [.093; .116]	.092	220.53 (3)***
(3) Three factors (cof combined with jmk)	365.897	51	.843	.797	.125 [.114; .136]	.140	341.60 (3)***
(3) Three factors (cof combined with ssk)	248.174	51	.902	.873	.099 [.088; .110]	.081	202.35 (3)***
(5) Two factors (cof vs. oe/ssk/jmk)	820.552	53	.617	.523	.191 [.181; .202]	.366	902.09 (5)***
(6) Single factor (all subscales combined)	944.496	54	.555	.457	.204 [.194; 0.215]	.428	1075.20 (6)***

Note. $N = 395$ (T2 data). con = CA Subscale Concern, oe = CRQ KNSK Subscale occupational expertise, ssk = CRQ KNSK Subscale soft skills, jmk = CRQ KNSK Subscale job market knowledge, col = CA Subscale control, cur = CA Subscale curiosity, cof = CA Subscale Confidence; all constructs were modelled with items directly. χ^2 = chi-square test statistic; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; CI = confidence interval; Δ CFI = change in comparative fit index; $\Delta\chi^2$ = change in SB-scaled chi-square test statistic. All models compared to Model (1). Satorra-Bentler corrected chi-square difference tests for all comparisons were significant.

*** $p < .001$

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Model Fit for Confirmatory Factor Analyses: Career Adaptability (CA) Subscales of Concern, Control, Curiosity, Confidence and Career Resources Questionnaire Motivation (CRQ MOT) Subscales of Career Clarity, Career Involvement, Career Confidence

Model	χ^2	df	CFI	TLI	RMSEA [90% CI]	Δ CFI	$\Delta\chi^2$ (df)
<i>CA Subscale Concern</i>							
(1) Four factors (each subscale separately)	94.509	59	.981	.975	.039 [.026; .052]		
(2) Three factors (con combined with ccl)	167.389	62	.943	.928	.066 [.055; .076]	.038	94.47 (3)***
(3) Three factors (con combined with cinv)	290.424	62	.876	.845	.097 [.087; .107]	.105	245.66 (3)***
(3) Three factors (con combined with ccon)	181.419	62	.935	.919	.070 [.060 .080]	.046	112.78 (3)***
(5) Two factors (con vs. cinv/ccl/ccon)	355.593	64	.842	.808	.107 [.098; .117]	.139	352.38 (5)***
(6) Single factor (all subscales combined)	429.679	65	.803	.763	.119 [.110; .129]	.178	450.57 (6)***
<i>CA Subscale Control</i>							
(1) Four factors (each subscale separately)	86.885	59	.985	.980	.035 [.020; .048]		
(2) Three factors (col combined with ccl)	297.719	62	.875	.843	.098 [.088; .108]	.110	277.6 (3)***
(3) Three factors (col combined with cinv)	375.040	62	.834	.791	.113 [.103; .123]	.151	360.41 (3)***
(3) Three factors (col combined with ccon)	290.241	62	.879	.848	.097 [.087; .107]	.106	261.68 (3)***
(5) Two factors (col vs. cinv/ccl/ccon)	350.308	64	.848	.815	.106 [.097; .116]	.170	350.81 (5)***
(6) Single factor (all subscales combined)	549.248	65	.743	.692	.137 [.128; .147]	.293	619.97 (6)***

CA Subscale Curiosity

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(1) Four factors (each subscale separately)	84.878	59	.985	.980	.033 [.018 .046]	
(2) Three factors (cur combined with ccl)	161.481	62	.942	.927	.064 [.053; .074]	102.90 (3)***
(3) Three factors (cur combined with cinv)	246.901	62	.892	.864	.087 [.077; .097]	215.45 (3)***
(3) Three factors (cur combined with ccon)	165.608	62	.939	.924	.065 [.055; .075]	108.61 (3)***
(5) Two factors (cur vs. cinv/ccl/ccon)	338.997	64	.839	.804	.104 [.095; .114]	351.02 (5)***
(6) Single factor (all subscales combined)	416.109	65	.795	.754	.117 [.100; .126]	458.37 (6)***
<i>CA Subscale Confidence</i>						
(1) Four factors (each subscale separately)	74.140	59	.992	.989	.025 [.000; .040]	
(2) Three factors (cof combined with ccl)	208.426	62	.920	.899	.077 [.067; .088]	176.91 (3)***
(3) Three factors (cof combined with cinv)	297.446	62	.872	.838	.098 [.088; .108]	287.28 (3)***
(3) Three factors (cof combined with ccon)	227.189	62	.910	.887	.082 [.072; .092]	200.44 (3)***
(5) Two factors (cof vs. cinv/ccl/ccon)	333.751	64	.853	.821	.103 [.094; .113]	353.36 (5)***
(6) Single factor (all subscales combined)	469.315	65	.779	.735	.125 [.116; .135]	536.01 (6)***

Note. $N = 395$ (T2 data). con = CA Subscale Concern, ccl = CRQ MOT Subscale career clarity, cinv = CRQ MOT Subscale career involvement, ccon = CRQ MOT Subscale career confidence, col = CA Subscale control, cur = CA Subscale curiosity, cof = CA Subscale Confidence; all constructs were modelled with items directly. χ^2 = chi-square test statistic; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; CI = confidence interval; Δ CFI = change in comparative fit index; $\Delta\chi^2$ = change in SB-scaled chi-square test statistic. All models compared to Model (1). Satorra-Bentler corrected chi-square difference tests for all comparisons were significant.

*** $p < .001$

Model Fit for Confirmatory Factor Analyses: Career Adaptability (CA) Subscales of Concern, Control, Curiosity, Confidence and Career Resources Questionnaire Environment (CRQ ENV) Subscales of Organizational Career Support, Career Opportunities, Job Challenge, Social Career Support

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Model	χ^2	df	CFI	TLI	RMSEA [90% CI]	Δ CFI	$\Delta\chi^2$ (df)
<i>CA Subscale Concern</i>							
(1) Five factors (each subscale separately)	227.002	94	.956	.943	.060 [.051; .069]		
(1) Four factors (con combined with ocs)	383.212	98	.905	.884	.086 [.078; .094]	.051	198.95 (4)***
(1) Four factors (con combined with cop)	375.086	98	.908	.887	.085 [.077; .093]	.048	190.09 (4)***
(1) Four factors (con combined with jcha)	381.441	98	.906	.885	.086 [.078; .094]	.050	195.29 (4)***
(1) Four factors (con combined with scs)	346.984	98	.917	.899	.080 [.072; .088]	.039	152.48 (4)***
(2) Three factors (con combined with ocs/cop)	443.534	101	.886	.865	.093 [.085; .101]	.070	282.14 (7)***
(2) Three factors (con combined with ocs/jcha)	533.349	101	.856	.829	.104 [.097; .112]	.100	401.51 (7)***
(2) Three factors (con combined with ocs/scs)	493.880	101	.869	.845	.099 [.092; .107]	.087	343.61 (7)***
(2) Three factors (con combined with cop/jcha)	555.898	101	.849	.820	.107 [.099; .115]	.107	427.77 (7)***
(2) Three factors (con combined with cop/scs)	510.696	101	.864	.838	.101 [.094; .109]	.092	367.34 (7)***
(2) Three factors (con combined with jcha/scs)	498.771	101	.868	.843	.100 [.092; .108]	.088	350.76 (7)***
(5) Two factors (con vs. ocs/cop/jcha/scs)	586.221	103	.839	.813	.109 [.102; .117]	.117	477.52 (9)***
(6) Single factor (all subscales combined)	709.391	104	.799	.768	.121 [.114; .129]	.157	642.76 (10)***
<i>CA Subscale Control</i>							
(1) Five factors (each subscale separately)	208.899	94	.962	.952	.056 [.047; .065]		
(1) Four factors (con combined with ocs)	495.997	98	.869	.840	.101 [.094; .109]	.093	360.47 (4)***
(1) Four factors (con combined with cop)	510.416	98	.868	.838	.102 [.094; .110]	.094	367.44 (4)***
(1) Four factors (con combined with jcha)	477.876	98	.875	.847	.099 [.091; .107]	.087	336.39 (4)***
(1) Four factors (con combined with scs)	489.128	98	.872	.843	.101 [.093; .109]	.090	349.62 (4)***

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(2) Three factors (con combined with ocs/cop)	564.246	101	.848	.819	.108 [.100; .116]	.114	453.46 (7)***
(2) Three factors (con combined with ocs/jcha)	649.138	101	.820	.786	.117 [.110; .125]	.142	567.38 (7)***
(2) Three factors (con combined with ocs/scs)	614.146	101	.832	.800	.113 [.106; .121]	.130	515.59 (7)***
(2) Three factors (con combined with cop/jcha)	686.756	101	.808	.771	.121 [.114; .129]	.154	610.37 (7)***
(2) Three factors (con combined with cop/scs)	644.719	101	.821	.788	.117 [.109; .124]	.141	555.73 (7)***
(2) Three factors (con combined with jcha/scs)	632.468	101	.826	.793	.115 [.108; .123]	.136	540.30 (7)***
(5) Two factors (con vs. ocs/cop/jcha/scs)	569.858	103	.847	.822	.107 [.100; .115]	.115	470.19 (9)***
(6) Single factor (all subscales combined)	833.807	104	.760	.724	.133 [.126; .141]	.202	820.66 (10)***
<i>CA Subscale Curiosity</i>							
(1) Five factors (each subscale separately)	234.686	94	.952	.939	.062 [.053 .070]		
(1) Four factors (con combined with ocs)	366.232	98	.909	.888	.083 [.075 .091]	.043	168.22 (4)***
(1) Four factors (con combined with cop)	370.500	98	.907	.887	.084 [.076 .092]	.045	174.04 (4)***
(1) Four factors (con combined with jcha)	370.988	98	.907	.886	.084 [.076 .092]	.045	172.23 (4)***
(1) Four factors (con combined with scs)	326.694	98	.922	.905	.077 [.069 .085]	.030	117.65 (4)***
(2) Three factors (con combined with ocs/cop)	433.007	101	.887	.866	.091 [.083 .099]	.065	258.46 (7)***
(2) Three factors (con combined with ocs/jcha)	519.767	101	.858	.831	.102 [.095 .110]	.094	374.76 (7)***
(2) Three factors (con combined with ocs/scs)	478.703	101	.872	.847	.097 [.090 .105]	.080	316.02 (7)***
(2) Three factors (con combined with cop/jcha)	554.696	101	.846	.817	.107 [.099 .114]	.106	415.81 (7)***
(2) Three factors (con combined with cop/scs)	505.508	101	.862	.837	.101 [.093 .108]	.090	351.67 (7)***
(2) Three factors (con combined with jcha/scs)	488.318	101	.868	.844	.099 [.091 .106]	.084	330.51 (7)***
(5) Two factors (con vs. ocs/cop/jcha/scs)	596.197	103	.832	.805	.110 [.103 .118]	.120	479.28 (9)***

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(6) Single factor (all subscales combined)	700.194	104	.797	.766	.120 [.113; .128]	.155	621.72 (10)***
<i>CA Subscale Confidence</i>							
(1) Five factors (each subscale separately)	236.806	94	.954	.941	.062 [.053; .071]		
(1) Four factors (con combined with ocs)	480.579	98	.877	.849	.099 [.091; .108]	.077	299.64 (4)***
(1) Four factors (con combined with cop)	483.741	98	.876	.848	.100 [.092; .108]	.078	303.97 (4)***
(1) Four factors (con combined with jcha)	439.194	98	.890	.865	.094 [.086; .102]	.064	247.79 (4)***
(1) Four factors (con combined with scs)	477.385	98	.887	.862	.095 [.087; .103]	.067	255.07 (4)***
(2) Three factors (con combined with ocs/cop)	548.011	101	.856	.829	.106 [.098; .114]	.098	389.92 (7)***
(2) Three factors (con combined with ocs/jcha)	633.506	101	.828	.796	.116 [.108; .123]	.126	501.85 (7)***
(2) Three factors (con combined with ocs/scs)	596.314	101	.840	.810	.111 [.104; .119]	.114	448.05 (7)***
(2) Three factors (con combined with cop/jcha)	667.490	101	.818	.783	.119 [.112; .127]	.136	539.26 (7)***
(2) Three factors (con combined with cop/scs)	623.921	101	.832	.800	.114 [.107; .122]	.122	483.55 (7)***
(2) Three factors (con combined with jcha/scs)	592.930	101	.842	.812	.111 [.103; .119]	.112	444.44 (7)***
(5) Two factors (con vs. ocs/cop/jcha/scs)	612.433	103	.836	.809	.112 [.104; .120]	.118	484.65 (9)***
(6) Single factor (all subscales combined)	818.863	104	.770	.734	.132 [.125; .139]	.184	750.58 (10)***

Note. $N = 395$ (T2 data). con = CA Subscale Concern, ccl = CRQ MOT Subscale career clarity, cinv = CRQ MOT Subscale career involvement, ccon = CRQ MOT Subscale career confidence, col = CA Subscale control, cur = CA Subscale curiosity, cof = CA Subscale Confidence; all constructs were modelled with items directly. χ^2 = chi-square test statistic; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; CI = confidence interval; Δ CFI = change in comparative fit index; $\Delta\chi^2$ = change in SB-scaled chi-square test statistic. All models compared to Model (1). Satorra-Bentler corrected chi-square difference tests for all comparisons were significant.

*** $p < .001$

Appendix B

Results of Structural Equation Modelling Examining Each Dimension of Subjective Career Success Separately

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	Dimensions of subjective career success															
	SCS Recognition ₁				SCS Quality work ₂				SCS Meaningful work ₃				SCS Influence ₄			
	b	SE	β	<i>p</i>	b	SE	β	<i>p</i>	b	SE	β	<i>p</i>	b	SE	β	<i>p</i>
Self-esteem → CAAS	.06	.11	.06	.551	.05	.11	.05	.631	.06	.12	.06	.598	.05	.10	.05	.628
Self-esteem → KNSK	.15	.13	.15	.226	.14	.13	.13	.278	.14	.12	.14	.255	.14	.12	.14	.269
Self-esteem → MOT	-.12	.15	-.09	.419	-.14	.15	-.10	.357	-.13	.15	-.10	.384	-.14	.15	-.10	.355
Self-esteem → ENV	-.57	.19	-.33	.002**	-.58	.19	-.33	.002**	-.57	.19	-.33	.002**	-.60	.19	-.35	.001**
Self-esteem → SCS	.12	.21	.08	.571	.29	.14	.27	.034*	-.25	.20	-.17	.208	-.19	.21	-.13	.382
Self-esteem → OCS	-.05	.05	-.14	.252	-.05	.05	-.13	.278	-.05	.05	-.13	.264	-.05	.05	-.13	.263
Optimism → CAAS	.28	.08	.40	.001**	.29	.08	.41	.000***	.29	.08	.40	.000***	.29	.08	.41	.000***
Optimism → KNSK	.25	.09	.34	.007**	.27	.09	.35	.004**	.26	.09	.35	.006**	.262	.09	.36	.004**
Optimism → MOT	.62	.12	.60	.000***	.63	.12	.61	.000***	.62	.12	.60	.000***	.63	.12	.61	.000***
Optimism → ENV	.832	.147	.66	.000***	.84	.15	.67	.000***	.83	.15	.66	.000***	.86	.15	.68	.000***
Optimism → SCS	.07	.18	.07	.683	-.08	.11	-.10	.483	.41	.17	.38	.015*	.23	.18	.22	.221
Optimism → OCS	.13	.04	.45	.001**	.13	.04	.44	.001**	.13	.04	.45	.001**	.13	.04	.45	.001**
CAAS → SCS	.25	.18	.16	.177	.13	.14	.12	.348	.18	.15	.12	.237	.28	.16	.19	.092
KNSK → SCS	.46	.26	.30	.083	.61	.17	.59	.000***	.52	.24	.35	.033*	.82	.27	.58	.002**
MOT → SCS	-.48	.28	-.44	.089	-.08	.22	-.11	.712	-.05	.27	-.04	.868	-.62	.27	-.62	.022*
ENV → SCS	.57	.13	.64	.000***	.04	.11	.06	.731	.13	.13	.15	.322	.56	.12	.68	.000***
CAAS → OCS	-.14	.04	-.34	.000***	-.14	.04	-.34	.000***	-.14	.04	-.34	.000***	-.14	.04	-.34	.000***
KNSK → OCS	.25	.07	.64	.000***	.24	.07	.63	.000***	.26	.07	.64	.000***	.25	.07	.64	.000***
MOT → OCS	-.12	.07	-.44	.076	-.12	.07	-.43	.066	-.13	.07	-.45	.069	-.12	.07	-.43	.076
ENV → OCS	.03	.03	.11	.398	.03	.03	.12	.346	.03	.03	.12	.354	.03	.03	.11	.405

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Appendix B (continued)

	Dimensions of subjective career success															
	SCS Authenticity ⁵				SCS Personal life ⁶				SCS Growth and development ⁷				SCS Satisfaction ⁸			
	b	SE	β	p	b	SE	β	p	b	SE	β	p	b	SE	β	p
Self-esteem → CAAS	.05	.11	.06	.608	.06	.11	.06	.602	.06	.11	.06	.562	.06	.11	.06	.592
Self-esteem → KNSK	.14	.13	.14	.262	.14	.13	.14	.271	.15	.12	.15	.224	.14	.12	.15	.244
Self-esteem → MOT	-.14	.15	-.10	.354	-.14	.15	-.10	.361	-.12	.15	-.09	.415	-.14	.15	-.10	.358
Self-esteem → ENV	-.58	.19	-.34	.002**	-.58	.19	-.34	.002**	-.56	.19	-.33	.003**	-.58	.19	-.34	.002**
Self-esteem → SCS	-.21	.15	-.18	.156	.03	.17	.02	.881	-.13	.17	-.10	.468	.10	.17	.07	.565
Self-esteem → OCS	-.06	.05	-.14	.243	-.05	.05	-.14	.254	-.05	.05	-.13	.258	-.06	.05	-.14	.236
Optimism → CAAS	.28	.08	.40	.001**	.29	.08	.41	.000***	.28	.08	.39	.001**	.28	.08	.40	.000***
Optimism → KNSK	.25	.09	.35	.006**	.26	.09	.36	.005**	.25	.09	.34	.007**	.25	.09	.34	.006**
Optimism → MOT	.62	.12	.61	.000***	.63	.12	.61	.000***	.61	.12	.59	.000***	.62	.12	.60	.000***
Optimism → ENV	.83	.15	.66	.000***	.85	.15	.67	.000***	.82	.15	.66	.000***	.83	.15	.66	.000***
Optimism → SCS	.32	.14	.37	.019*	.25	.15	.27	.090	.17	.15	.18	.260	.25	.14	.25	.075
Optimism → OCS	.13	.04	.46	.001**	.13	.04	.46	.001**	.13	.04	.45	.001**	.14	.04	.47	.001**
CAAS → SCS	.17	.14	.14	.223	.01	.14	.01	.937	.22	.16	.16	.165	.04	.13	.03	.766
KNSK → SCS	.17	.18	.14	.352	.31	.24	.25	.188	.60	.22	.47	.006**	-.01	.21	-.01	.950
MOT → SCS	.29	.19	.35	.127	-.02	.22	-.02	.934	.08	.21	.09	.699	.30	.22	.31	.166
ENV → SCS	.03	.08	.04	.707	.11	.10	.16	.256	.05	.09	.07	.577	.21	.10	.27	.028*
CAAS → OCS	-.14	.04	-.34	.000***	-.14	.04	-.34	.000***	-.14	.04	-.34	.000***	-.14	.04	-.34	.000***
KNSK → OCS	.26	.07	.65	.000***	.26	.07	.64	.001**	.25	.07	.63	.000***	.26	.08	.65	.000***
MOT → OCS	-.13	.07	-.46	.061	-.13	.07	-.46	.067	-.13	.07	-.45	.065	-.13	.07	-.47	.060
ENV → OCS	.03	.03	.12	.350	.03	.03	.12	.365	.03	.03	.12	.351	.03	.03	.12	.382

Note. $N = 574$. The same model as in Figure 1 was used but the SCS total score was replaced with the respective SCS dimension (i.e., Recognition, Quality work, Meaningful work, Influence, Authenticity, Personal life, Growth and Development, Satisfaction) separately. SCS = Subjective career success (respective dimension in the column); CA = Career adaptability, KNSK = Knowledge and skills, MOT = Motivation, ENV = Environment; OCS = Objective career success; χ^2 = chi-square test statistic; CFI =

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comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation.

1 ($\chi^2 = 1134.264$, $df = 487$, CFI = .91; TLI = .90; RMSEA = .05); 2 ($\chi^2 = 1118.384$, $df = 487$, CFI = .91; TLI = .90; RMSEA = .05);

3 ($\chi^2 = 1104.176$, $df = 487$, CFI = .92; TLI = .90; RMSEA = .05); 4 ($\chi^2 = 1085.952$, $df = 487$, CFI = .92; TLI = .91; RMSEA = .05);

5 ($\chi^2 = 1121.682$, $df = 487$, CFI = .91; TLI = .90; RMSEA = .05); 6 ($\chi^2 = 1113.284$, $df = 487$, CFI = .92; TLI = .90; RMSEA = .05);

7 ($\chi^2 = 1137.887$, $df = 487$, CFI = .91; TLI = .90; RMSEA = .05); 8 ($\chi^2 = 1099.141$, $df = 487$, CFI = .92; TLI = .90; RMSEA = .05).

* $p < .05$; ** $p < .01$; *** $p < .001$

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Appendix C

Results of Structural Equation Modelling Using Each CA Subscale Separately (Concern, Control, Curiosity, Confidence)

	Dimensions of career adaptability															
	CA Concern ₁				CA Control ₂				CA Curiosity ₃				CA Confidence ₄			
	b	SE	β	p	b	SE	β	p	b	SE	β	p	b	SE	β	p
Self-esteem → CAAS	-.04	.10	-.04	.711	.39	.14	.34	.003**	.03	.14	.03	.841	-.04	.08	-.07	.578
Self-esteem → KNSK	.13	.13	.13	.300	.13	.13	.13	.292	.13	.13	.13	.296	.13	.13	.13	.295
Self-esteem → MOT	-.15	.15	-.11	.319	-.15	.15	-.11	.312	-.15	.15	-.11	.315	-.15	.15	-.11	.315
Self-esteem → ENV	-.59	.19	-.35	.002**	-.60	.19	-.35	.001**	-.60	.19	-.35	.001**	-.60	.19	-.35	.001**
Self-esteem → SCS	-.05	.15	-.04	.747	-.08	.15	-.06	.600	-.05	.15	-.04	.725	-.01	.15	-.01	.962
Self-esteem → OCS	-.06	.05	-.14	.233	-.03	.05	-.07	.576	-.05	.05	-.13	.276	-.07	.05	-.18	.126
Optimism → CAAS	.32	.09	.48	.000***	.17	.10	.20	.092	.27	.11	.36	.012*	.21	.06	.43	.001**
Optimism → KNSK	.27	.09	.36	.004**	.27	.09	.36	.004**	.26	.09	.36	.005**	.26	.09	.36	.005**
Optimism → MOT	.63	.12	.61	.000***	.62	.12	.61	.000***	.63	.12	.61	.000***	.63	.12	.61	.000***
Optimism → ENV	.84	.15	.67	.000***	.84	.15	.67	.000***	.84	.15	.67	.000***	.84	.15	.67	.000***
Optimism → SCS	.26	.13	.27	.046*	.26	.13	.27	.046*	.26	.13	.27	.048*	.23	.13	.24	.084
Optimism → OCS	.13	.04	.44	.001**	.13	.04	.45	.001**	.13	.04	.44	.001**	.14	.04	.47	.000***
CAAS → SCS	.05	.15	.03	.761	.10	.10	.08	.332	.08	.12	.07	.510	.35	.22	.17	.113
KNSK → SCS	.51	.19	.40	.005**	.44	.18	.34	.018*	.49	.18	.38	.006**	.41	.19	.31	.029*
MOT → SCS	.05	.24	.05	.849	.08	.18	.09	.631	.05	.19	.05	.786	.02	.18	.02	.926
ENV → SCS	.20	.09	.26	.024*	.20	.08	.26	.017*	.20	.09	.26	.020*	.22	.08	.28	.010*
CAAS → OCS	-.05	.05	-.11	.318	-.11	.03	-.31	.001**	-.12	.04	-.30	.004**	-.18	.06	-.29	.003**
KNSK → OCS	.20	.07	.52	.005**	.27	.08	.69	.001**	.24	.07	.61	.001**	.26	.08	.65	.001**
MOT → OCS	-.15	.08	-.52	.078	-.17	.07	-.58	.020*	-.15	.07	-.51	.037*	-.14	.07	-.49	.044*
ENV → OCS	.03	.03	.14	.287	.02	.03	.10	.437	.04	.03	.16	.213	.02	.03	.10	.450

Note. $N = 574$. The same model as in Figure 1 was used but the CA total score was replaced with each CA dimension of concern, control, curiosity and confidence separately. CA = Career adaptability (respective dimension in the column), KNSK = Knowledge and skills, MOT = Motivation, ENV = Environment; SCS = Subjective career success; OCS = Objective career success; χ^2 = chi-square test statistic; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of

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approximation.

¹ ($\chi^2 = 1380.478$, $df = 625$, CFI = .91, TLI = .90, RMSEA = .05); ² ($\chi^2 = 1348.836$, $df = 625$, CFI = .91, TLI = .90, RMSEA = .05);

³ ($\chi^2 = 1361.241$, $df = 625$, CFI = .91, TLI = .90, RMSEA = .05.); ⁴ ($\chi^2 = 1396.437$, $df = 625$, CFI = .91, TLI = .90, RMSEA = .05).

* $p < .05$; ** $p < .01$; *** $p < .001$

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Appendix D

Mediation Model: Standardized Parameters of Indirect Effects, Standard Errors, and Confidence Intervals

Variables	Subjective Career Success				Objective Career Success			
	Sum of indirect	Specific indirect	S.E.	95% CI	Sum of indirect	Specific indirect	S.E.	95% CI
Self-esteem (direct)	-.05		.10	-.34; .24	.28		.38	-.52; .98
Career adaptability		.01	.02	-.03; .04		-.13	.19	-.50; .24
Knowledge and skills		.07	.07	-.06; .19		.49	.43	-.35; 1.33
Motivation		.00	-.00	-.06; .06		.18	.26	-.33; .68
Environment		-.12*	-.06	-.25; -.00		-.30	.22	-.73; .13
Optimism (direct)	.34**		.09	.18; .51	-.26		.34	-.92; .41
Career adaptability		.05	.04	-.04; .13		-.50*	.23	-.95; -.06
Knowledge and skills		.12	.06	.00; .24		.77	.35	.08; 1.45
Motivation		.00	.12	-.24; .24		-.97	.55	-2.05; .11
Environment		.18*	.08	.02; .03		.45*	.31	-.16; 1.06

Note: $N = 574$. Confidence intervals are based on bootstrapping analysis using MLR estimator.

** $p < .001$; * $p < .05$

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Appendix E

Results of Relative Weight Analyses with Dimensions of Career Adaptability

Predictors	Percentage share of explained variance								
	Recogni- tion	Quality work	Meaning- ful work	Influence	Authenti- city	Personal life	Growth & develop- ment	Satis- faction	Salary
CA Concern	5% (.02)	6% (.02)	7% (.02)	5% (.02)	9% (.03)	6% (.01)	6% (.03)	8% (.03)	3% (.00)
CA Control	10% (.03)	19% (.06)	13% (.04)	8% (.03)	10% (.04)	17% (.03)	9% (.04)	7% (.03)	2% (.00)
CA Curiosity	4% (.01)	6% (.02)	6% (.02)	6% (.03)	7% (.03)	5% (.01)	7% (.03)	4% (.02)	15% (.01)
CA Confidence	11% (.03)	21% (.08)	14% (.04)	11% (.04)	12% (.05)	13% (.02)	19% (.09)	7% (.03)	5% (.00)
Knowledge and skills	8% (.02)	20% (.07)	16% (.05)	15% (.06)	14% (.05)	14% (.03)	20% (.09)	8% (.03)	56% (.03)
Motivation	15% (.05)	21% (.07)	27% (.08)	14% (.06)	28% (.11)	18% (.03)	25% (.12)	29% (.12)	9% (.01)
Environment	47% (.15)	8% (.03)	17% (.05)	40% (.15)	20% (.08)	27% (.05)	14% (.07)	35% (.14)	10% (.01)
R ² total	100%(.31)	100%(.34)	100%(.29)	100%(.39)	100%(.40)	100%(.19)	100%(.47)	100%(.41)	100%(.06)

Note. CA = career adaptability. The sum of the raw relative weights is equal to the value of R² and the sum of the rescaled relative weights is 100%. In parentheses: relative weight coefficients.