
Issues and Perspectives in Business and Social Sciences

Undergraduates' career adaptability: a systematic review of predictors, mediators, and outcomes

Choon Wei, Low^{1*}, Ming Yu, Cheng¹, Kar Yee, Ng¹

¹ Faculty of Accountancy and Management, Universiti Tunku Abdul Rahman, Malaysia

*correspondence: cwlow1020@utar.my

Abstract

Career adaptability is vital in helping university students transition from education to employment. This research conducts a systematic literature review to compile recent empirical studies on the factors influencing, mediating, and resulting from career adaptability among university students. The review includes 33 studies published between 2020 and 2025, featuring a range of geographical contexts and research methods. Key predictors identified include personality traits, contextual influences, and career-related skills. Additionally, mediating factors like resilience, self-efficacy, and challenges in career decision-making are explored, which affect the relationship between career adaptability and outcomes such as career planning, employability, and mental well-being. This study emphasises the need to cultivate adaptive career skills through educational programs and tailored support systems. Nonetheless, it acknowledges limitations, including the prevalence of cross-sectional studies and a shortage of longitudinal research. Future studies should investigate the evolving nature of career adaptability and its impact on non-traditional career paths. These insights are beneficial for educators, policymakers, and career advisors aiming to improve career readiness among students.

Keywords:

Contextual career transition;
Undergraduates employability;
Employment transition;
Career decision making;
Career readiness.

Received:

April 8, 2025

Accepted:

February 10, 2026

Published:

March 30, 2026

1. Introduction

Career-related challenges are becoming increasingly significant in today's educational landscape, as individuals must quickly identify their career identities. Common issues include confusion over school primary selection, choices influenced by peers or parental pressure, selection of an unsuitable department, and discomfort with the chosen majors. Recent research on career adaptability within educational settings, particularly regarding the transition from school to work, has initiated extensive discussion. Numerous challenges arose during this transitional phase. Individuals experience changes in their relationships with family and friends (Kerr et al., 2004) while struggling to achieve their career objectives (Hurtado et al., 2007). They must also navigate critical career decisions (Kerr et al., 2004) and understand that insufficient career

preparation can significantly impact vocational issues both directly and indirectly (Skorikov, 2007). At this stage, students need to reflect on their career options and pursue professional aspirations (Chong & Leong, 2017). Among the various aspects of career preparation, career confusion has received the most attention (Creed et al., 2005). Given these challenges, career adaptability has emerged as a crucial factor in helping students navigate the uncertainties in their transition from education to the workforce. As students make decisions regarding employment and further education, the time spent in high school and university plays a crucial role in their career decision making and adaptability (Buyukgoze-Kavas et al., 2015).

Career adaptability, which encompasses self-regulation, resilience, and proactive career planning, equips individuals with the psychological and behavioral resources needed to cope with career-related stress and make informed decisions (Savickas et al., 2018). As students face pressure from societal expectations, economic conditions, and evolving job market demands, developing adaptability enables them to explore career options with greater confidence and flexibility. Research suggests that individuals with higher career adaptability are better equipped to manage career transitions, overcome setbacks, and seize emerging opportunities (Rudolph et al., 2017). Therefore, understanding and fostering career adaptability are essential for educators, career counsellors, and policymakers seeking to support students in achieving long-term career success. Difficulties in adjusting to unforeseen career changes have emphasized the importance of career adaptability, defined as the capacity to effectively manage transitions and balance career roles (Super & Knasel, 1981). Originating from Super's career development theory and career maturity concept, researchers have progressively developed and refined career adaptability (Super & Knasel, 1981). As the professional landscape becomes increasingly dynamic, research has explored ways to enhance career resilience, help individuals navigate uncertainty, adapt to unexpected challenges, and make necessary adjustments (Savickas, 1997).

Therefore, this study aimed to critically review the existing research on career adaptability among university students and integrate the findings to offer insights into enhancing career adaptability. Since universities represent a formative period for career development, analyzing career adaptability during this stage is essential (Savickas, 2005). Examining the career adaptability of university students is crucial, as it bridges the divide between education and employment, thereby enhancing students' employability and resilience when facing job market uncertainties (Koen et al., 2010; Savickas & Porfeli, 2012; Duffy, 2010). With the rise of automation, artificial intelligence, and the gig economy, graduates who can adapt are more likely to successfully manage career shifts, explore various job options, and engage in ongoing skill development to maintain their competitive edge (World Economic Forum 2023; OECD, 2019).

Although previous studies have examined career adaptability in various populations, including working adults and high school students, there remains a lack of comprehensive synthesis focusing specifically on university students, who are at a critical juncture in educational and career development. Existing reviews have often concentrated on either general conceptual frameworks or isolated predictors, without integrating emerging contextual factors, such as post-pandemic challenges, digital transformation, and socio-economic pressures in developing economies. Moreover, many prior reviews have not sufficiently explored the mediating role of career adaptability between psychological traits and career outcomes within university settings. This study addresses these gaps by offering an up-to-date integrative review of the predictors, mediators, and outcomes of career adaptability among university students, particularly in the context of a rapidly evolving global labor market.

The main research question guiding this study is as follows: What are the key predictors, mediators, and outcome variables of career adaptability among university students? This study makes two significant contributions to the literature on career adaptability: First, the theoretical contribution: this study synthesizes existing research on career adaptability, providing a comprehensive understanding of the key theories, predictors of career adaptability and the roles

of career adaptability as a mediator in the literature. Second, the findings provide evidence-based insights for educators, policymakers, and career counsellors in designing more effective career development programs, interventions, and policies. Career adaptability enhances psychological readiness, equipping students to handle job-searching challenges, dealing with rejections, and recovering from career setbacks while promoting a proactive stance towards career advancement.

2. Method

This study employed a systematic review methodology, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), as a guideline for documenting articles. PRISMA is a valuable resource for evidence-based reporting standards. In this regard, a systematic review involves a thorough and organized search and a logical and established method for selecting and evaluating relevant contributions, which should then be critically synthesized (Petticrew & Roberts, 2008). Additionally, PRISMA is a widely used approach for conducting systematic literature reviews (Abelha et al., 2020; Zarate et al., 2022; Ogunmakinde et al., 2023; Sahoo et al., 2024).

Figure 1 illustrates the PRISMA flow, which details how the 33 articles were included in this systematic review. The process began with identification; 223 articles were sourced from the Scopus database in March 2025. The search string for these articles was “career adaptability” or “career adaptation” and “university student” or “graduates, ” graduates’, as the focus of this study was to examine the antecedents of career adaptability among university students.

The second step was screening, which resulted in the inclusion of 105 articles. The review comprised articles published in English from 2020 to 2025. The selection of articles in this recent period ensured the relevance and applicability of the literature for this study. Over the past five years, rapid technological advancements, the expansion of the gig economy, and global events, such as the COVID-19 pandemic, have significantly reshaped the career development landscape. Focusing on the current literature, this systematic review offers the most relevant insights into how these factors shape university students' career adaptability (Zhou, 2023; Ma et al., 2023). Furthermore, higher education institutions have increasingly prioritized career readiness programs, incorporating skills such as adaptability and resilience to align with changing employer expectations and labor market needs (Du et al., 2024; Pong & Leung, 2023b).

However, only 76 full-text articles were open access and were available for downloading for further reading. This study incorporated empirical research while excluding qualitative studies, measurement scale validation studies, and simple correlational studies to ensure a focused analysis of career adaptability. Qualitative studies, although valuable for exploring individual experiences, often involve small sample sizes and context-specific insights, limiting their generalizability (Pong & Leung, 2023b). Similarly, measurement scale validation studies assess the reliability and validity of instruments, rather than examining substantive relationships between career adaptability and its predictors or outcomes. Although important in psychometric research, they do not directly contribute to understanding career adaptability within educational and labor market contexts (Chui et al., 2022; de Abreu et al., 2024). Excluding simple correlational studies would ensure a more comprehensive understanding of the mechanisms of career adaptability. Studies that involved career adaptability as a predictor were also excluded, as this review focuses on the predictors of career adaptability and the role of career adaptability as a mediator.

Ultimately, 31 articles were included in this systematic review. Tables 1 and 2 summarize articles from various empirical studies on career adaptability between 2020 and 2025 across multiple countries, including China, the United States, South Africa, Turkey, Vietnam, Brazil, and Malaysia.

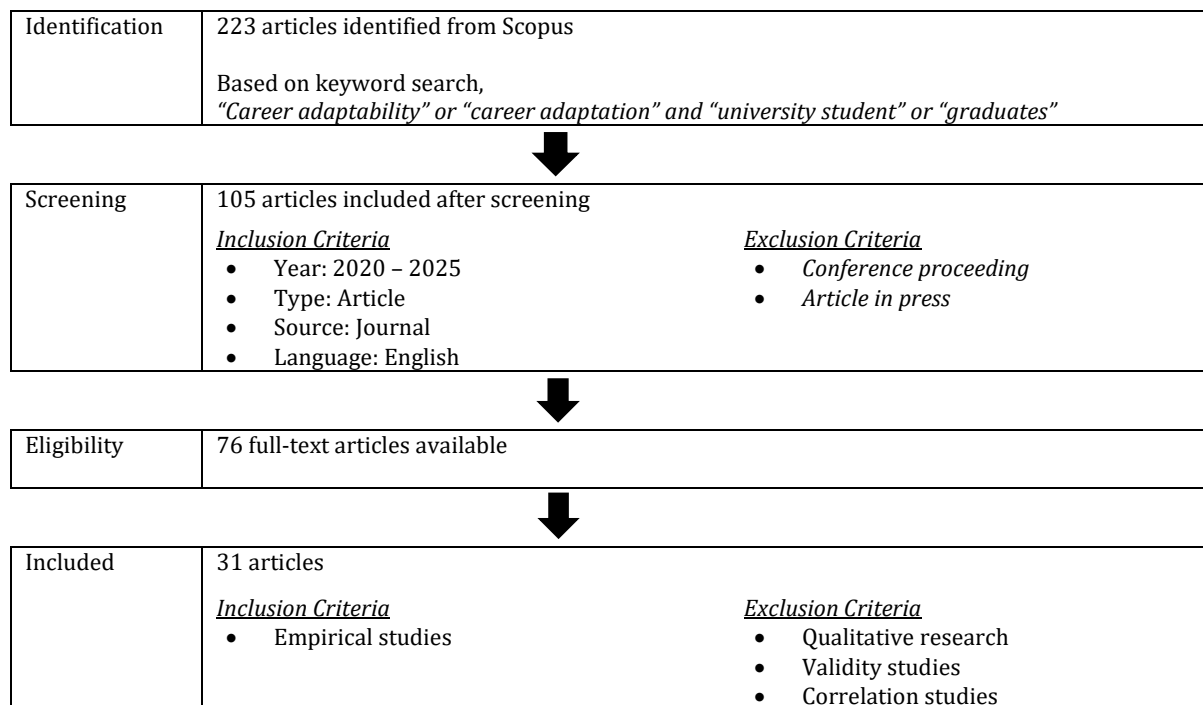


Figure 1. PRISMA model of the literature review process

3. Findings

3.1 Geographic distribution

The geographical distribution of research on career adaptability shows rising global interest in how individuals handle career transitions in different cultural and economic environments. Studies have mainly focused on Asian nations, especially China (e.g., Gao et al., 2025; Du et al., 2024; Zhang et al., 2024; Fu et al., 2023; Zhou, 2023; Wang et al., 2021). This trend highlights the growing importance of career adaptability in the rapidly changing job market. This regional concentration reflects the growing emphasis on career adaptability in rapidly evolving Asian labor markets; however, it also introduces a potential regional bias that may limit the generalizability of the findings to other cultural and economic contexts. In addition to China, research on career adaptability has also emerged in Southeast Asia, including Malaysia (Hamzah et al., 2021), Indonesia (Salim et al., 2023), Thailand (Liu & Jew, 2023), and Vietnam (Nguyen et al., 2024).

Table 1. Predictors of career adaptability

Author(s)/ Years/ Location of studies	Theories	Predictors	Mediator
Gao et al. (2025)/ <i>China</i>	Basic Psychological Need Theory Social Cognitive Career Theory	Basic psychological needs satisfaction Grit Career Decision-making Self-efficacy (CDMSE)	-
Du et al. (2024)/ <i>China</i>	-	Mastery goal orientation Social Support CDMSE	-
de Abreu, et al. (2024)/ <i>South Africa</i>	-	Mindfulness	Vocational identity
Zhang et al. (2024)/ <i>China</i>	-	Coping style	CDMSE
Mavhungu et al. (2024)/ <i>South Africa</i>	-	Career engagement Mentor engagement Career success	
Pong & Leung (2023b)/ <i>China</i>	-	Community Service-Learning intervention	
Salim et al. (2023)/ <i>Indonesia</i>	-	Peer support	CDMSE
Pong & Leung (2023a)/ <i>Hong Kong</i>	-	Emotional intelligence	
Zhou (2023)/ <i>China</i>	Career Construction Theory Cognitive Appraisal Theory	Career decision Ambiguity tolerance preference	Challenge appraisal
Fu et al. (2023)/ <i>China</i>	Career Construction Theory	Core Self-evaluation on Future Work Selves	
Liu & Jew (2023)/ <i>Thailand</i>	Theory of Vocational Maturity	Social capital	Career Choice
Lu & Jia (2022)/ <i>China</i>	Social Cognitive Career Theory	Future work Self-salience	Career exploration
He & Yu (2022)/ <i>China</i>	Career Construction Theory	Intolerance of uncertainty Anxiety sensitivity	Resilience Proactive personality
Sahin & Gulsen (2022)/ <i>Turkey</i>	-	Basic psychological need satisfaction Academic self-efficacy	Self-leadership
Lagree et al. (2021)/ <i>United State</i>	-	Trait Emotional Intelligence	Extracurricular participation
Hamzah et al. (2021)/ <i>Malaysia</i>	-	Career emotional intelligence	CDMSE
Zhuang et al. (2021) <i>China</i>	Conservation of Resources Theory	Perceived stress	Positive psychological capital Work Volition
Wang et al. (2021) <i>China</i>	Conservation of Resources Theory	Proactive personality	Emotional exhaustion

Note: Some of the studies did not mention the location of the studies and hence are not listed in the table.

Table 2. Roles of career adaptability as a mediator

Author(s)/ Years/ Location of studies	Theories	Predictors	Mediator	Outcome Variable
Hai et al. (2024)/ China <i>China</i>	Psychology of Working Theory	Economics constraints Family atmosphere School climate	Work volition Career adaptability	Future decent work perception
Chiesa et al. (2024)/ Italy Ma et al. (2024)/ China	- Sustainable Career Theory	Accommodation Serious leisure	Career adaptability Career adaptability	Career goal disengagement Well-being Self-perceived employability
Nguyen et al. (2024)/ Vietnam Ulas-Kilic & Peila-Shuster (2023)/ Turkey	Decision-Career Choice Theory Career Construction Theory	Emotional Intelligence Proactive personality	Career adaptability Career adaptability	Career Decision-making Difficulties Student career construction Life satisfaction Career commitment
Marini et al. (2023)/ Italy	-	Economic constraint Perceived career barriers	Career adaptability Work volition	Career discrepancy
Ma et al. (2023)/ China	-	Perceived organisational support	Career adaptability	Career exploration
Lee & Jung (2022)/ Korea	Career Construction Theory	Cognitive emotion	Career adaptability	CDMSE
Parmentier et al. (2022)/ Belgium	-	Emotional intelligence	Career adaptability	Anticipatory emotions CDMSE
Ambiel & de Oliveira Barros (2022)/ <i>Brazil</i>	-	Altruistic hope Self-centered hope Satisfaction	Career adaptability	Depressive symptomatology
Chui et al. (2022)/ Hong Kong	Career Construction Theory Social Cognitive Career Theory	Protean career orientation	Career adaptability CDMSE	Career optimism
Chen et al. (2022)/ China Ma et al. (2021)/ China	Career Construction Theory Psychology of Working Theory	Career behaviour Economic constraints	Career adaptability Career adaptability	Career results Decent work Academic engagement

Note: Some of the studies did not mention the location of the studies and hence are not listed in the table.

These findings indicate that career adaptability is a significant concept in emerging economies, where workforce dynamics are transforming owing to globalization and technological progress. Furthermore, studies from South Africa (de Abreu et al., 2024), Turkey (Sahin & Gulsen, 2022; Ulas-Kilic & Peila-Shuster, 2023), Italy (Chiesa et al., 2024; Marini et al., 2023), Brazil (Ambiel & de Oliveira Barros, 2022), and Korea (Lee & Jung, 2022) reflect a widespread interest in career adaptability across various socioeconomic landscapes. These studies propose that career adaptability is a universal concept shaped by local labor market circumstances, cultural perspectives on career growth, and economic stability.

3.2 Career Construction Theory in career adaptability literature

One of the most influential theories in this domain is Career Construction Theory (CCT), which builds upon Super's Career Development Theory. It has been widely used in the literature (Ulas-Kilic & Peila-Shuster, 2023; Zhou, 2023; Fu et al., 2023; Chui et al., 2022; He & Yu, 2022; Chen et al., 2022). Career adaptability is a central concept in vocational psychology (Goodman, 1994; Savickas, 1997; Ebberwein et al., 2004; Hartung et al., 2008). It is a psychosocial and multidimensional construct encompassing a combination of attitudes, competencies, and behaviors that individuals use to align themselves with suitable work (Savickas, 2013, p.45). Career adaptability exists at the person and environment intersection, reflecting individuals' resources for managing career tasks and challenges. Previous studies have demonstrated that career adaptability positively predicts favorable career outcomes such as graduates' employment quality (Koen et al., 2012), job seekers' re-employment quality (Koen et al., 2010), and employees' subjective career success (Zacher, 2014).

Savickas's Career Construction Theory, grounded in McAdams's broader framework of personality, signifies an evolution in the understanding of the personal environment fit theory and life theme theory. By integrating these concepts, Savickas created a model that considered three fundamental aspects of career development: vocational personality types, career adaptability, and life themes. According to his theory, individuals possess unique traits that influence their career paths, indicating that the challenges and coping strategies they encounter vary across different stages of their careers, thus forming a developmental perspective (Savickas, 2005).

The theory examines the dynamics of career development by addressing three key questions: What influences career choices, how individuals adapt to changes, and why do they pursue specific career paths? The "what" pertains to vocational personality types, emphasizing the diversity of individual traits and their contributions to career choices. The "how" concentrates on career adaptability, highlighting the ability to navigate transitions and overcome obstacles. The "why" revolves around life themes, the underlying narratives and personal stories that shape career decisions (Savickas, 2005; 2013).

The reviewed studies highlighted the ongoing significance of CCT in understanding career adaptability. For instance, Zhou (2023) merged CCT with Cognitive Appraisal Theory to investigate the effects of career decision-making and ambiguity tolerance on adaptability. Similarly, Fu et al. (2023) examined how core self-evaluations of future selves affect adaptability, further reinforcing that individual perceptions of career progression shape career adaptability. Moreover, various studies (He & Yu, 2022; Lee & Jung, 2022; Chui et al., 2022) have integrated CCT components such as resilience and proactive personality traits to elucidate how individuals adjust to changing career requirements. These results emphasize the dynamic nature of career adaptability and its crucial role in career development.

3.3 Predictors of career adaptability

Various predictors have been identified that influence the development of career adaptability. These factors can be categorized as personal traits, contextual elements, and psychological constructs. The literature indicates that individual traits, such as proactive personality, defined as the tendency of an individual to take initiative and effect change in one's environment, are positively related to career adaptability (He & Yu, 2022; Wang et al., 2021). Similarly, emotional intelligence, which refers to the ability to perceive, understand, and control emotions, has been shown to enhance career adaptability by improving interpersonal effectiveness and decision-making under pressure (Pong & Leung, 2023a; Parmentier et al., 2022). These are the key predictors of career adaptability. Other traits, including grit, which captures perseverance and passion for long-term goals, contribute to higher levels of career adaptability by fostering resilience in the face of obstacles (Gao et al., 2025), and career engagement, which reflects the level of proactive participation in career-related activities, such as planning, networking, and learning, have been identified as key behavioral predictors of career adaptability (Mavhungu et al., 2024).

Contextual and environmental support systems play a pivotal role in cultivating career adaptability, particularly among university students navigating school-to-work transition. Various sources of support are essential to career adaptability. Social support from family, mentors, and academic staff provides not only information and emotional assistance, but also boosts students' confidence in their career decision-making processes (Du et al., 2024). Additionally, peer support through shared experiences and encouragement from fellow students serves as a reinforcing mechanism that reduces anxiety and fosters a sense of belonging and purpose (Salim et al., 2023). This helps to facilitate adaptability by offering individuals the necessary resources and encouragement to make career decisions. Furthermore, community-based initiatives, such as service-learning programs (Pong & Leung, 2023b), aid in skill development and enhance career adaptability. Thus, institutional and community contexts act as facilitators and active enablers of the development of adaptability.

Numerous studies have highlighted the influences of cognitive and emotional factors on career adaptability. Among these, career decision-making self-efficacy (CDMSE) frequently emerged as a crucial predictor (Gao et al., 2025; Du et al., 2024; Zhang et al., 2024). CDMSE, defined as the belief in one's ability to successfully engage in career decision-making tasks, has consistently been identified as a significant predictor. High CDMSE levels have been linked to greater confidence in exploring options, setting goals, and implementing career plans. Mindfulness, defined as the ability to remain present and nonjudgmentally aware of one's thoughts and feelings, enhances adaptability by promoting emotional regulation and reflective thinking (de Abreu et al., 2024). Coping styles, especially problem-focused coping (Zhang et al., 2024), bolster individuals' abilities to navigate career uncertainties. Additionally, perceived stress and psychological capital (Zhuang et al., 2021) are associated with career adaptability, highlighting the significance of mental well-being in career advancement.

3.4 Career adaptability as a mediator

Career adaptability is increasingly recognized as a central psychological resource that significantly influences a wide range of career-related outcomes, serving as a link between various predictors and dependent variables, such as career success, life satisfaction, and overall well-being. Research has established that career adaptability not only promotes positive career development but also helps buffer against adverse socioeconomic and psychological conditions. For instance, Hai et al. (2024) demonstrated how economic limitations, family dynamics, and school environments shape future perceptions of quality work through career adaptability. Similarly, Ma et al. (2021) identified career adaptability as a mediator between economic

constraints and favorable work outcomes. In addition, career adaptability mediates the connection between psychological traits and career outcomes.

Moreover, career adaptability mediated the relationship between psychological characteristics and career outcomes. For example, Lee and Jung (2022) showed that cognitive emotions, such as emotional awareness and regulation, influence CDMSE directly through career adaptability, while Ambiel and de Oliveira Barros (2022) examined the pathway from hope and life satisfaction to reduced depressive symptoms and found that career adaptability plays a crucial role in explaining this relationship. Furthermore, career adaptability mediated the relationship between psychological characteristics and career outcomes. Chiesa et al. (2024) illustrated how career adaptability mediates the relationship between flexibility and disengagement from career goals. Career adaptability has also been shown to mediate the relationship between career-related behaviors and broader career outcomes.

Career-related behaviors have also been linked to long-term outcomes through the mediating role of adaptability. For example, Nguyen et al. (2024) revealed that emotional intelligence affects the experience of career decision-making difficulties indirectly through career adaptability, suggesting that individuals with high emotional intelligence are better equipped to navigate career challenges when they possess adaptable skills. Similarly, Ma et al. (2024) explored how engagement in serious leisure activities—those pursued with passion, skill development, and long-term commitment—enhances overall well-being, with career adaptability serving as the mechanism that translates these enriching experiences into sustainable career outcome growth.

4. Discussion

The findings from this systematic literature review highlight the multidimensional nature of career adaptability (Figure 2), which is influenced by psychological, social, and contextual factors. According to various studies, career adaptability is closely correlated with individual characteristics, such as grit, emotional intelligence, and proactive personality, which collectively enhance an individual's ability to navigate career uncertainties (Nguyen et al., 2024; Ulas-Kilic & Peila-Shuster, 2023; Wang et al., 2021). Furthermore, social and environmental factors, including peer support, family atmosphere, and economic constraints, are crucial in shaping student adaptability (Hai et al., 2024; Marini et al., 2023; Zhuang et al., 2021). These findings indicate that career adaptability is not solely an intrinsic trait but is significantly influenced by external support systems and contextual circumstances.

One important finding of this review is that CDMSE is a key mediator in career adaptability studies. Research has shown that students with higher CDMSE levels tend to exhibit greater adaptability, contributing to more effective career decision-making processes (Salim et al., 2023; Chui et al., 2022). This implies that programs designed to improve CDMSE, such as career counseling, mentorship initiatives, and hands-on learning experiences, have the potential to enhance students' career adaptability. Furthermore, factors such as career engagement, work volition, and vocational identity also play significant roles in shaping career adaptability outcomes (Mavhungu et al., 2024; de Abreu et al., 2024). These mediating factors emphasize the necessity of encouraging active involvement in career-related activities to boost adaptability and long-term career success.

A recurring theme in the literature emphasizes the crucial role of career adaptability in influencing both career-related and psychological outcomes. Research has consistently demonstrated that individuals with higher career adaptability exhibit increased employability, engage more actively in career exploration, and experience extraordinary well-being (Ma et al., 2024; Lu & Jia, 2022; Ambiel & de Oliveira Barros, 2022). These findings highlight the significance

of adaptability in navigating the changing job market and in enhancing career resilience. Moreover, studies have revealed that career adaptability is a protective factor against career-related stress, while fostering career optimism (Pong & Leung, 2023a). When examining the predictors of career adaptability, research has identified various influential factors, including personality traits, cognitive and emotional characteristics, and social support systems. Significant predictors such as proactive personality (He & Yu, 2022; Wang et al., 2021), emotional intelligence (Pong & Leung, 2023a; Parmentier et al., 2022), and career decision-making self-efficacy (Gao et al., 2025; Du et al., 2024), are associated with higher adaptability. Additionally, environmental and social factors, such as peer support (Salim et al., 2023) and community-based interventions (Pong & Leung, 2023b) enhance adaptability by providing individuals with the essential resources for effective career decision-making.

Beyond serving as an outcome, career adaptability also functions as a mediator, linking predictors of broader career and psychological outcomes. Research indicates that adaptability is essential in transforming economic constraints, personal characteristics, and psychological traits into favorable career results, such as success, well-being, and life satisfaction (Hai et al., 2024; Ma, et al., 2023). Career adaptability reinforces its importance as a predictor and mediating variable in influencing career paths by connecting individual and environmental factors with career development.

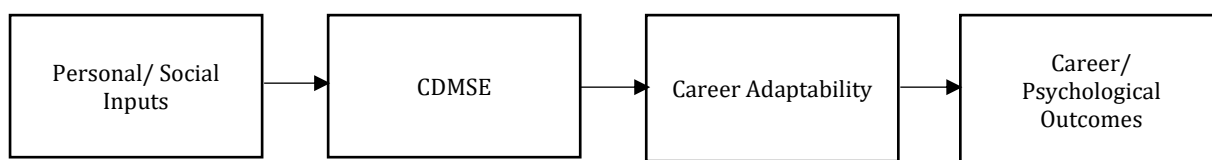


Figure 2. Conceptual framework

5. Conclusion

In conclusion, this study offers important insights into career adaptability by integrating the current literature and highlighting the essential mediating factors. Although the results have substantial theoretical and practical implications, overcoming research limitations through longitudinal, cross-cultural, and intervention-focused studies will enhance the knowledge in this field. Gaining a deeper understanding of career adaptability will ultimately aid students in effectively entering the workforce and achieving enduring career success.

The findings of this study have significant theoretical and practical implications. Theoretically, this study enriches career development literature by consolidating existing insights on career adaptability and pinpointing essential mediating and moderating factors. This emphasizes the roles of CDMSE, career engagement, and work volition as vital mechanisms for enhancing adaptability, thereby offering a framework for future empirical research (Salim et al., 2023; Mavhungu et al., 2024). These results highlight the need for higher education institutions to incorporate career adaptability training in their academic curricula. Universities should establish focused career counseling, mentorship, and skill development initiatives to empower student adaptability and decision-making self-efficacy (Chui et al., 2022; de Abreu et al., 2024).

Despite its contributions, this study has several limitations. First, most studies employ cross-sectional designs, limiting their ability to ascertain causal links between career adaptability and career outcomes (Chen et al., 2022; Hamzah et al., 2021). Second, the concentration of studies in China and other Asian countries limits the generalizability of the findings to diverse cultural and economic settings (Ma et al., 2024). Future research should investigate career adaptability in various regions in order to gain a broader understanding. Furthermore, the reliance on self-

reported data in many studies raises concerns regarding social desirability bias, potentially influencing the accuracy of responses (Parmentier et al., 2022). Incorporating more objective measures such as employer evaluations and longitudinal tracking could strengthen the validity of subsequent research.

To overcome these limitations, future research should explore several possibilities. First, longitudinal studies are crucial to assess how career adaptability develops over time and its effects on long-term career outcomes, such as job security, satisfaction, and advancement (Chen et al., 2022; Lu & Jia, 2022). Such approaches will offer significant insights into the evolving nature of adaptability and its significance in career progression. Second, it is important to undertake comparative studies across diverse cultural and economic settings to better understand how sociocultural factors influence career adaptability (Pong & Leung, 2023a). Broadening research efforts beyond China and Asia will increase the global applicability of career adaptability theory.

Moreover, future research should investigate the effectiveness of targeted career interventions, such as mentorship programs, career coaching, and hands-on learning, to improve students' adaptability. Both experimental and quasi-experimental designs can be utilized to assess the influence of these interventions on career decision-making and employability outcomes (Salim et al., 2023). Finally, incorporating objective measures of career adaptability, such as employer evaluations, labor market indicators, and performance assessments, would minimize bias and yield more substantial evidence for policy and educational reforms (Parmentier et al., 2022).

While the growing body of literature on career adaptability is encouraging, much of the existing research remains geographically concentrated in certain regions, particularly in East and Southeast Asia. This regional bias may limit the generalizability of our findings and development of globally applicable frameworks. To strengthen the field's theoretical and practical relevance, future research is recommended to prioritize expanding geographical representation, especially in under-researched areas such as Africa, Central Asia, and parts of Latin America. Conducting comparative cross-cultural studies can provide richer insights into how differing socioeconomic, cultural, and institutional contexts influence the development and application of career adaptability.

Acknowledgement: The authors acknowledge the support received from Universiti Tunku Abdul Rahman (UTAR) during the completion of this study.

Funding statement: This research received no specific grants from any funding agency in the public, commercial, or not-for-profit sectors.

Ethical compliance: Not applicable

Data access statement: Research data are available in the database indicated in the research method section.

Conflict of interest declaration: The authors declare that they have no affiliations with or involvement in any organization or entity with any financial interests in the subject matter or materials discussed in this manuscript.

Author contributions: Choon Wei Low prepared and revised the manuscript. Ming Yu Cheng and Kar Yee supervised writing.

REFERENCES

- Abelha, M., Fernandes, S., Mesquita, D., Seabra, F., & Ferreira-Oliveira, A. T. (2020). Graduate employability and competence development in higher education - a systematic literature review using PRISMA. *Sustainability*, *12*(15), 5900. <https://doi.org/10.3390/su12155900>
- Ambiel, R. A. M., & de Oliveira Barros, L. (2022). Mediating effect of career adaptability in levels of hope, satisfaction and depressive symptomatology in postgraduate students. *Estudos de Psicologia (Natal)*, *27*(1), 1-11. <http://dx.doi.org/10.22491/1678-4669.20220001>
- Buyukgoze-Kavas, A., Duffy, R. D., & Douglass, R. P. (2015). Exploring links between career adaptability, work volition, and well-being among Turkish students. *Journal of Vocational Behavior*, *90*, 122-131. <https://doi.org/10.1016/j.jvb.2015.08.006>
- Chen, H., Pang, L., Liu, F., Fang, T., & Wen, Y. (2022). "Be perfect in every respect": the mediating role of career adaptability in the relationship between perfectionism and career decision-making difficulties of college students. *BMC psychology*, *10*(1), 137. <https://doi.org/10.1186/s40359-022-00845-1>
- Chiesa, R., Antonio, A. A., Guglielmi, D., Mariani, M. G., & Mazzetti, G. (2024). Young adults' career goal management: the mediating role of perceived employability and career adaptability. *Australian Journal of Career Development*, *33*(1), 36-45. <http://doi.org/10.1177/10384162231226079>
- Chong, S., & Leong, F. T. (2017). Antecedents of career adaptability in strategic career management. *Journal of Career Assessment*, *25*(2), 268-280. <https://doi.org/10.1177/1069072715621522>
- Chui, H., Li, H., & Ngo, H. Y. (2022). Linking protean career orientation with career optimism: Career adaptability and career decision self-efficacy as mediators. *Journal of Career Development*, *49*(1), 161-173. <https://doi.org/10.1177/0894845320912526>
- Creed, P., Prideaux, L. A., & Patton, W. (2005). Antecedents and consequences of career decisional states in adolescence. *Journal of Vocational Behavior*, *67*(3), 397-412. <https://doi.org/10.1016/j.jvb.2004.08.008>
- de Abreu, N., Kleynhans, R., & Nel, P. (2024). Vocational identity as a mediator in the relationship between mindfulness and career adaptability among graduates in the early career stage. *British Journal of Guidance & Counselling*, *52*(3), 431-441. <https://doi.org/10.1080/03069885.2022.2106549>
- Du, B., Wang, J., Qian, Y., & Cheng, J. (2024). Factors influencing career adaptation: the positive effects of mastery goal orientation, social support, and vocational decision self efficacy. *Journal of Infrastructure, Policy and Development*, *8*(8), 8399. <http://dx.doi.org/10.24294/jipd.v8i8.8399>
- Duffy, R. D. (2010). Sense of control and career adaptability among undergraduate students. *Journal of Career Assessment*, *18*(4), 420-430. <https://doi.org/10.1177/1069072710374587>
- Ebberwein, C. A., Krieschok, T. S., Ulven, J. C., & Prosser, E. C. (2004). Voices in transition: lessons on career adaptability. *The Career Development Quarterly*, *52*(4), 292-308. <https://doi.org/10.1002/j.2161-0045.2004.tb00947.x>
- Fu, C., Cai, Y., Yang, Q., Pan, G., Xu, D., & Shi, W. (2023). Career adaptability development in the school-to-work transition. *Journal of Career Assessment*, *31*(3), 476-492. <https://doi.org/10.1177/10690727221120366>
- Gao, L., Li, Y., & Pang, W. (2025). Career adaptability and graduates' mental health: the mediating role of occupational future time perspective in higher education in China. *BMC psychology*, *13*(1), 158. <https://doi.org/10.1186/s40359-025-02433-5>
- Goodman, J. M. (1994). Career adaptability in adults: a construct whose time has come. *Career Development Quarterly*, *43*(1), 74-84. <https://doi.org/10.1002/j.2161-0045.1994.tb00848.x>
- Hai, L., Bao, X., Wang, Y., Zhang, M., & Shu, M. (2024). Examining family atmosphere and school climate within psychology of working theory among chinese rural college students. *Behavioral Sciences*, *14*(12), 1151. <https://doi.org/10.3390/bs14121151>
- Hamzah, S. R. A., Kai Le, K., & Musa, S. N. S. (2021). The mediating role of career decision self-efficacy on the relationship of career emotional intelligence and self-esteem with career adaptability among university students. *International Journal of Adolescence and Youth*, *26*(1), 83-93. <https://doi.org/10.1080/02673843.2021.1886952>
- Hartung, P. J., Porfeli, E. J., & Vondracek, F. W. (2008). Career adaptability in childhood. *Career Development Quarterly*, *57*(1), 63-74. <https://doi.org/10.1002/j.2161-0045.2008.tb00166.x>
- He, M., & Yu, Y. (2022). Individual risky and protective factors influencing university new graduates' career adaptability during COVID-19: a moderated mediation model. *Journal of Health Psychology*, *27*(11), 2632-2643. <https://doi.org/10.1177/13591053211064980>
- Hurtado, S., Han, J. C., Saenz, V. B., Espinosa, L. L., Cabrera, N. L., & Cerna, O. S. (2007). Predicting transition and adjustment to college: Biomedical and behavioral science aspirants' and minority students' first year of college. *Research in Higher Education*, *48*, 841-887. <https://doi.org/10.1007/s11162-007-9051-x>
- Kerr, S., Johnson, V. K., Gans, S. E., & Krumrine, J. (2004). Predicting adjustment during the transition to college: Alexithymia, perceived stress, and psychological symptoms. *Journal of College Student Development*, *45*(6), 593-611. <https://doi.org/10.1353/csd.2004.0068>
- Koen, J., Klehe, U. C., & Van Vianen, A. E. M. (2012). Training career adaptability to facilitate a successful school-to-work transition. *Journal of Vocational Behavior*, *81*(3), 395-408. <http://dx.doi.org/10.1016/j.jvb.2012.10.003>
- Koen, J., Klehe, U. C., Van Vianen, A. E. M., Zikic, J., & Nauta, A. (2010). Job-search strategies and reemployment quality: the impact of career adaptability. *Journal of Vocational Behavior*, *77*(1), 126-139. <https://doi.org/10.1016/j.jvb.2010.02.004>

- LaGree, D., Tefertiller, A., & Olsen, K. (2021). Preparing mass communications students for an evolving industry: the influence of emotional intelligence and extracurricular involvement on career adaptability. *Journalism & Mass Communication Educator*, 76(1), 65–77. <https://doi.org/10.1177/1077695820924303>
- Lee, A., & Jung, E. (2022). University students' career adaptability as a mediator between cognitive emotion regulation and career decision-making self-efficacy. *Frontiers in Psychology*, 13, 896492. <https://doi.org/10.3389/fpsyg.2022.896492>
- Liu, N., & Jew, L. (2023). The impact of social capital on career adaptability in the era of artificial intelligence: the mediating role of career choice. *Journal of Logistics, Informatics and Service Science*, 10(3), 166–179. <http://doi.org/10.33168/JLISS.2023.0313>
- Lu, L., & Jia, Q. (2022). Do college students with future work self-salience demonstrate higher levels of career adaptability? From a dual perspective of teachers and students. *Frontiers in psychology*, 13, 1011447. <https://doi.org/10.3389/fpsyg.2022.1011447>
- Ma, Y., Bennett, D., & Chen, S. C. (2023). Perceived organisational support and university students' career exploration: the mediation role of career adaptability. *Higher Education Research & Development*, 42(4), 903–919. <https://doi.org/10.1080/07294360.2022.2115983>
- Ma, Y., Huang, G., & Autin, K. L. (2021). Linking decent work with academic engagement and satisfaction among first-generation college students: A psychology of working perspective. *Journal of Career Assessment*, 29(1), 148–163. <https://doi.org/10.1177/1069072720943153>
- Ma, Y., Nimmi, P. M., Mouratidou, M., & Donald, W. E. (2024). Exploring the impact of serious leisure on well-being and self-perceived employability: the mediating role of career adaptability amongst Chinese undergraduates. *Higher Education, Skills and Work-Based Learning*, 14(6), 1252–1266. <http://dx.doi.org/10.1108/HESWBL-12-2023-0346>
- Marini, M., Livi, S., Prislei, L., Parisse, C., Cecalupo, A., Scarci, F., & Benvenuto, G. (2023). The impact of perceived barriers to career advancement: A study with a sample of Italian university students. *Sustainability*, 15(11), 8874. <https://doi.org/10.3390/su15118874>
- Mavhungu, D., Barkhuizen, E. N., & Magau, M. (2024). Predicting the career success of Generation Z employees: A socioeconomic perspective. *South African Journal of Economic and Management Sciences*, 27(1), 5788. <https://doi.org/10.4102/sajems.v27i1.5788>
- Nguyen, N. K., Le, H. Y. P., Nguyen, V. H. A., Nguyen-Duong, B. T., & Thanh, D. T. The relationship between emotional intelligence and career decision-making difficulties: mediation role of career adaptability of university students. *Journal of Curriculum and Teaching*, 13(2), 67–82. <https://doi.org/10.5430/jct.v13n2p67>
- OECD (2019). *OECD Employment Outlook 2019: The Future of Work*. https://www.oecd.org/en/publications/oecd-employment-outlook-2019_9ee00155-en.html
- Ogunmakinde, O. E., Egbelakin, T., Sher, W., Omotayo, T., & Ogunnusi, M. (2024). Establishing the limitations of sustainable construction in developing countries: a systematic literature review using PRISMA. *Smart and Sustainable Built Environment*, 13(3), 609–624. <https://doi.org/10.1108/SASBE-10-2022-0223>
- Parmentier, M., Pirsoul, T., & Nils, F. (2022). Career adaptability profiles and their relations with emotional and decision-making correlates among Belgian undergraduate students. *Journal of Career Development*, 49(4), 934–950. <https://doi.org/10.1177/08948453211005553>
- Petticrew, M., & Roberts, H. (2008). *Systematic reviews in the social sciences: A practical guide*. John Wiley & Sons. <https://doi.org/10.1002/9780470754887>
- Pong, H. K., & Leung, C. H. (2023a). Cross-sectional study of the relationship between trait emotional intelligence and career adaptability of Chinese youths. *BMC Public Health*, 23(1), 514. <https://doi.org/10.1186/s12889-023-15372-w>
- Pong, H. K., & Leung, C. H. (2023b). The impacts of community-service learning on career adaptability and on ethics and social responsibility of university students: an experimental study. *Journal of Education and Work*, 36(4), 251–269. <https://doi.org/10.1080/13639080.2023.2174955>
- Rudolph, C. W., Lavigne, K. N., & Zacher, H. (2017). Career adaptability: A meta-analysis of relationships with measures of adaptivity, adapting responses, and adaptation results. *Journal of Vocational Behavior*, 98, 17–34. <https://doi.org/10.1016/j.jvb.2016.09.002>
- Sahin, E. E., & Gulsen, F. U. (2022). The mediating role of self-leadership in the relationship between basic psychological needs satisfaction, academic self-efficacy and career adaptability of Turkish undergraduates when life satisfaction is controlled. *Personality and Individual Differences*, 195, 111709. <https://doi.org/10.1016/j.paid.2022.111709>
- Sahoo, P., Saraf, P. K., & Uchil, R. (2024). Identification of critical success factors for leveraging Industry 4.0 technology and research agenda: a systematic literature review using PRISMA protocol. *Asia-Pacific Journal of Business Administration*, 16(3), 457–481. <https://doi.org/10.1108/APJBA-03-2022-0105>
- Salim, R. M. A., Istiasih, M. R., Rumlatur, N. A., & Situmorang, D. D. B. (2023). The role of career decision self-efficacy as a mediator of peer support on students' career adaptability. *Heliyon*, 9(4), e14911. <https://doi.org/10.1016/j.heliyon.2023.e14911>
- Savickas, M. L. (1997). Career adaptability: An integrative construct for life-span, life-space theory. *The Career Development Quarterly*, 45(3), 247–259. <https://doi.org/10.1002/j.2161-0045.1997.tb00469.x>
- Savickas, M. L. (2005). The Theory and Practice of Career Construction. In Brown, S. D. & Lent, R. W. (Eds.), *Career development and counseling: Putting theory and research to work* (pp. 42–70). John Wiley & Sons, Inc.

- Savickas, M. L., & Porfeli, E. J. (2011). Revision of the career maturity inventory: The adaptability form. *Journal of Career Assessment, 19*(4), 355–374. <https://doi.org/10.1177/1069072711409342>
- Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior, 80*(3), 661–673. <https://doi.org/10.1016/j.jvb.2012.01.011>
- Savickas, M. L., Porfeli, E. J., Hilton, T. L., & Savickas, S. (2018). The student career construction inventory. *Journal of Vocational Behavior, 106*, 138–52. <https://doi.org/10.1016/j.jvb.2018.01.009>
- Skorikov, V. (2007). Continuity in adolescent career preparation and its effects on adjustment. *Journal of Vocational Behavior, 70*(1), 8–24. <https://doi.org/10.1016/j.jvb.2006.04.007>
- Super, D. E., & Knasel, E. G. (1981). Career development in adulthood: Some theoretical problems and a possible solution. *British Journal of Guidance and Counselling, 9*(2), 194–201. <https://doi.org/10.1080/03069888108258214>
- Ulas-Kilic, O., & Peila-Shuster, J. J. (2023). A test of the career construction theory model of adaptation with Turkish final year undergraduate students. *Journal of Career Development, 50*(4), 844–859. <https://doi.org/10.1177/08948453221129275>
- Wang, S., Mei, M., Xie, Y., Zhao, Y., & Yang, F. (2021). Proactive personality as a predictor of career adaptability and career growth potential: A view from conservation of resources theory. *Frontiers in Psychology, 12*, 699461. <https://doi.org/10.3389/fpsyg.2021.699461>
- World Economic Forum. (2023). *The future of jobs report 2023*. <https://www.weforum.org/reports/the-future-of-jobs-report-2023>
- Zacher, H. (2014). Career adaptability predicts subjective career success above and beyond personality traits and core self-evaluations. *Journal of Vocational Behavior, 81*(1), 21–30. <https://doi.org/10.1016/j.jvb.2013.10.002>
- Zarate, D., Stavropoulos, V., Ball, M., de Sena Collier, G., & Jacobson, N. C. (2022). Exploring the digital footprint of depression: a PRISMA systematic literature review of the empirical evidence. *BMC psychiatry, 22*(1), 421. <https://doi.org/10.1186/s12888-022-04013-y>
- Zhang, X., Yu, L., Chen, Y., Fu, Z., Zhang, F., Li, Z., & Wu, Q. (2024). Career adaptability and career coping styles among Chinese medicine specialty students during the COVID-19: The mediating role of career decision-making self-efficacy. *Heliyon, 10*(15), e34578. <https://doi.org/10.1016/j.heliyon.2024.e34578>
- Zhou, J. (2023). Influence of career decision ambiguity tolerance preference on career adaptability: the role of individual and organizational career management. *Psychological Reports, 126*(5), 2530–2550. <https://doi.org/10.1177/00332941221092648>
- Zhuang, J., Jiang, Y., & Chen, H. (2021). Stress and career adaptability during COVID-19: A serial multiple mediation model. *Social Behavior and Personality: an international journal, 49*(8), 1–11. <https://doi.org/10.2224/sbp.10551>