

Courage and Career Construction by Young Adults: The Mediating Effect of Promotional and Preventive Self-Regulation

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Abstract

Aim: The aim of the study was to determine the relationship between courage and four key components of the career construction process among young adults: (a) crystallisation of self-image as an employee, (b) exploration of career fields, (c) career decision-making, and (d) preparation for job performance. The study also aimed to evaluate the mediating role of promotional and preventive self-regulation in these relationships.

Methods: The study included a total of 300 young adults (158 women and 142 men) aged between 18 and 29 years ($M = 25.14$, $SD = 3.11$). All completed the *Student Career Construction Inventory* (SCCI), *Courage Questionnaire* and the *Promotion and Prevention Self-Regulation Scale* (PPSS).

Results: A strong positive relationship was observed between courage and the four components of the career construction. Promotional self-regulation was found to mediate all the studied relationships; however, preventive self-regulation did not demonstrate any mediating effect regarding crystallisation of self-image as an employee.

Conclusion: Our findings suggest that courage can be interpreted as an adaptive behaviour that supports coping with career development tasks and adapting to changing conditions associated with work and working life. Furthermore, both achievement- and aspiration-focused, and duty- and security-focused, self-regulatory systems were shown to mediate the relationship between courage and the multidimensional process of career construction, albeit to varying degrees.

Keywords: career, construction, courage, self-regulation, young adults

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In recent decades, Western societies have undergone significant economic, demographic and social changes, including the process of entering adulthood. More specifically, young people are waiting longer to achieve certain *markers of adulthood*, such as leaving education, leaving the family home, running an independent household, getting married or having a child (Arnett, 2000; Brzezińska et al., 2011; Murphy et al., 2010; Settersten, 2011); this delay can be linked to the need to operate in a dynamically-changing labour market characterised by globalisation, discontinuity and uncertainty. By encouraging experimentation and the active search for new experiences, these challenges serve to build the identity of an individual regarding *inter alia* love, worldview and career (Bańka, 2006; Mianowska, 2008).

A study of young people aged 18–29 found they often create individualised plans for entering adulthood, guided by an internal sense of readiness rather than external norms (Kasprzak, 2013; Wiszejko-Wierzbička & Kwiatkowska, 2018). However, a significant number reject entering adulthood, choosing to avoid its burden; they may long for childhood and enjoy the benefits of living alone (Oleszkowicz & Misztela, 2015). The entry to adulthood is characterised by both objective indicators, such as the birth of a child or getting a permanent job, and subjective ones, such as gaining a sense of adulthood and the predominance of a transitive orientation, i.e. being focused on the realisation of developmental tasks, over a moratorial orientation, i.e. being focused on the present (Rękosiewicz, 2015). Similarly Zagórska (2004) emphasises the role played by subjectively-perceived adulthood, readiness to realise tasks characteristic of a particular life stage and having a vision of one's role in adulthood.

Many of these processes, including gaining independence from parents, identity formation, building intimate relationships and taking responsibility for one's own decisions and actions, fall within the concept of early adulthood (Arnett, 2000; Gurba, 2011). These enable the autonomous formulation of life goals. However, the present study chooses to use the term *young adults* instead of *emerging adulthood*. Demographic studies in Poland indicate that both groups tend to delay the tasks of adulthood, with significantly more respondents choosing to marry and have children between 30–34 years of age (Cierniak-Piotrowska et al., 2019).

Together with the fulfilment of family and parental roles, a key developmental task characteristic of early adulthood is deciding on a career, and during this stage of life, the individual makes choices that largely shape their future working life. Hence, the ability to construct a career is an important manifestation of adulthood. Interestingly, courage has been found to act as an important predictor of career decision making. It be regarded as a psychological resource and a specific defence mechanism that becomes activated in the face of difficulties, crises and uncertainty about the future, and one that increases the likelihood of taking rational action despite perceived anxiety (Hannah et al., 2007).

This mechanism may also be linked to self-regulatory attitudes, which Higgins (1997) regards as responsible for satisfying the need for security. As such, courage may play an important role in explaining the processes engaged in by young adults when coping with work tasks. Indeed, the potential impact of

regulatory attitudes in modifying the relationship between courage and career construction also represents an equally interesting area of research. The following work draws on Savick's Career Construction Theory (2002, 2005), the definition of courage proposed by Howard and Alipour (2014) and Higgins' self-regulation theory (2000, 2005). This approach provides a comprehensive view of the processes involved in young adult career development.

Career Construction Theory

Savickas' Career Construction Theory (Savickas, 2002) proposes a systematic approach to understanding professional behaviour across the life cycle. It combines three psychological perspectives: the psychology of individual differences, the concept of developmental tasks and a psychodynamic approach in an attempt to explain how individuals design their careers against changing economic and professional conditions. The theory emphasises the need to consider the psychological needs of clients in career counselling (Sampaio et al., 2021) and presents career development as a process of giving meaning to life, rather than as a series of predictable stages (Busacca, 2007). In addition, it addresses the issue of maintaining personal and social identity in the face of the changes in the work environment and professional instability characteristic of the 21st century (Arastaman, 2019).

Career construction theory is part of a broader trend in Career Psychology, moving towards constructivist approaches that encompass complexity, cultural diversity and individual agency (McMahon, 2014). In this regard, narrative career counselling has gained prominence in the field, and is considered the dominant variant of constructivism (McIlveen & Patton, 2007). This approach to counselling focuses on helping clients to reflect on their experiences and subjective views, rather than relying solely on objective assessments (Busacca, 2007; Maree, 2016). By incorporating constructivist principles, career construction theory provides a more holistic and process-oriented approach to career counselling, thus responding to the challenges posed by a rapidly-changing labour market and frequent changes in occupation (Busacca, 2007; Savickas, 2005). Constructing a career requires consideration of individual predispositions and needs, and adapting to changes in the environment. It includes activities aimed at the development of professional competences and the clarification of professional interests. However, this process is a multifaceted one, which demands greater reflection on the extent to which different psychological resources influence the quality of a constructed career. It can be analysed through the prism of four behaviours and skills that are indicators of successive phases of career development: crystallizing a vocational self-concept, exploring information about occupations, deciding to commit to an occupational choice, and preparing to implement that choice (Savickas, 2002; Savickas & Portfeli, 2012).

Over the past two decades, career construction theory has gained prominence as a means of focusing on adaptation to career challenges throughout life (Rivaldy & Komaro, 2022). Studies have confirmed that significant links exist

between individual resources and career construction-related behaviours in young people (Zhang et al., 2018). They also indicate that career construction correlates with positive outcomes in educational contexts, such as academic achievement (Di Maggio et al., 2020; Sulistiani & Handoyo, 2018) and career self-efficacy (Saputro et al., 2023).

Regarding the predictors of effective career construction, Korkmaz (2022) notes that hope can be a key factor, especially during periods of intense change. Age also plays a role, with older students more likely to demonstrate greater aptitude in career exploration and decision-making; younger ones are more likely to experience difficulties due to information deficiencies (Sverko & Babarović, 2016). Interestingly, career interest profile has not been shown to be a reliable predictor of the various aspects of career construction (Rajter et al., 2018).

Courage

While research has traditionally presented courage as a trait or fixed disposition, it is increasingly recognised as a specific form of action. In this sense, Norton and Weiss (2009) define courage as the ability of an individual to sustain a particular behaviour despite perceived fear. Rate et al. (2007) regard the four basic attributes of courageous behaviour as (1) intentionality, (2) deliberation, (3) coping with threat, risk or obstacles, and (4) a noble or worthwhile goal. In contrast to courage treated as a fixed attribute, courage displayed in behaviour is variable and depends on other dimensions of personality.

Hannah et al. (2007) found courageous behaviour to be determined by a range of personal strengths and resources, such as resilience, optimism, hope or openness to experience. Also important are norms and personal values, as well as beliefs such as loyalty and bravery, which reduce perceived fear or increase the likelihood of taking courageous action despite fear.

More recently, researchers have begun to examine the role of courage in the context of career development (Ginevra et al., 2020; Pajestka, 2023a). Results suggest that courageous behaviour positively influences job quality, sense of professional identity and prosocial behaviour (Howard et al., 2017; Koerner, 2014). In addition, teenagers with higher levels of courage have been found to be more motivated to pursue their life plans; they are also more likely to use a variety of strategies to achieve their goals and have lower levels of anxiety (Ginevra & Capozza, 2015; Magnano et al., 2017). Courage was also found to mediate the relationship between career adaptability and life satisfaction among young people (Ginevra et al., 2018) and with satisfaction with their chosen field of study (Platania et al., 2023). A similar mediating effect has been reported for the relationship between career readiness, career adaptability and various indicators of well-being (Magnano et al., 2021). Young people who care about the development of their future career, and who are responsible for shaping it and who believe in their own abilities, may perceive themselves as more courageous in pursuing their goals despite the obstacles they face. They will therefore tend to evaluate their quality of life more positively.

Research indicates a significant relationship between courage, career building and well-being. Courage has been shown to mediate the relationship between professional vocation and indicators of well-being, such as flourishing and life satisfaction, among students (Parola et al., 2023). Similar results have been obtained for career adaptability: its relationship with life satisfaction is mediated partially by courage in adolescents (Ginevra et al., 2018) but fully so in adult workers (Santilli et al., 2024). These findings highlight the key role played by courage in the career development process at different stages of life. Furthermore, courage plays an important part in the development and practice of career coaches, enabling them to achieve high quality work and supporting their ongoing professional development (Wood & Lomas, 2021). Their findings suggest that interventions that promote courage and career adaptability can effectively increase overall life satisfaction and well-being, thus further emphasising the importance of courage as an important factor in career building and enhancing quality of life.

Self-Regulation as a Mediator

One of the most popular approaches for analysing mechanisms of motivation is Higgins' regulatory focus theory (1997, 2012), in which the source of motivation is regarded as the functioning of the structure of the Self. Higgins distinguishes two key aspects of motivation: the motivational standards of individuals and the mechanisms of commitment to action. Motivational standards shape the expectations of an individual's actions: those with high promotional standards set aspiration-related goals and focus on achieving positive outcomes, while those with high preventive standards set goals based on their sense of duty and need for security, focusing on avoiding failure. As part of the self-regulatory fit theory, Higgins (2000, 2005) emphasizes that the effectiveness of one's performance depends on the congruence between self-regulatory focus and the characteristics of the particular task or situation. Hence, this theory assumes that individuals function more effectively when their self-regulatory orientation is consistent with the demands of the situation.

The theory of regulatory attitudes also indicates that self-regulatory processes proceed in different ways depending on the needs that they satisfy. A promotional attitude satisfies caring needs, i.e. those associated with aspirations and creative ideas. The preventive mindset, on the other hand, is related to the need for safety, and focuses on minimizing risk (Higgins, 1997). Further research by Lockwood et al. (2005) indicates that the significance and strength of regulatory orientations can change with age. Young people tend to be more promotionally oriented, meaning that they focus on positive outcomes and aspirations, and pay less attention to threats or possible failure. However, over time, this is gradually supplanted by a preventive orientation, although not completely. Higgins' regulatory focus theory has given rise to numerous studies analysing the impact of promotional and preventive strategies on various aspects of human functioning. As such, significant relationships have been discovered between

these strategies and openness to change (Lieberman et al., 1999), decision-making (Förster et al., 2003), temperament (Cwynar et al., 2017) and personality type (Bağ et al., 2015).

However, there are still relatively few studies analysing motivation and involvement in the career adaptation process with regard to the concept of self-regulation. One study based on a Spanish adaptation of the *Career Adaptation Questionnaire* (CAAS) (Merino-Tejedor et al., 2016) found a positive relationship between self-regulation and all components of career adaptation. Another study by Dutch researchers exploring the role of self-regulation in career adaptability (Vianen et al., 2012) found that high levels of promotional self-regulation, i.e. reflecting an individual's pro-development activities, correlated positively with three scales of adaptability: *Concern*, *Curiosity* and *Certainty*. In contrast, preventive self-regulation, characterized by aversion to change and a preference for loss-minimizing activities, correlated negatively with certainty, and positively with control.

Recent research has also focused on the relationship between self-regulation processes, career and well-being. Career adaptability and courage have been shown to positively influence life satisfaction in both teenage and adult workers, with courage playing a partial mediating role (Ginevra et al., 2018; Santilli et al., 2024). In addition, it has been found that career decisions reinforced by self-regulatory mechanisms increase the degree of satisfaction with a chosen career path and improve job fit (Eun et al., 2013).

Further research has found that feeling a calling to a certain job is positively related to higher life satisfaction and perceived employability, and that self-regulatory processes play a mediating role in this relationship (Praskova et al., 2015). Their findings highlight the key role played by self-regulatory processes in explaining the relationship between courage and various psychological variables; these have been noted in various contexts, such as adolescence (Lockwood et al., 2005; Park & Genzer, 2023), high-risk occupations (Wang et al., 2022), moral decision-making (Brandstätter et al., 2016) or sports (Konter et al., 2019).

In addition, studies on in high-risk occupations have highlighted the important role played by inhibition and behavioural activation, similar mediating mechanisms to self-regulation, in the relationship between courage and stress. Of these, inhibition appears to be to be an important mediator in this relationship (Wang et al., 2022).

In conclusion, our literature review highlights the important role of courage as a psychological resource, supporting the process of career construction, especially among young adults. Courage overcomes barriers in career decision-making processes, supports greater exploration of career fields, and reinforces the willingness to achieve set goals. At the same time, Higgins' self-regulation theory (Higgins, 1997) emphasizes the importance of promotional and preventive strategies in taking achievement-oriented or safety-oriented actions, which may mediate the relationship between courage and career construction.

Following on from the theoretical concepts presented above, and based on existing research, this study assumes that courage, as a resource for supporting career adaptation, is positively related to key components of career construction; it is also anticipated that promotional and preventive self-regulation may act as

mediators in this relationship. Therefore, the aim of this study was to confirm whether courage, as a resource for supporting career adaptation, is positively related to key components of career construction; it also examines whether promotional and preventive self-regulation act as mediators in this relationship.

Methods

The purpose of this study was to determine the relationship between the level of courage among young adults and four key components of the career construction process: (a) crystallizing of self-image as an employee, (b) exploring of professional fields, (c) career decision-making, and (d) preparing for job performance. In addition, the study aimed to assess the mediating role of promotion regulatory focus and prevention regulatory focus in these relationships.

The following research hypotheses were formulated:

- H1: A significant positive relationship exists between the level of courage and all four stages of the career construction process, *viz.* crystallization of the self-image as an employee, exploration of professional areas, making career decision and preparing for job performance.
- H2: Promotional and preventive self-regulation act as mediators in the relationship between courage and career construction. Due to the young age of the subjects, it is predicted that promotional self-regulation will have a stronger mediating effect than preventive self-regulation: promotional standards are activated by the need for growth and development, as they direct attention towards achieving positive results.

Participants

The data was collected in December 2024 via the ARIADNA secure testing platform designed for psychological research. Respondents were informed of their rights and the confidential nature of the research. The research project received approval from the University's Research Ethics Committee. Thanks to the specifics of the testing platform allowing full control over the process of completing the questionnaires, there were no missing responses during data collection.

The survey included 300 young adults (158 women and 142 men), aged 18 to 29 ($M = 24.1$, $SD = 3.1$). Regarding place of residence, 33.3% of respondents indicated a large city, 33% a small or medium city, and 23.7% a village. Regarding level of education, 48% had completed a university degree, 40.6% had finished secondary or post-secondary education, 7.7% basic vocational education, and 3.7% elementary education.

A range of occupational statuses were recorded. Among the respondents, 5.3% were self-employed, 10% were unemployed, 74% worked full or part-time, and 20.7% were students. It is worth noting that these numbers do not add up to

100%, as some participants belonged to more than one category at the same time (e.g., working students).

Sample Size Calculations

The minimum required sample size was estimated using G*Power 3.1.9.4. The calculations comprised a comparison of two groups (F -test) and multiple regression analysis, which examined the effect of predictors on the dependent variable (fixed model, R^2 , deviation from zero). Four predictors were considered: one independent variable, two mediators and one direct effect. Assuming a mean effect size (Cohen's $f^2 = .15$), with a significance level of $\alpha = .05$ and a power of test $1 - \beta = .95$, the minimum required sample size was calculated as 129 people.

Measuring Tools

The study recorded gender, age, occupational status and place of residence. In addition, the following tools were used: the *Student Career Construction Inventory* (SCCI) (Savickas & Portfeli, 2018), the *Courage Measure-Reduced Version Questionnaire* (Howard & Alipour, 2014; Howard et al., 2017), and the *Promotion and Prevention Self-Regulation Scale* (SSPP) (Kolańczyk et al., 2013).

Student Career Construction Inventory (SCCI)

The scale developed by Savickas (2012) and by Savickas and Portfeli (2018) is used to measure resources, beliefs, and behaviours related to career construction. The tool examines how young people perceive their career goals, choices and career identity. The questionnaire was translated from English to Polish for the purposes of the study using a group translation procedure.

The survey comprised 18 statements, to which the participants could indicate a response based on a five-point scale: 5 – *I've already done it*, 4 – *I'm currently doing it*, 3 – *I know how it should be done*, 2 – *I've already thought about it but still don't know how to do it*, 1 – *I haven't thought about it too much yet*. The scores were aggregated for each of the following scales describing different aspects of the career construction process: *Crystallizing* – six items (e.g., “Determining what values are important to me.”), *Exploration* – three items (e.g., “Learning about different types of jobs.”), *Deciding* – five items (e.g., “Reassuring myself that I made a good occupational choice.”) and *Preparing* – four items (e.g., “Beginning the training I need for my preferred job.”).

The original version of the tool was found to have good reliability as indicated by the following Cronbach's α coefficients: .84 for the crystallizing subscale, .87 for the exploration subscale, .94 for the deciding, and .89 for the preparing subscale. Confirmatory analysis confirmed a good fit of the tool to the data structure: CFI = .955; RMSEA = .065; SRMR = .045 (Savickas et al., 2018). The Polish version of the tool was also found to be reliable, with Cronbach's α

scores of .83, .79, .93 and .87; it also demonstrated similar fit indices: CFI = .94; RMSEA = .07; SRMR = .05.

Courage Questionnaire

The original version of the *Courage Questionnaire* was developed by Norton and Weiss (2009). It consisted of 12 items that allowed respondents to rate their own courage, defined as the ability to persist in an action despite perceived fear (e.g., “If I am worried or anxious about something, I will do or face it anyway.”). The respondents rated the statements on a seven-point scale, from *never* to *always*.

Howard and Alipour (2014) and Howard et al. (2017) shortened the original scale to six items, removing reverse-scored items that had low reliability. International studies have confirmed the high reliability of the shortened version of the scale, with Cronbach’s α coefficients ranging from .81 (Ginevra et al., 2018) to .83 (Soveti et al., 2018). A Polish version of the abbreviated questionnaire obtained satisfactory model fit indices and a reliability coefficient of .84 in a previous study (Pajestka, 2023b). The same abbreviated version of the questionnaire was used in the present study, yielding a Cronbach’s α coefficient of .88.

Promotion and Prevention Self-Regulation Scale (PPSS)

The questionnaire was developed by Kolańczyk et al. (2013) based on Higgins’ regulatory attitude theory (Higgins, 1997, 2012). It consists of 27 statements to which respondents answer by marking answers on a five-point scale, where 1 indicates *definitely not* and 5 means *yes, definitely*. The questionnaire includes the following five subscales: *Promotion Standards* (SPro), e.g. “In life, I generally do what I want.”, *Promotion Self-control* (KPro), e.g. “I like to act spontaneously.”, *Prevention Standards* (SPre), e.g. “I usually do what I need to do.”, *Prevention Self-control* (KPre), e.g. “I know I can be wrong, so I act cautiously.”, and *Motivational Strength* (M), e.g. “It’s hard to discourage me once I’ve decided something.”. In addition, the standards and self-monitoring subscales can be classified into two general scales, *viz.* *Promotion* (Pro), with nine items, and *Prevention* (Pre) with 11 items, as well as *Motivational Strength* (M) with seven items. Together these form a three-factor structure.

The authors of the questionnaire indicate the general scales to have satisfactory reliability: the Cronbach’s α -value is .77 for the Pro and Pre scales, and .73 for M; for the detailed scales, it ranges from .57 for KPro to .74 for KPre. In the present study, α -Cronbach’s indices of .86 were obtained for both the Pre and Pro scales. Only the results for the two general scales (Pre and Pro) were included in the analyses to allow comparison with previous studies.

Data Analysis Methods

Data analysis was carried out using SPSS Statistics version 29 (IBM) and AMOS 29 Graphics software. The normality of the distribution of variables was

determined using the Kolmogorov-Smirnov and Shapiro-Wilk tests. The possibility of common variance error was also checked using the Harman test. For each variable, means, standard deviations, minimum and maximum values were calculated, and the potential ceiling and floor effect was verified.

Gender differences between groups were assessed using the *F* test for independent samples. The results of the questionnaire subscales were compared using ANOVA for dependent samples, and the relationships between the study variables were assessed by calculating *r*-Pearson correlation coefficients.

The reliability of the tools used was verified by calculating the Cronbach's alpha coefficients for all scales. For the SCCI questionnaire, used on a pilot basis, the structure of the tool was confirmed by confirmatory analysis. Mediation analysis was performed using the Hayes procedure (PROCESS, Hayes, 2018) developed for IBM SPSS Statistics (version 29). This procedure was used to examine the relationship of courage to four dimensions of career construction, taking into account the role of mediators such as promotional and preventive self-regulation.

Results

Preliminary Analyses

Our preliminary analysis found the tested parameters (Table 1) to have a skewness ranging from $-.49$ to $-.19$, and kurtosis from $-.56$ to 1.42 . Both sets of figures are within the acceptable range of -2 to 2 , suggesting that the parameters have a normal distribution (George & Mallery, 2016).

Table 1

Descriptive Statistics for the Studied Variables

		Min.	Max.	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	α
SCCI	Crystallizing	1	5	3.35 ^a	.82	-.59	.51	.83
	Exploring	1	5	3.23 ^{a b c}	1.11	-.19	-.56	.79
	Deciding	1	5	3.39 ^b	1.04	-.30	-.49	.93
	Preparing	1	5	3.40 ^c	.96	-.35	-.10	.87
Courage		1	7	4.72	1.07	-.34	.79	.88
PPSS	Promotion	1	5	3.48 ^d	.67	-.42	.70	.86
	Prevention	1	5	3.65 ^d	.56	-.49	1.42	.85

Note. Differences between results for scales with the same superscripts are statistically significant; *** $p < .001$; α – Cronbach alpha.

No floor or ceiling effects, i.e. where scores cluster near the minimum or maximum possible values, were found for any scale. These effects are considered significant when more than 30% of respondents achieve the highest or lowest possible score (Kane, 2006).

The effect of gender on the tested parameters was tested using one-way analysis of variance (ANOVA) for independent groups. Statistically significant differences were revealed only for preventive self-regulation, $F(1, 298) = 6.94$, $p < .01$, $\eta^2 = .07$, with the women ($M = 40.99$, $SD = 6.14$) presenting higher scores than the men ($M = 39.11$, $SD = 6.17$). In addition, no possibility of common variance error was noted (Podsakoff et al., 2003), with the first factor explaining 31.35% of the variance, as determined with the Harman test.

Finally, the tools were found to demonstrate good internal consistency, indicated by Cronbach's alpha coefficient (α). The results are presented in more detail in the section describing measuring tools.

In the next step, descriptive analyses were performed (Table 2). The mean subscale scores were compared within each technique using analysis of variance (ANOVA) for repeated measures. For the SCCI subscales, all differences between scores were found to be statistically significant, Wilks' Lambda = .97, $F(3, 297) = 3.33$, $p < .05$, $\eta^2 = .03$, indicating a small eta square effect. Multiple comparisons revealed significant differences between the results of the *Exploring* scale and the others ($p < .01$), with the results for *exploring* being the lowest. The following values for Cohen's d were noted: *Crystallizing* – *Exploring* = .14, *Exploring* – *Deciding* = .17, *Exploring* – *Preparing* = .17.

Table 2

Indirect Effects, Standardized Indirect Effects, and Contrasts in the Mediation Analysis (Model 4)

SCCI	Mediators and effects	<i>B</i>	<i>SE</i>	LLCI	ULCI	β	LLCI (β)	ULCI (β)	%
Crystallizing	Indirect effect – promotion	.21	.03	.15	.28	.28	.20	.36	62.16%
	Indirect effect – prevention	.02	.02	-.01	.05	.02	-.01	.07	
	Total indirect effect	.37	.04	.29	.44	.47	–	–	
	Indirect effect	.13	.04	.05	.22	.17	–	–	
	Contrast	.19	.04	.12	.27	.25	.18	.33	
Exploring	Indirect effect – promotion	.10	.02	.06	.15	.19	.11	.28	7.59%
	Indirect effect – prevention	.02	.01	.00	.04	.04	.00	.08	
	Total indirect effect	.17	.03	.11	.22	.32	–	–	
	Indirect effect	.05	.03	-.02	.11	.09	–	–	
	Contrast	.08	.03	.03	.14	.15	.06	.26	

SCCI	Mediators and effects	<i>B</i>	<i>SE</i>	LLCI	ULCI	β	LLCI (β)	ULCI (β)	%
Deciding	Indirect effect – promotion	.14	.04	.07	.22	.17	.08	.27	57.58%
	Indirect effect – prevention	.05	.02	.02	.08	.06	.02	.10	
	Total indirect effect	.33	.04	.25	.42	.41	–	–	
	Indirect effect	.15	.05	.05	.25	.18	–	–	
	Contrast	.09	.05	.00	.19	.11	.01	.23	
Preparing	Indirect effect – promotion	.10	.03	.05	.16	.17	.08	.27	54.17%
	Indirect effect – prevention	.03	.01	.01	.06	.05	.01	.10	
	Total indirect effect	.24	.03	.17	.30	.40	–	–	
	Indirect effect	.11	.04	.04	.18	.18	–	–	
	Contrast	.07	.03	.01	.14	.12	.01	.23	

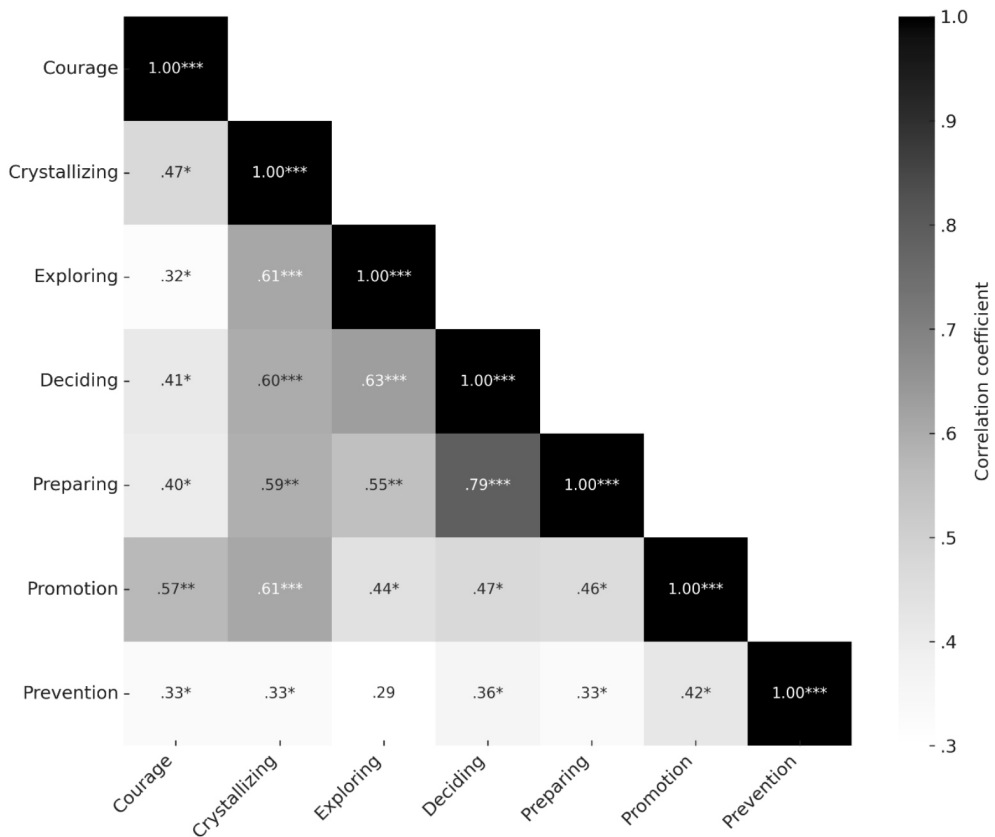
Note. *B* – value of regression coefficients for each path; *SE* – standard deviation of the coefficient; β – standardized coefficient; LLCI, ULCI – lower and upper confidence interval; % – estimate of the mediated effect.

A similar procedure was used to compare the mean scores of the promotional and preventive self-regulation scales. It was found that the scores for preventive self-regulation were significantly higher than those for promotional self-regulation, Wilks' Lambda = .95, $F(1, 299) = 17.48$, $p < .001$, $\eta^2 = .06$.

Verification of the Hypotheses

The analysis revealed a significant positive correlation between courage and all aspects of career construction. The strongest correlation was between courage and crystallizing ($r = .47$), while the weakest correlation was between courage and exploring ($r = .32$). In addition, courage was significantly associated with both promotional and preventive self-regulation (Figure 1; all $p < .001$). These results support hypothesis H1.

Hypothesis H2 regarding the relationship between courage and career construction when mediated by promotional and preventive self-regulation was verified by mediation analysis. The procedure was performed using Hayes' PROCESS macro for IBM SPSS (Hayes, 2018). The purpose of the analysis was to examine the effect of the independent variable (courage) on the four dependent variables (crystallizing, exploring, deciding, preparing), both directly and through two mediators: promotional and preventive self-regulation. The analyses included assessments of direct, indirect and total effects, with contrasts that compared the influence of the two mediators.

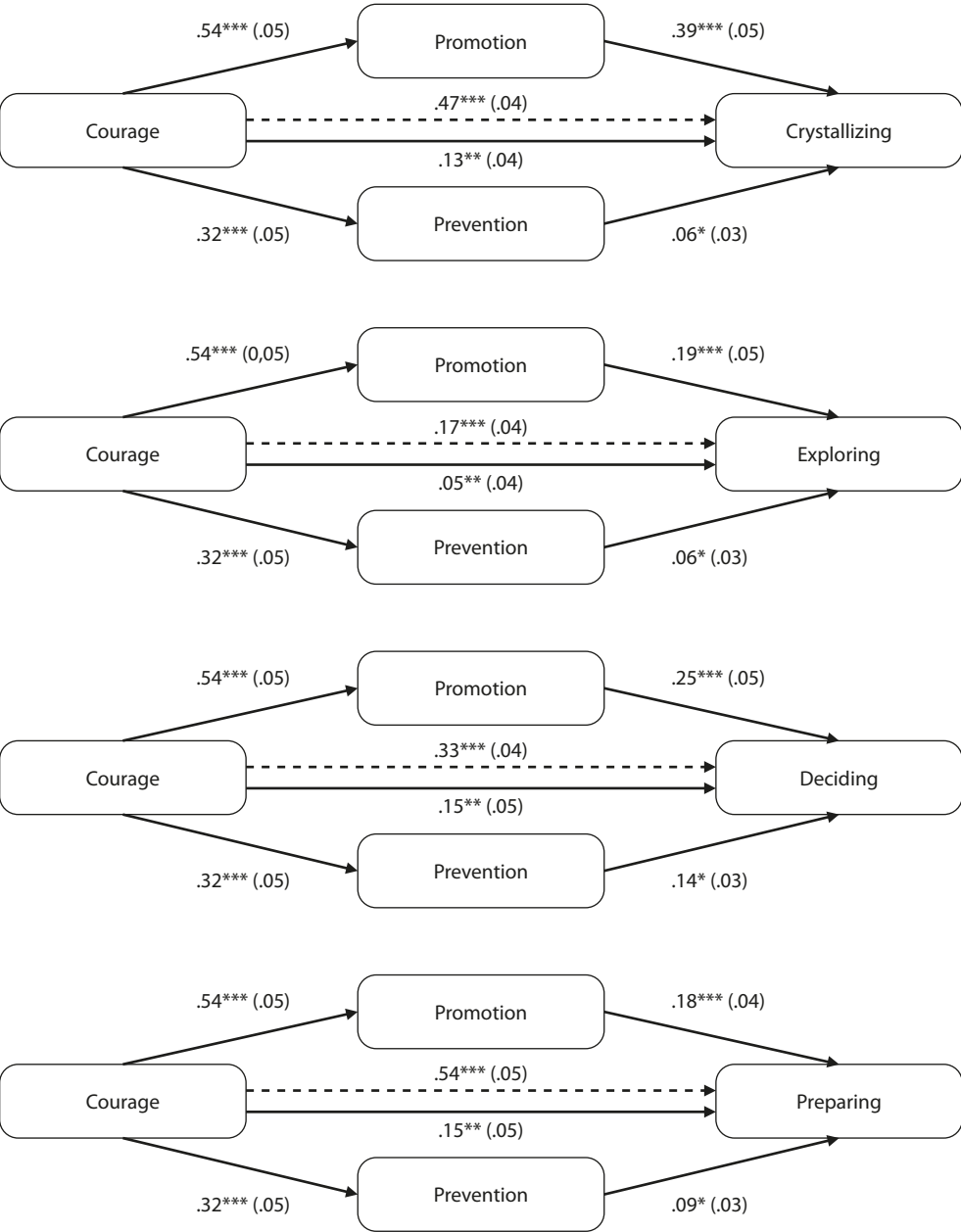
Figure 1*Correlation Matrix of All Variables*

Note. *** $p < .001$

Four models were tested (Figure 2), i.e. one for each of the four dependent variables with courage as an independent variable; each procedure was repeated for both mediators combined. The results were interpreted as recommended by Hayes (2022), assuming that mediation is indicated by the presence of significant relationships ($p \leq .05$) between the predictor variable and the mediator, and between the mediator and the dependent variable. The mediation effects were estimated using a bootstrapping technique with 5000 trials and adjusted confidence intervals (95% IC); the effects were considered significant if the 95% confidence interval did not contain zero (MacKinnon et al., 2004; Preacher & Hayes, 2004).

The results showed that promotional self-regulation played a key role in mediating the relationship between courage and all four dependent variables. Preventive self-regulation had a significant but weaker effect for exploring, deciding and preparing, and an insignificant effect for crystallizing. The contrast

Figure 2
Results of Mediation Analyses for Four Career Construction Variables with Courage as Independent Variable, Showing the Direct and Indirect (in Parentheses) Pathways Within the Multiple Mediation Models



Note. Values are unstandardized regression coefficients with standard errors in parentheses; dashed line indicates simple regression path (without mediators); * $p < .05$, ** $p < .01$, *** $p < .001$.

analysis found all indirect effects to be statistically significant, indicating that in all cases, promotional self-regulation was a more significant mediator than preventive self-regulation, especially for crystallizing.

The results of the mediation analyses conducted using the least squares method verified hypothesis H2.

Discussion

The article presents an analysis of the psychological traits influencing the career decision-making process among young adults. It focuses on the role of two key psychological constructs, courage and self-regulation, in different areas of career construction, such as (a) crystallizing a professional self-image, (b) seeking information about occupations, (c) making decisions about career choice, and (d) preparing to implement those decisions. The results indicate that courage and self-regulation play vital parts in the process of career construction by young adults. Positive correlations were identified between courage and all stages of career construction, demonstrating that courage plays a key role in dealing with career challenges, especially when faced by a dynamically-changing labour market. These findings are consistent with previous research showing that courage supports career decision-making despite risk and uncertainty (Di Maggio et al., 2020; Norton & Weiss, 2009; Rate et al., 2007).

The courage was found to be most closely associated with the crystallizing of professional self-image, underscoring its significance in the processes of professional identity construction. As indicated previously (Ginevra et al., 2018; Hannah et al., 2007; Martin, 2011), courage helps individuals face difficult challenges, which is crucial in making decisions regarding the choice and implementation of professional goals. In this context, courage can be viewed as a psychological resource that supports an individual in dealing with uncertainty and increases the effectiveness of career construction activities.

The fact that promotional self-regulation plays a mediating role in the relationship between courage and career construction underscores its particular importance in early adulthood. As noted by Vianen et al. (2012), young people are more likely to benefit from a promotional orientation, as this fosters a focus on achieving goals and aspirations. The observed lack of any significant effect by preventive self-regulation on the crystallizing of vocational identity is consistent with Lockwood et al. (2005), who report that young people are more likely to favour growth strategies over risk avoidance.

Our findings are also consistent with those of Magnano et al. (2021), who emphasize the importance of courage in occupational adaptation and call for further research to better understand the cross-cultural differences in the effects of courage on occupational adaptation. These studies suggest that both courage and self-regulation mechanisms may have different functions depending on cultural specificity, which in turn requires further cross-cultural analyses and comparisons.

The research presented here, however, has some limitations. First of all, the sample was homogeneous, including only young adults from one country, which limits the generalizability of the results to other cultural groups. In addition, the data was collected using self-reporting tools, which entails the risk of common variance error and the influence of social approval on participants' responses (Podsakoff et al., 2003). Furthermore, the use of a cross-sectional approach precludes any long-term assessment of the impact of courage and self-regulation on the career construction process. The study was also limited by the fact that the analysis did not include certain other factors which can significantly affect the studied relationships, such as level of social support, psychological resilience and work experience. These can have a notable influence: Hannah et al. (2007) and Koerner (2014) indicate that social support enhances courage, which can lead to greater effectiveness in completing professional tasks. Moreover, the study did not include any analysis of differences due to functioning in different professional environments; these may be characterized by different levels of risk and stability, and hence different relationships between courage and the process of career construction.

Further research should consider the influence of seniority or type of work environment. It is likely that courage and self-regulation strategies vary by level of work experience, which may be due to differences in the challenges and demands placed on newcomers compared to those with more seniority.

In addition, the type of vocational environment, with its unique dynamics, level of risk and degree of stability, may moderate the influence of courage and self-regulation on career construction processes. For example, Wang et al. (2022) emphasize the important role played by courage in coping with challenges in high-risk environments such as rescue jobs, where individuals may rely more on courage when making career decisions.

Conclusion

Courage and self-regulation mechanisms, especially those of a promotional nature, appear to play a key role in supporting young adults in the process of constructing a career. The results suggest that developing courage may not only increase readiness to make career decisions, but also promote better adaptation to the dynamic nature of the modern labour market. The finding that promotional self-regulation serves as a mediator emphasizes the importance of focusing on future goals and aspirations in the process of career adaptation.

The limited impact of preventive self-regulation suggests that further research is needed to examine the differences in preferred regulatory strategies between specific career and work environments. Future studies should take into account factors such as seniority, type of work environment, and cultural diversity to better understand how these variables moderate the impact of courage and self-regulation on career construction processes. These analyses may contribute to the development of more individualized career support strategies tailored to the needs of different social and vocational groups.

Our findings have important practical implications. Creating programs that support the development of courage and self-regulation strategies among young adults can bring measurable results, such as higher job satisfaction, better coping with professional challenges and improving the overall quality of life.

In addition to its theoretical and practical value, the study also highlights areas that require further exploration. The dynamic nature of courage and self-regulation, and hence their variability over time, should be further investigated with longitudinal studies to better understand how to best support professional development at different stages of life.

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