

Enhancing student career readiness: a two-decade systematic literature review

Dian Rachmawati, Sheerad Sahid, Mohd Izwan Mahmud, Nor Aishah Buang

Department of Economics Development Education, Faculty of Education, Universiti Kebangsaan Malaysia, Bangi, Malaysia

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ABSTRACT

This study intends to discover the elements that impact student career readiness growth, analyze the components that dominate that growth, and identify the factors that dominate student career readiness. The methods used to review selected articles are discussed including publication standards, databases, eligibility and exclusion criteria, stages of the review process (identification, screening, feasibility) as well as abstraction and analysis of data. By following the guidelines of item preferred reporting items for systematic reviews and meta-analyses (PRISMA) to produce this review. Based on the commonalities and traits of the first identified components, these factors have been separated into two categories, internal and external. Self-efficacy factors for internal factors and job training factors for external factors are the two factors with the maximum frequency and dominance over the others. Pursuing formal and non-formal education relevant to the chosen career field, making short-term and long-term career plans, establishing a strong professional network, and seeking relevant work experience through internships, part-time jobs, or volunteer work are all components of a career readiness strategy. Develop the necessary skills for an industry or career field, improve your communication skills, think positively, and be willing to confront career challenges. Maintain a balance between personal and professional life.

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Corresponding Author:

Sheerad Sahid

Department of Economics Development Education, Faculty of Education, Universiti Kebangsaan Malaysia
43600 UKM, Bangi, Selangor, Malaysia

Email: sheerad@ukm.edu.my

1. INTRODUCTION

Career preparedness refers to an individual's preparation and readiness to engage and advance in the world of work. This requires knowledge of the needs of the labor market, the knowledge and skills required, and the ability to adapt to changes that occur in the work environment [1]. The shifts due to technological advances have had a significant impact on various fields of work. Technological advances such as artificial intelligence, automation and digitization have changed the way of work and the types of work needed in various sectors. Some traditional jobs have been replaced by technology, while new jobs requiring technological skills have emerged. In dealing with this shift, individuals need to identify the skills or abilities needed in their career readiness. Some of the skills that are important in the era of advanced technology include technology skills, communication, creativity and innovation, adaptation [2]. Parties that are expected to support individual career readiness to face the world of work are universities.

Universities appear to be producing (student) products for the global labor market that are career-ready. Increasingly, they are expected to engage with the challenges of the modern world. They are massively expected to generate graduates who are prepared to enter the workforce. Nonetheless, it is widely acknowledged that there

is a disparity between supply and demand as a result of the current learning and development system, which does not produce students who can meet international demands. Graduate students should be aware that employers have specific requirements for domain-specific skills and knowledge [3]. The majority of employers expect graduates to have strong communication skills, technological skills, interpersonal skills, and the ability to function in a multicultural environment. For some enterprises, these competencies are more important than a student's grade point average. However, many employers consult about the graduates' skills and knowledge because they do not meet their standards [4]. In Indonesia, there is a disconnect between students and employees regarding the specific skill requirements in the accounting domain. Therefore, higher education institutions are frequently criticized for failing to prepare graduates for their professional practice in the actual world [5]. It is unsurprising that graduate employability is one of the college's primary objectives. Each postsecondary institution will use all of its available resources to encourage its students to develop dependable competence. With this competency capital, it is anticipated that graduates will have favorable employment prospects.

Career-readiness is defined as the cognitive, academic, work, and social skills, knowledge, or experiences required to facilitate an individual's transition from education to the workplace and make a career path viable in the present context [6]. According to Association for Career and Technical Education [7], a combination of academic, technical, and employability skills is required for career readiness. Existence of a gap between the classroom and the workplace is a source of considerable concern. A group of researchers [8] has observed that graduates have great difficulty making the transition from academic life to the workforce, despite the fact that schools are intended to equip students with the knowledge and skills necessary to make intelligent occupational decisions and advance their careers. There is a divide between college skills and those required in the workplace. Recent college graduates have difficulty applying the knowledge they have acquired. The world of employment and the world of lectures are distinct.

Several prior studies have found that career readiness consists of skills and abilities that assure job eligibility and facilitate success in the workplace [2]. Furthermore, according to Nonye and Ejeka [8], employment readiness is an essential skill for training and success in the workplace. This competency is essential because it relates to the competence of employees who contribute to the organization's growth. This competency is essential because it relates to the competence of employees who contribute to the organization's growth. According to Prikshat *et al.* [9], a variety of terms, including core competencies and matriculation, are used to refer to employability-related skills, knowledge, and characteristics. It was believed at the time that graduates who were ready for the workforce possessed the skills necessary for industrial sustainability and high productivity in the context of global competition. Graduates who are work-ready are prepared to confront all the challenges and obstacles of the working world. They are prepared to operate in a highly competitive environment.

Numerous researchers have conducted studies on career aptitude. Based on the arguments, the results demonstrated that formal education can enhance work readiness [10]. Other research on work readiness has been conducted to develop a scale for measuring work readiness [9], [11], [12]. Alternatively, in the context of recruitment and selection, method for assessing the job-readiness of recent graduates have also been investigated [9]. However, researchers note that no research has been conducted on the employment preparedness of recent graduates during the COVID-19 pandemic. No prior studies have established a correlation between work readiness and pandemic conditions. Pandemic conditions, which differ greatly from normal conditions, are fascinating to study. The pandemic condition has a significant impact on one's readiness for the workforce.

The World Economic Forum identified workforce and employment as one of the emerging global issues. Rapid change in the world of work necessitates the development of new healthy work models to facilitate the establishment of a stronger labor market and adequate protections. Prior to the emergence of COVID-19 and the ensuing economic devastation, job creation and policymaking that ideally benefits both workers and employers were at the top of the global agenda. The most effective approaches will account for shifting demographics and evolving job functions, and will leverage disruption to design workplaces that meet the needs of all employees. This study's objective is to determine what factors influenced the development of students' vocation-readiness and what strategies contributed to that improvement. This paper is a literature review that uses the preferred reporting items for systematic reviews and meta-analyses (PRISMA) guidelines to compile the factors influencing career readiness from previous studies. The use of the PRISMA method assists researchers in identifying, selecting, and combining studies related to the topic. The PRISMA guide provides clear and systematic steps for conducting a literature search, assessing the quality of existing research, and compiling a synthesis of relevant findings.

The novelty in research on career readiness strategies using PRISMA lies in the use of a comprehensive and transparent approach in collecting, filtering and reporting existing research. By applying the PRISMA method, researchers can minimize selection bias in choosing research to include, improve the quality of the resulting synthesis, and provide a solid basis for decision making related to career readiness strategies. The use of PRISMA will enable researchers and readers to have a completer and more accurate picture of career readiness strategies. As such, career readiness strategy research using PRISMA can make an

important contribution to both academics and practitioners' understanding of this topic and provide a more solid foundation for the development of policy, practice, and further research in this area.

2. RESEARCH METHOD

The methods used to review selected articles are discussed including publication standards, databases, eligibility and exclusion criteria, stages of the review process (identification, screening, feasibility) as well as abstraction methods used to review selected articles are discussed including publication standards, databases, eligibility and analysis of data. By adhering to the PRISMA guidelines to create this review. Frequently, systematic reviews lack cognizance of the shared guidelines that make them replicable and scientifically sufficient. This study uses previous study from years 2002 until 2021. The years 2002-2021 mean that two decades of time are sufficient to represent the development of factors that affect career readiness. As it is known that from time to time the demands for a career always develop from time to time.

2.1. Data sources and search strategies

Multiple acceptance and rejection criteria are utilized during the preliminary assessment. The three criteria for rejection are as: i) articles that are not fully accessible; ii) articles or studies that do not have a student college/university context; and iii) articles or studies that are not written in English. The requirements for admission are: i) complete use of keywords; ii) complete access to articles; iii) research in the context of students, and iv) articles written in English as demonstrates in Table 1. By reading the titles and abstracts of each of the previous articles and studies, the second stage is to eliminate those that were repeated. The final analysis involves a thorough reading of the remaining articles in order to eliminate those that are irrelevant to research requirements.

Table 1. Basic selection criteria (1993-2022)

Category	WoS	Scopus
Keywords	Strategies of career readiness Factors of career readiness Strategies of work readiness Factors of work readiness	Strategies of career readiness Factors of career readiness Strategies of work readiness Factors of work readiness

PRISMA method consist of three stages, those are identification, screening, and included. The first stage is identification, based on the identification results from WoS and Scopus, there were 624 articles discussing career readiness, consisting of 344 journals or articles from Scopus and 280 articles from WoS. Before screening some records or items removed because some reasons like duplicate records, records marked as ineligible by open access, article type, and subject area, and records removed for English only. There were 123 records or items removed because records duplication. There were 200 records or items removed because marked as ineligible by open access, article type, and subject area (n=200). There were 125 records or items removed for English only.

In the stage screening, there are 126 remain items. In this stage, the records or items were screened. The articles that did not focus on career readiness excluded. There were 111 articles excluded because the articles did not focus on career readiness, so there are 65 remain items. Then, the remain articles were selected again. The articles that were not based on construct and do not analyze factors that influence career readiness student would not be retrieved. In this selection, there were 47 articles did not retrieved. Therefore, in include stage there are 18 remain articles. Those 18 articles would be the main material for this study. The following is explained in Figure 1.

3. RESULTS AND DISCUSSION

According to Abston and Soter [13], a career is a progression of attaining and demonstrating necessary competencies that prepares pupils for a successful transition into the workforce. In other words, career incorporates the effects and relationships between work roles and broader life roles [14]. Through a systematic literature review, this study's primary objective is to identify methods for improving career readiness. In general, strategies to enhance career readiness have been identified. Table 2 lists several of the articles utilized in this investigation.

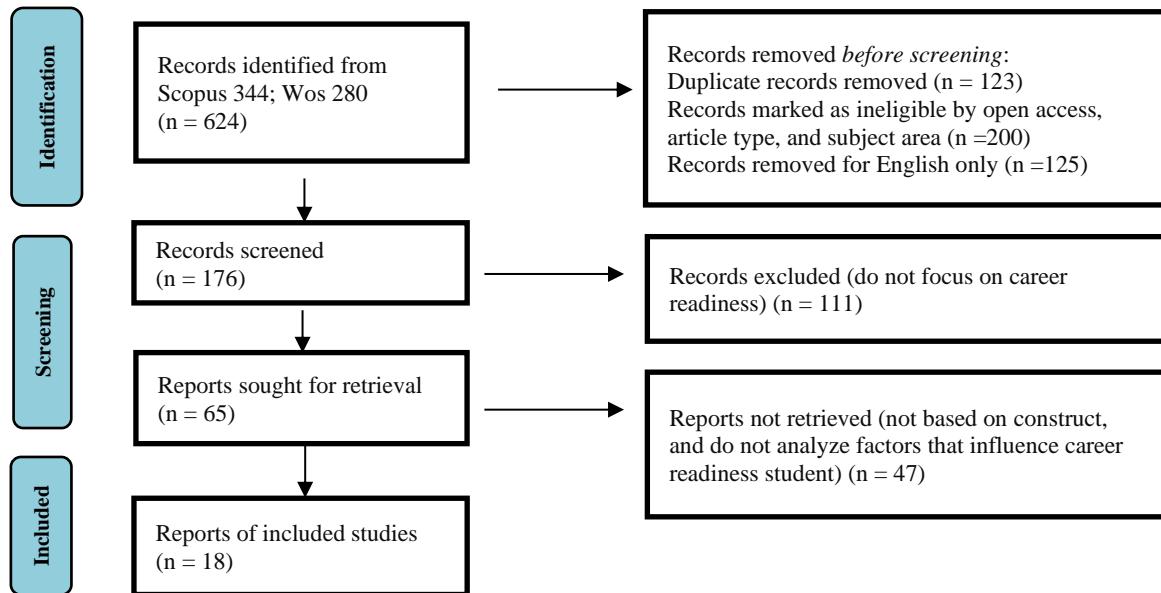


Figure 1. Reporting items for the systematic review

Table 2. Overview of the included studies [1], [15]–[31]

Reference	Country	Studies
[15]	Indonesia	Career readiness among low-income Muslim students
[16]	Malaysia	The mediating role of career decision self-efficacy on the relationship of career emotional intelligence and self-esteem with career adaptability among university students
[17]	South Korea	The mediating role of entrepreneurial mindset between intolerance of uncertainty and career adaptability
[18]	Indonesia	Roles of career maturity mediating the effects of locus of control and socioeconomic status on career readiness
[19]	China	Proactive personality and career adaptability of Chinese female pre-service teachers in primary schools: the role of calling
[1]	UK	Increasing students' career readiness through career guidance: measuring the impact with a validated measure
[20]	Indonesia	The readiness of Indonesian workers on facing the future world of work
[21]	USA	College students' personality traits in relation to career readiness
[22]	Indonesia	Construction model in career readiness of Mahayati Merchant Marine Polytechnic cadets
[23]	Indonesia	The role of social support and self-regulation on work readiness among students in vocational high school
[24]	United Arab Emirates	Work readiness across various specializations
[25]	Indonesia	Factors that influence career readiness: last year high school student perception
[26]	Malaysia	Examining the indirect effects of self-concept on work readiness through resilience and career calling
[27]	Malaysian	Influence of gender on career readiness among Malaysian undergraduates
[28]	Indonesia	Determinants of university student's work readiness
[29]	Indonesia	Self-efficacy and work readiness among vocational high school students
[30]	Indonesia	The Effect of work motivation and industrial work practices on the readiness of work students in class XII Accounting Department of SMK Negeri 1 Kendari
[31]	Croatia	Employee readiness for organizational change in the SME internalization process: the case of a medium-sized construction company

3.1. The strategies to improve career readiness

Table 3 summarizes the findings of previous research on career readiness strategies. The identification of 49 strategies from the previous 18 studies was fruitful. There are 17 studies from Scopus and 1 from WoS. 2 studies are from Europe continental, 1 study from America continental, and 15 are from Asia continental. The objects of those studies are various. The most of the studies used university or college students as research object. This study divided the factors into two groups, internal factor and external factor. Internal factors come from oneself that can affect or increase career readiness, meanwhile external factor come from outside oneself that can affect or increase career readiness.

In research on career readiness strategies, many research objects are focused on students. This is understandable because students are in an important transition period between higher education and the world

of work. They are preparing themselves to enter their professional career after completing their education. Therefore, understanding the career readiness strategies used by students can provide valuable insights in preparing them to enter the world of work. By focusing research on college students, researchers can gain a deeper understanding of the career readiness strategies used by them, the challenges they face, and the factors that contribute to their success in achieving their career goals. This can provide insight that is useful in informing education policies and career services that can improve student career readiness more effectively. The following is described in Table 3, the internal factors that influence career readiness.

There were 17 studies (16 from Scopus and 1 from WoS) identified 38 internal factors that can affect career readiness. A total of 27 factors are personality characteristics, 3 are demographic factors, and 8 are from the individual's activities. The majority of research (5 studies) examined self-efficacy as a factor influencing career preparedness. Then, there are locus of control (LOC), calling, and gender variables that analyzed the most after self efficacy. These three variables were each analyzed in 2 studies. The factor of self-efficacy or self-confidence, is often researched as a factor influencing career readiness because it has a significant impact on individual behavior and achievement in a career context. Self-efficacy factor has an important role in helping individuals overcome obstacles, increase achievement, and choose careers that match their potential. High self-confidence in an individual's ability to overcome tasks and career challenges can increase motivation and morale. Individuals who have strong self-efficacy tend to have confidence that they can achieve the set career goals and will try hard to achieve them. This high self-confidence contributes to higher achievement in career. The external factors that influence career readiness is described in Table 4.

Table 3. Previous research of strategies to improve career readiness and internal factors that can affect career readiness (2002-2022)

Authors (factors)	References													Total					
	[15]	[18]	[16]	[17]	[19]	[1]	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[29]	[30]	[31]	
Thinking style	*																		1
Self efficacy	*	*	*								*							*	5
LOC		*									*								2
Career emotional intelligence			*																1
Prospective anxiety				*															1
Inhibitory anxiety					*														1
Entrepreneurial mindset						*													1
Proactive personality							*												1
Calling							*											*	2
Age								*											1
Gender								*									*		2
Ethnicity								*											1
Number of activities								*											1
Digital skill									*										1
Industry 4.0 skill-set									*										1
Instructor competency										*									1
Conscientiousness										*									1
Extraversion										*									1
Type D personality traits										*									1
Self regulation											*								1
Work competence											*								1
Personal work characteristics											*								1
Organizational acumen											*								1
Social intelligence											*								1
Interest in career												*							1
Achievement motivation												*							1
Self understanding												*							1
Self concept												*							1
Resilience												*							1
Activeness of student in organization													*						1
Learning achievement													*						1
Work motivation														*					1
Industrial work practice														*					1
Organizational commitment															*				1
Emotional attachment															*				1
Feeling of pride															*				1
Personal sense of obligation															*				1
Career commitment															*				1
Job satisfaction															*				1
Job involvement															*				1

Table 4. Previous research of strategies to improve career readiness and external factors that can affect career readiness (2002-2022)

Authors (factors)	[18]	[1]	References [22]	[23]	[30]	[31]	Total
Social economy status	*						1
Number of benchmarks		*					1
Career guidance		*					1
Training			*				1
Job training		*		*	*		3
Parental career congruence		*					1
Social support			*				1
Work motivation				*			1
Salary					*		1
Promotion					*		1
Supervisor and peer relation					*		1

Six previous studies (five from Scopus and one from WoS) indicate the existence of one internal factor that can influence career preparedness. The preponderance of studies (three) examined the influence of job training on career readiness. The scheme in Figure 2 is a division of career readiness strategies to clarify the readers in understanding the career readiness strategies based on internal factors and external factors. Internal factors of career readiness refer to the characteristics, qualifications and preparation of individuals that contribute to their career success. Internal factors of career readiness are aspects that exist within individuals that contribute to their ability to plan, develop and manage their careers. This involves the characteristics, qualifications, attitudes, motivation, and knowledge of individuals that influence their success and readiness in achieving career goals. External factors of career readiness refer to various elements outside the individual that can influence one's career readiness and success. External factors of career readiness are elements beyond an individual's control that can affect one's career readiness and success. These are factors that originate from the individual's external environment, such as the job market, industrial developments, social changes, government policies, and other factors that the individual cannot directly control.

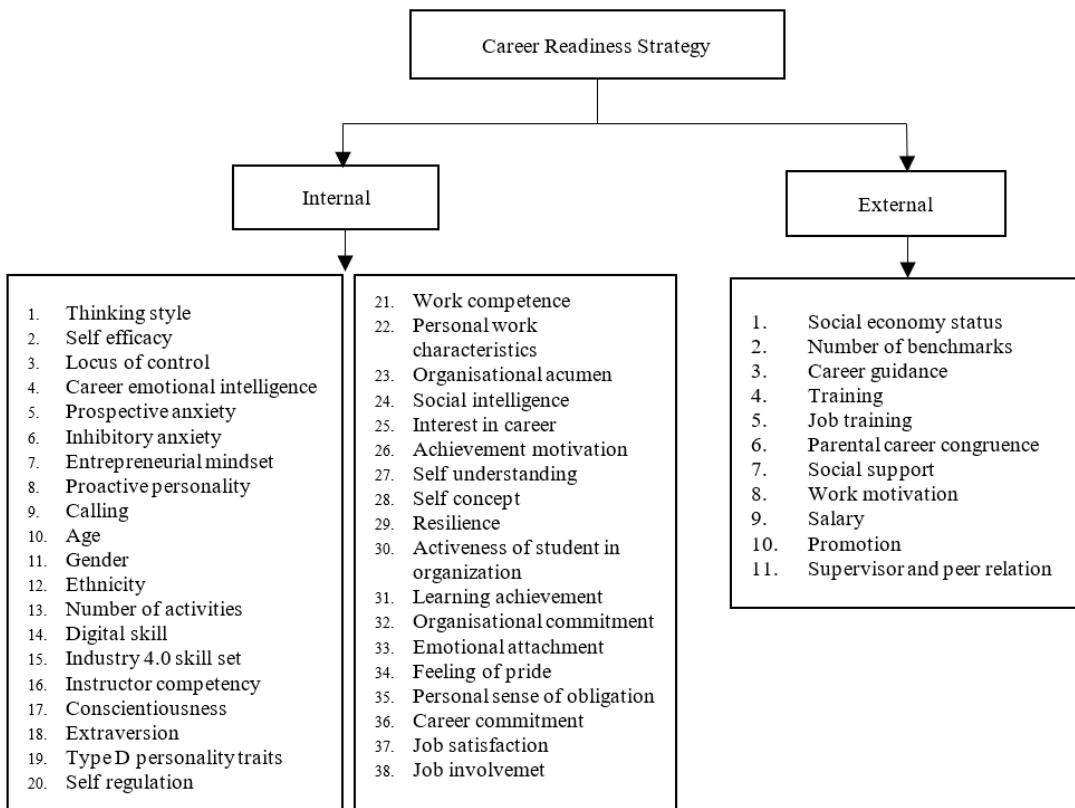


Figure 2. Career readiness strategy scheme

This study found, based on a systematic literature review, that a number of factors can directly or indirectly influence career preparedness. Based on the similarities and characteristics of the initially identified factors, these factors have been divided into two categories: internal and external. The existence of popular and prevalent factors is one of the most enticing topics to discuss in light of these findings. It would be enlightening to learn more about why these factors are so common and popular in studies examining factors that affect career readiness. Internal factors relating to self-efficacy and external factors relating to job training are the two factors with the highest frequency and dominance over the others. Five studies have examined the self-efficacy factor's influence on career preparedness. In the meantime, the job training factor's impact on career preparedness has been analyzed in three studies. This section of the discussion will endeavor to make a small contribution to the literature by focusing on this. Self-efficacy is the most researched and utilized variable. Students aspire to be successful like a figure they admire by becoming a better person as a result of their success. Attempting to complete work to the best of one's ability and accepting natural setbacks enhance the significance of life. A student who has high self-efficacy will still have the enthusiasm to learn and improve himself even when he faces failure. However, students with low self-efficacy may find it difficult to try to learn again and rise from failure because they do not believe that learning will help them achieve success after experiencing failure.

A pioneer of self-efficacy, Bandura [32], defined self-efficacy as an individual's perception of his capacity to plan and implement all types of actions to achieve the intended results. Self-efficacy is not founded on a person's abilities, but rather on their ability to utilize those abilities to achieve a goal. Self-efficacy is the result of contemplating, integrating, and evaluating data regarding a person's ability to make decisions or choices in any endeavor. Self-efficacy, according to Bandura [32] will also affect an individual's performance. Self-efficacy can enhance a person's ability and uniqueness, thereby enhancing performance and professionalism [33], [34]. However, contradictory findings have been presented by Schunk and DiBenedetto [35] indicating that high self-efficacy can also have negative consequences for individuals. In difficult circumstances, individuals with low self-efficacy will readily reduce their efforts or give up. In contrast, those with high self-efficacy will exert greater effort to overcome obstacles they face [36]. People with high self-confidence do not give up easily and always try to find a way out of every problem they face. No matter how difficult and difficult the problems are, someone who has high self-confidence will move forward without giving up.

Individuals with a high sense of self-efficacy, for instance, have a tendency to be overconfident and to accept challenges without exerting undue effort. This factor is deserving of research due to the fact that it can produce two distinct effects simultaneously. In addition, it is believed that self-efficacy can have an effect or influence on individual behavior, specifically on efforts and resilience to surmount obstacles [37] and openness to change [38]. Due to the fact that self-efficacy is known to influence individual behavior and is a recognized component of the innovation process, it is not possible to examine the effect of self-efficacy on innovative behavior.

After self-efficacy, the LOC factor had the most extensive research on its influence on career readiness. The LOC is one of the characteristics of development in the concept of personality [39]. The definition of Akpochafio [40] was strengthened by LOC, which explained that LOC was an important factor when examining behavior and personality. Consequently, the LOC influences an individual's behavior in determining his career choice [41]. It supported the self-determination theory [42], which stated that the LOC positively influenced career decision-making because individuals with a high LOC were motivated and impassioned about accomplishing goals. According to Zhou *et al.* [43], career LOC was one of the requisites for attaining a career existence. In addition, Strauser *et al.* [44] discovered that an individual's LOC can increase their participation and persistence in career preparation. According to Guan *et al.* [45], the greater an individual's LOC, especially their internal LOC, the more likely they are to increase their work readiness. Therefore, the LOC was used to intervene in work readiness outside of the teaching profession. In a study by Ezechukwu *et al.* [46], LOC was measured using the career LOC scale, which contained four indicators: internality, helplessness, examination/preparation, and chance [42], [43].

Then, there was a calling, the factor that analyzed the most. Dik and Duffy [47] defines summoning in three parts. The initial element is an external summons, in which a person is "called" to perform a particular type of task. The second component pertains to the congruence between an individual's labor and their perception of their life's purpose. The third element posits that those with a vocation are prosocially oriented, i.e., they use their career to benefit others or further the common good. These three affirmations elucidate the importance of a desire for interior fulfillment. Moreover, Dik and Duffy [47] proposed that vocation is a continuum as opposed to a dichotomy (having one or not having one). There is substantial evidence supporting the impact of vocation on career outcomes, given the volume of research on vocation.

In a sample of university employees, Duffy *et al.* [48] discovered that those who endorsed a vocation reported greater commitment to their career and the organization, as well as fewer intentions to quit their positions as a result of their strong commitment to their work. Similarly, researchers have demonstrated that a career vocation is related to higher life satisfaction and perceived employability [49]. These researchers also

found a link between calling and increased work effort, career strategy utilization, and emotional regulation. Given the relationship between employability and work preparedness, we hypothesize that vocation may also have a similar relationship with work readiness. By frequently getting a job call either by telephone, it will be able to train one's communication skills, and self-confidence. The existence of communication and self-confidence that is honed through telephone calls will encourage one's career readiness.

Additionally, there is a gender factor that has been extensively examined by previous researchers. Regarding fulfilling the requirements of the employment market, there is a disparity between male and female students, with male students dominating in terms of attitudes, leadership, communication and interpersonal elements, problem solving, knowledge, and emotional intelligence [50]. The female appears to be preferable to the male in terms of reasoning, collaboration, and cooperation, as well as experience. In order to ensure his or her acceptability by employers and success in the industry, each individual should equip themselves with the necessary job market skills. Furthermore, the job training factor is the most studied factor after self-efficacy in the context of career readiness. Job training provided in accordance with skill competencies will be able to increase and strengthen career maturity to enter the world of work. Job training is the most studied because the average student, especially vocational high school students, is provided with job training or work practical industry which has a high potential to increase career readiness.

4. CONCLUSION

This study seeks to identify systematic methods for enhancing career readiness, a total of 49 strategies. It can be concluded that both internal and external factors can enhance career preparedness. It is anticipated that this study will provide researchers with ideas for expanding this knowledge, particularly in an Asian context. In addition, it is anticipated that this study will provide some insight into the strategies employed over the past two decades to improve student career preparedness, as well as recommendations for those engaged in efforts to enhance student career readiness. It is suggested that, for future research, more in-depth studies be conducted to comprehend the impact of the identified factors. To take appropriate action and advance the discipline, it is necessary to investigate in depth whether these factors act directly or as mediators and moderators of students' career preparedness. Futures researcher also suggested undertaking in-depth interviews with pertinent experts, limiting articles written in other languages, and leveraging a larger database to investigate more valuable factors. The majority of this study's subjects are college or university students, whereas only a few studies involve vocational high school, high school, and senior high school students. This is because currently the average high school student is still continuing their studies because they still need higher education to be ready to work so that senior high school students are assumed to have lower career readiness than college students. Meanwhile, related to the method mostly using a quantitative correlation approach. Research sources refer to journals and several literature books. According to the findings of this study, it is suggested that additional research be conducted. examines the object of college students with varied variables and more diverse sources.

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BIOGRAPHIES OF AUTHORS



Dian Rachmawati is a Ph.D. student, Department of Economics Development Education, Faculty of Education, Universiti Kebangsaan Malaysia (UKM), Bangi, Selangor, Malaysia and Lecturer, Department of Development Economics, Faculty of Economics and Business, Universitas Negeri Malang (UM), Indonesia. She graduated in double degree BA in Economics Education and Economics and Developmental Studies in Universitas Negeri Malang (UM), Master of Economics Education in Universitas Negeri Malang (UM). Her research focuses on economic education development, applied economics education, learning and innovation, economic development, and macroeconomics. She can be contacted at email: p112198@siswa.ukm.edu.my or dian.rachmawati.fe@um.ac.id.



Sheerad Sahid is a senior lecturer in Entrepreneurship & Economic Development Education from the Faculty of Education, Universiti Kebangsaan Malaysia (UKM), Selangor. He graduated with a Master of Business Administration (MBA) degree from UKM, and PhD. in entrepreneurship from Universiti Pendidikan Sultan Idris (UPSI). His research interest and expertise are in business and entrepreneurship education, economic development education, entrepreneurship training and module, shaping entrepreneurial mindset, small and medium enterprise (SME) management, and entrepreneurial marketing. He can be contacted at email: sheerad@ukm.edu.my.



Mohd Izwan Mahmud is a lecturer at the Faculty of Education, Universiti Kebangsaan Malaysia (UKM). He has a Bachelor's Degree in Counseling from University of Malaya (UM), Master's Degree in Guidance and Counseling from Universiti Kebangsaan Malaysia (UKM) and Doctor of Philosophy (Ph.D.) in Guidance and Counseling from Universiti Putra Malaysia (UPM). He has expertise in career counseling, assessment and measurement in career counselling, modules development and student personnel. Focused research on career counselling and mental health, module and intervention programs, and career profiling assessment among higher education students. In community services, he has contributed to Psychological First Aid (PFA) to frontliners COVID-19, PPUKM, Collaborate with NGOs, and local communities. He aims for the future research related on impact of crisis to the career development, mental health, family and well-being. He can be contacted at email: izwan@ukm.edu.my.



Nor Aishah Buang is a Professor in Department of Educational Leadership and Professionalization, Faculty of Education, Universiti Kebangsaan Malaysia (UKM). She graduated with BA Economics, in Fresno California USA, Diploma in Teaching of English as Second Language, Singapore, Master of Education in University of Minnesota USA, Ph.D. in Indiana University, Bloomington USA, Post graduate Diploma in Entrepreneurship in Cambridge University UK, and Certified Coach in Life Performance Coaching ASIA-E University, Malaysia. Her research interest and expertise are in business and Entrepreneurship education/economics education. She can be contacted at email: norais@ukm.edu.my.