University Graduates' Career Trajectories Amidst COVID-19
(A Systematic Literature Review)

Rahmatika Dewi[✉]

Graduate School of Humanities and Social Sciences, Hiroshima University, Higashihiroshima, Hiroshima, Japan
d204872@hiroshima-u.ac.jp

Abstract. The COVID-19 pandemic is radically changing workplaces and jobs globally. As a result of COVID-19, graduates' employment pathways are expected to be increasingly interrupted in the future. This study is a systematic literature review that aims to explore the literature concerning the life courses of university graduates amidst the COVID-19 pandemic, including their experiences from nearing graduation to their current position in their career trajectories. This research method was chosen since, to date, there has been no study to review previous research about career trajectories of university graduates amidst COVID-19. Five publications obtained from the Scopus database were selected for inclusion. The majority of studies utilized quantitative methods and tended not to use any theory as a guideline for analysis. Therefore, further research is recommended to utilize the qualitative method to directly record graduates' real words relating to the central phenomenon being discussed. In addition, there has been no study conducted in the countries most affected by COVID-19. Therefore, future researchers could study the regions that have been recorded among the highest confirmed COVID-19 cases in the world. This may aid other countries with similar features.

Keywords: University graduates · Career trajectories · Systematic literature review

1 Introduction

Nowadays, globally, workplaces and jobs are being reshaped drastically by the COVID-19 pandemic. Graduates' career paths are anticipated to become more disrupted in the future as a result of COVID-19. The young are the most exposed to the pandemic's social and economic effects [1]. In addition, a study evaluating the pandemic's impact on Arizona State University (ASU) students' current and predicted outcomes in the United States conducted a large-scale survey of 1500 students and discovered a wide range of effects. According to the findings, the likelihood of finding work has decreased by 35%, particularly for students who graduated in the spring or summer of 2020 [2]. Therefore, it is important to explore the nature of life courses of the generation graduating amidst the COVID-19 pandemic. This is a systematic literature review study which is the first to focus on the graduates' experiences from nearing graduates to their current position in their career trajectories during the COVID-19 pandemic.

2 The Objective and Research Question

This study aims to explore the literature which has studied the life courses of university graduates amidst COVID-19, including their experiences from nearing graduation to their current position in their career trajectories. To reach that objective, a research question of 'what do the studies reveal about the life courses of the university graduates amidst COVID-19 pandemic?' was utilized.

3 Methodology

This study used Systematic Literature Review (SLR) methodology. SLR is different from a traditional narrative literature review that researchers may conduct before doing research. The SLR methodology was first created by Professor Archie Cochrane in 1979 for medical research [3] but since then it has become widely used by researchers in other fields including the education field. This SLR utilizes a rigorous guideline or protocol that is easily replicated. The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) protocol developed by Moher et al., in 2009 [4] is a very well-known framework as the guideline or system for reporting SLR research (see Fig. 1).

3.1 PRISMA Protocol

There are four steps in the PRISMA protocol: identification, screening, eligibility, and included. In the identification stage, the researchers must provide keywords that would be used for searching the literature. They also need to decide what database or databases will be used. This study utilized Boolean operator when creating the keywords to make the search results more focused and eliminate inappropriate publications. Two keywords, "university graduates" and "COVID-19", were used together to search for the articles. In the Boolean operator the word "AND" or "OR" is used in writing the keyword. Therefore, the phrase "University graduates" AND "COVID-19" was used to search the database. This study only chose Scopus as a database and at this identification stage this study found 41 articles.

In the screening stage, the inclusion and exclusion criteria were applied. The criteria for this study were 1) papers that were published from 2020 until 2022; 2) papers that are limited to the social sciences, psychology, and arts and humanities subject area; and 3) papers that are written in English. After implementing these inclusion and exclusion criteria, this study only included 15 articles. Then, the data were imported to Excel for further assessment in the eligibility stage.

In the eligibility stage, this study did a quality assessment by carefully reading the 15 articles selected and analyzing whether each fit with the research objective. If the article did not fit with the research objective, then it was excluded. Finally, there were only five articles included for analysis. The following Fig. 1 clearly illustrates the PRISMA protocol of this study.
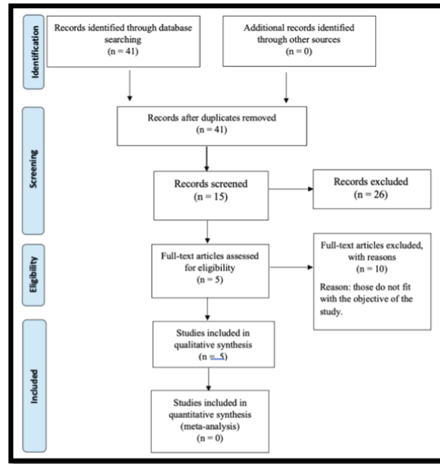
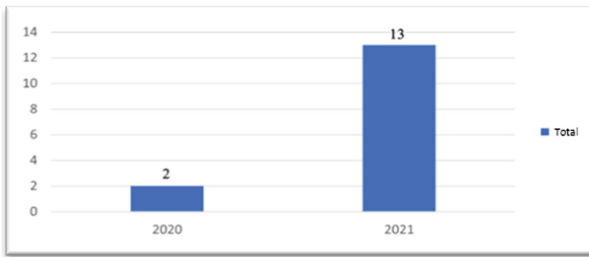**Fig. 1.** 2009 PRISMA protocol based on the study finding.

Fig. 2. Articles found under "university graduates" AND "COVID-19" keywords.

4 Findings

In the screening stage initially, this study found 15 articles related to the university graduates and COVID-19 as shown in Fig. 2.

Figure 2 shows that in 2020 there were only two publications, yet the number increased in 2021 to 13 publications. However, there had been no publication yet in this year, 2022. Considering the source country for those 15 publications, China was the country which produced the most articles (see Table 1).

From those 15 publications, only five articles addressed the research question of this study.

The five publications were then analyzed for answering the research question. The following Table 2 is the data of each publication.

Related to citation rates, only one article, A2, has been cited by other researchers, with 20 citations. However, the other four papers have not been cited yet. Citation of the selected publications can be seen in Table 3.

Table 1. Publications by country

Country	Number
China	3
Australia	1
Bangladesh	1
Indonesia	1
Ireland	1
Italy	1
Japan	1
Pakistan	1
Russian Federation	1
Turkey	1
United States	1
Viet Nam	1
Undefined	1

Table 2. Selected papers

Code	Author (s) and year	Title	Journal name	Publisher
A1	V. Timonen, J. Greene, and A. Émon [5]	'We're Meant to Be Crossing Over … but the Bridge Is broken': 2020 University Graduates' Experiences of the Pandemic in Ireland	Young	SAGE
A2	A. Parola [6]	Novel Coronavirus Outbreak and Career Development: A Narrative Approach Into the Meaning for Italian University Graduates	Frontiers in Psychology	Frontiers Media S.A.
A3	J. Zhuang, Y. Jiang, and H. Chen [7]	Stress and career adaptability during COVID-19: A serial multiple mediation model	Social Behavior and Personality	Scientific Journal Publishers
A4	Chen and S. Zeng [8]	The Relationship Between Intolerance of Uncertainty and Employment Anxiety of Graduates During COVID-19: The Moderating Role of Career Planning	Frontiers in Psychology	Frontiers Media S.A.
A5	Liu, K. Qiao, and Y. Lu, [9]	The Relationship Between Perceived Stress, State-Trait Anxiety, and Sleep Quality Among University Graduates in China During the COVID-19 Pandemic	Frontiers in Psychology	Frontiers Media S.A

Table 3. Citation of the selected publications

Article code	Sum of citation
A1	0
A2	20
A3	0
A4	0
A5	0

5 Discussion

In this discussion part, the answer to the question: 'what do the studies reveal about the life courses of university graduates amidst COVID-19 pandemic?' is discussed. However, firstly, this study analysed the methodology utilized by each paper. Most articles used quantitative method, with only A1 utilizing a qualitative method by using interviews as an instrument. A2 used mix-methods by which self-report was used as the quantitative and narrative for the qualitative. The other three papers (A3, A4, and A5) used quantitative methods. Therefore, further research conducted using the qualitative method could be used to obtain a clear understanding by directly capturing the graduates' real statements about their life experiences in the transition from university to work during COVID-19 as the central phenomenon under consideration.

Related to the research objectives of each publication, A1 aimed to understand how the coronavirus outbreak impacted Ireland's 2020 university graduates [5]. A2 focused on Italian university graduates' career planning experiences during the coronavirus era [6], while A3 is different to A1 and A2 in that the authors did not investigate graduates but rather they explored the current Chinese students who would soon graduate. They studied the relationship between perceived stress and career adaptability of these students, as well as testing whether positive psychological capital (PsyCap) and work volition mediated the relationship [7]. Like A3, A4 also investigated Chinese students intending to start their first job within 6 months to 1 year. The link between intolerance uncertainty (IU) and employment anxiety, as well as the role of career planning as a moderating variable for their relationship, were explored in this study [8]. The last article, A5 explored the association between Chinese graduates' reported stress, state-trait anxiety, and sleep quality in order to offer a benchmark for enhancing their psychological well-being and job-search attitude during the COVID-19 epidemic [9].

Then, regarding the theory utilized in the analysis part of these five publications, A1 does not use any theory to guide the analysis part. However, the authors talked a little about 'generational consciousness' theory in the conclusion part pointing out that generational consciousness was not found in the sample participants of their study. They further explained that because their data were taken at a relatively early stage of the pandemic and in a specific environment (summer 2020 in Ireland), it is likely that further studies of young adults over time and in different contexts would uncover a feeling of generational experience that has developed [5].

Similarly, no theory guided A2's analysis of the findings of the study. While A3 also did not utilize any theory yet the study discussed some concepts such as perceived stress, career adaptability, positive psychological capital (PsyCap), and work volition. A4 is in line with A3 in that some concepts were introduced like intolerance uncertainty (IU), employment anxiety, and career planning. This study also explained a little about career development theory by Super [10]. Finally, A5 did not use any theory for the analysis but the authors discussed the concept of perceived stress and state-trait anxiety.

Related to the research question, A1 finds that the university graduates amidst COVID-19 have adopted self-care practices like mindfulness. Some were starting their normal adult paths sooner than expected, while others chose postgraduate studies to occupy themselves until the employment situation improved. As a result of their increased worry/anxiety, participants reported limiting their media use. Their plans were limited to the near future, indicating a sense of resignation [5]. However, they did not see themselves as part of a group that would bear the brunt of the pandemic's long-term effects, [5] meaning that generational consciousness was not found in this sample.

A2 answers that in the recent weeks of confinement, a sample of Italian university graduates have tended to suffer unpleasant consequences. The narrative's themes revealed that they are concerned about the post-pandemic future and are fearful, uncertain, and anxious [6]. In addition, A3 revealed that the last-year students' perceived stress during the COVID-19 epidemic had a negative impact on their ability to modify their career plan [7].

In A4, according to the findings of the correlation study, there was a substantial positive association between intolerance uncertainty (IU) and employment anxiety, as well as a strong negative correlation between career planning and IU and the relationship between career planning and employment anxiety. Moreover, hierarchical regression analysis showed that IU strongly predicted graduates' employment anxiety, while career planning reduced the association between IU and employment anxiety [8].

Lastly, A5 explained that during the COVID-19 epidemic in China, the researchers discovered a link between perceived stress, state-trait anxiety, and sleep quality among Chinese university graduates. Specifically, rural Chinese graduates seeking work, particularly those with a liberal arts major, were shown to have a greater risk of mental health symptoms that were detrimental to their development and may require psychological support or interventions [9].

Generally, there are some words that most commonly appear in those five articles such as unpleasant, worry/anxiety, fearful, uncertain, anxious, and stress. Those five studies have a general commonality in that they all agreed that the COVID-19 pandemic had negatively affected the university graduates. However, those five studies did not explore comprehensively the life courses of university graduates nearing graduation, graduating, looking for a job, until entering the workplaces. Therefore, future studies can research further to fill this gap. In addition, the studies indicate that they focused only on the individual graduates, while the roles of some parties involved in workforce transformation including the education sector, families, employers, and government were not included. This could be a focus for future research.

Related to the country-base, China was the most producible county. In addition, no publication had researched other countries with higher number of cases of COVID-19

apart from the five studies such as India, the USA, Brazil, or even in the Southeast Asian countries like Indonesia. Therefore, future studies are needed to explore other country contexts which have recorded among the highest confirmed COVID-19 cases in the world. This may aid other countries with similar features, particularly those most seriously affected by COVID-19.

6 Conclusion

For the research question of 'what do the studies reveal about the life courses of the university graduates amidst COVID-19 pandemic?', this study concludes that previous studies agreed that COVID-19 pandemic negatively influences the university students' and graduates' affective experience/emotional components of subjective well-being, ultimately it influences their career aspirations and trajectories.

7 Limitations of the Study

This study only utilized one database, Scopus. Therefore, the publications that matched with the study objective were limited to only five papers. Future researchers could utilize additional databases such as PubMed, Eric, Web of Science, DOAJ, JSTOR, and Science direct, or a search engine like Google Scholar.

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