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A scoping review to map the research on the mental health of students and graduates during their university-to-work transitions

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ABSTRACT

Objectives This scoping review maps the extant literature on students’ and graduates’ mental health experiences throughout their university-to-work transitions. The current review investigates the methodological features of the studies, the main findings, and the theories that the studies draw upon to conceptualise mental health and transitions.

Design This project used a scoping review methodology created and developed by Peters and colleagues and the Joanna Briggs Institute. The review searched academic databases and screened existing studies that met predetermined inclusion criteria.

Data sources Seven academic databases and Google Scholar were searched with sets of search terms.

Eligibility The included studies examined participants who were final-year university students or those who had graduated from university within a 3-year period. Studies published in English since 2000 and from any country were included. The review included studies examining the negative dimensions of mental health. The review excluded studies focusing on medical students and graduates.

Data extraction Basic information about the studies and their findings on mental health and university-to-work transitions was retrieved. The findings are presented in tables and in a qualitative thematic summary.

Results The scoping review included 12 studies. Mental health was often not explicitly defined and it’s theoretical foundations were not clearly articulated. The review identified factors, including a lack of social support and economic precariousness, as sources of adverse mental health. Other protective factors in these studies—variables that guard against mental health problems—were identified, such as career preparedness and having a good job.

Conclusions Despite the methodological focus on the negative aspects of mental health, people’s mental health experiences during university-to-work transitions are not uniformly negative. Clear conceptualisations of mental health in future studies will aid in developing resources to improve well-being.

Trial registration number This scoping review adhered to a protocol previously published in this journal and that is registered on the Open Science Framework website (https://osf.io/gw86x).

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ A methodological advantage of this project lies in deploying a scoping review methodology, alongside following a well-documented and thorough literature search and screening process. The scoping review’s validity and reliability was ensured by the three reviewers working together, documenting reasons for study inclusion and exclusion, and regularly talking through problems.

⇒ The comparatively small number of included studies is a strength because it allows an in-depth examination of the literature base. As such, the review can extend beyond just documenting the studies’ findings and can also investigate their theoretical underpinnings.

⇒ The scoping review’s limitations relate to the possibility of missing existing studies and work not published in English before 2000. In addition, our condensed search of Google Scholar means we may have missed relevant grey literature.

⇒ The scoping review has a restricted focus on non-medical students and graduates, and thus, this narrow focus may mean that some relevant findings have not been included.

INTRODUCTION

People’s lives consist of transition periods as they experience milestones such as marriage, divorce, and relocating to different places. Transitions have previously been defined as ‘sharp discontinuities with the previous life events’ that mark a change in our circumstances (p. 239). One extensively researched transition is when graduates leave tertiary education and begin a career in the workforce—or what has been termed university-to-work transitions. This term implies a somewhat simplistic conceptualisation of transitions—as a linear move from one set of circumstances to another. Research has shown that this period is complex. Some people follow a straightforward transition from graduation, encountering difficulties...
in their new jobs, to eventually being fully enmeshed in the workplace. Others may instead start their first job and then leave it for another job. Still, others may begin preparing for their career before they graduate, in the form of internships. Thus, university-to-work transitions involve different stages, and people may move between them.

University-to-work transitions are different according to the group of students and graduates at issue. There is evidence that graduates from some disciplines have different career search strategies. Furthermore, graduates from some disciplines, such as psychology, have lower salaries in their first jobs compared with those from other disciplines. Finally, graduates in medicine (and related fields) experience unique transitions compared to others, for reasons including on-the-job training as part of their education, different and challenging curricula, and facing the psychological demands of dealing with injured or dead patients.

The university-to-work transition entails shifts in aspects of students’ and graduates’ lives, including their skills, mindsets, and financial standing. Students and graduates navigate these changes in order to succeed in their chosen careers. Transitions are complicated periods, as changing circumstances can lead to changes in one’s personality and psychological well-being. One challenge faced by students and graduates is mental health problems. Mental health is a multifaceted term that is understood as a continuum. At one end, there is psychological health, including facets such as ‘positive feelings and positive functioning in life’ (p. 208). This review treats mental health as a negative phenomenon—the other side of the continuum—including mental ill health, psychological distress and mental illnesses.

Mental health is an important issue as it is implicated in low productivity, job loss, and substance abuse in workplaces. Mental health is important during the university-to-work transition because this is a period of existing challenges, with people experiencing changes to their identities, finances, and abilities. Students and graduates can face mental health problems throughout the transition. Cassidy and Wright found that around 34% of underemployed graduates could be classified as clinically distressed. Being aware of these mental health issues could help us understand the psychological struggles faced by students and graduates. Such insights could enable universities to allocate their resources to help these vulnerable individuals. Prospective employers should know the mental health struggles of their new employees so that they can create a supportive workplace environment to help them thrive.

Aims and objectives

The scoping review aims to chart the existing research on the mental health outcomes and experiences of students and graduates during the university-to-work transition. The review has three objectives: (1) to examine the methodological features of the studies, (2) to identify the findings about graduates’ and students’ mental health during university-to-work transitions from the examined studies and (3) to investigate the theories used to conceptualise mental health and transitions (the third objective differs from the original published protocol due to the inclusion of an examination of the theories used to conceptualise transitions).

METHODS

This scoping review strictly adhered to the steps and guidelines provided by other scholars and organisations. Further methodological details can be found in the published protocol for this review. A scoping review is appropriate because our cursory examination of the extant research base showed that it was small compared with literature on other topics and university-to-work transitions. A systematic review would be too extensive of a methodology for such little research.

Stages 1 and 2: finding and choosing the studies

Two tasks constituted the preliminary work for this scoping review. The first task was to operationalise the population, context and concepts in this review. The operationalisation of population refers to the participants who were included in the sample of each included study. Studies meeting the inclusion criteria focused on participants who were (1) final-year undergraduate and postgraduate university students; (2) those people who had graduated from university within the previous 3 years; (3) students from all disciplines except dentistry, nursing, and medicine and (4) those students not suffering from any form of disability. Our scoping review did not include students and graduates from medical fields because of the unique nature of their education and transitions compared with other disciplines that were outlined earlier. There are existing review papers focusing on medical (and related) students’ and graduates’ mental health during this period and reviews of medical students’ mental health generally. In relation to the studies’ contexts, those papers published in English since 2000 and from any geographical location qualified for inclusion in the review.

The scoping review includes two key concepts. The conceptualisation of mental health focuses on its negative dimensions—namely, mental ill health, psychological disorder, and psychological distress. This definition incorporates mental illnesses, including depression, anxiety, and personality disorders, and psycho-emotional states such as stress, worry, and sadness. The concept of university-to-work transitions was operationalised broadly and encompasses (1) the time period of those students who will leave university within a year; (2) the period of preparation that students and graduates undertake for moving into a career and (3) a period of 3 years post-graduation. The full inclusion and exclusion criteria are outlined in the published protocol.
The second task was developing the scoping review’s search terms. Online supplemental file 1 summarises the scoping review’s search strategy. These search term strings were applied to seven online academic databases. Three reviewers searched the databases. The following databases and the accompanying search fields were searched: SSCI (title, abstract, keyword plus), Scopus (title, abstract, keywords), Web of Science (title, abstract, author keywords and keywords plus), CINAHL Plus (title and abstract), ERIC (title and abstract), OVID (abstract) and PSYCINFO (title, abstract and keywords). Google Scholar was also searched. However, Google Scholar has limitations as a database for scoping reviews, including an innumerable number of results, a restricted number of characters for search terms and an inability to use some search operators.30–32 Some solutions were devised and two searches of Google Scholar were undertaken. In the first search, a condensed string of search terms was used, and each study was individually extracted from the first six pages of results (with 10 results per page)30–32. In the second search, some informal online advice was followed, and the software Publish or Perish was used33, which allows users to use the software to search Google Scholar and retrieve more studies without having to manually extract each single result.32 33 The string of search terms used for both searches on Google Scholar can be found in online supplemental appendix 1. All eight databases were searched in March 2023. After the studies were included in the scoping review, their reference lists were also scanned for other papers (Phase 4 in figure 1). Other academics and research collaborators were contacted to request any references that fit the review’s inclusion criteria.13 Finally, instead of two reviewers initially examining a select number of studies against the inclusion criteria, 12 studies were included in the final scoping review.

Figure 1  A diagram showing the process undertaken for the scoping review. Adapted from Moher et al (2009).35
criteria, the reviewers first met to discuss the inclusion and exclusion criteria before searching the databases.\textsuperscript{13}

The citations from the databases were transferred into EndNote V.20 and then into Covidence.\textsuperscript{13} Duplicate records of studies were detected by Covidence and manually by the reviewers and then removed. Two reviewers undertook the preliminary screening and the comprehensive screening.\textsuperscript{13} During this process, if disagreement occurred about whether a study should be included, the two reviewers discussed how to resolve the problem(s). The workflow in Covidence allowed reviewers to document the reasons why studies were excluded at each stage. A summary of the reasons for exclusion at the stage of comprehensive screening is included in figure 1. The preliminary screening and comprehensive screening of studies in Covidence resulted in the final 12 studies included in this scoping review. The process of stages 1 and 2 of the scoping review is depicted in figure 1.

**Stage 3: retrieving the data from the studies**

Twelve studies satisfied the inclusion criteria, and each of the three reviewers read through these studies and added the relevant details into the data retrieval form that was included in the published protocol.\textsuperscript{13} The data retrieval form was developed to identify details from the studies that were relevant to the three research objectives. The details included in the data retrieval form included classificatory information (author and publication date), methodological information (study aims and sample size), mental health findings, and findings about university-to-work transitions.\textsuperscript{13} Thus, the data retrieval form for each study included the information identified by each reviewer. Comments were added when there were conflicting details from each reviewer, which were further resolved through discussion.

**Stage 4: analysing the data from the studies**

The information from the data retrieval forms formed the basis for the scoping review’s findings. Key details from the studies are shown in both table 1 and 2 of online supplemental file 2. The latter table includes the relevant findings in relation to mental health. A qualitative thematic analysis of the studies was conducted in both inductive and deductive ways.\textsuperscript{34} The qualitative analyses were deductive because they were guided by the research objectives and the data retrieval form, as well as being inductive because we also allowed for the possibility for findings to be generated from our examination of the data.

**Patient and public involvement**

Our project is not clinically focused and patients were not involved in this study. Nevertheless, this scoping review was one part of a project investigating how the COVID-19 pandemic impacted Hong Kong graduates during their university-to-work transitions. Some stakeholders in this project were involved in aspects of this scoping review. Recent graduates—part of the ‘population’ of interest in the scoping review and project—were involved in the scoping review’s design and implementation.\textsuperscript{13} The scoping review’s findings were disseminated in events delivered to stakeholders. Finally, the findings of the scoping review may help inform resources that will be developed to provide to stakeholders to improve students’ and graduates’ mental health during these transitions.

**FINDINGS**

The scoping review process is depicted in figure 1. 341 studies were located through database searches. Seven studies were found from existing papers that we located for our wider project, and four studies were found from the reference lists of the included papers (figure 1). Our findings are based on the 12 studies that were included in the scoping review. As visible from the reasons for excluding studies (figure 1),\textsuperscript{35} we focused on studies that explicitly examined university-to-work transitions. Crucially, at some point in these papers, the studies had some finding(s) related to students’ and graduates’ mental health.

**Methodological features of studies**

The review’s first objective was to highlight the methodological features of these studies, which are addressed in table 1 of online supplemental file 2. Starting broadly, several studies were published at the end of the 2000s, with others published throughout the 2010–2019 period. In contrast, 50% of studies (n=6) were published in the last 3 years. Thus, there has recently been an increased interest in the matter of graduates’ mental health during university-to-work transitions. The geographical setting of the studies is limited, with 58% (n=7) of studies conducted in the USA and 33% (n=4) in Europe. Only one study was conducted in Africa, and there was an absence of studies from Asia, the Pacific, and South America. Seventy five percent (n=9) of studies were cross-sectional designs, and 25% (n=3) were longitudinal designs. Fifty per cent (n=6) of studies presented solely quantitative findings, and 33% (n=4) of studies presented solely qualitative findings. Seventeen per cent (n=2) of studies presented both quantitative and qualitative findings. Seven studies (58%) used survey methods alone, two studies (17%) used only interviews, two (17%) studies used both surveys and interviews, and one study used participatory research methods. Finally, the studies’ sample sizes ranged from 10 to 5264 people (median sample size of 219.5 people).

One feature evident in table 1 of online supplemental file 2 is the lack of specification in the studies—namely, the authors did not explicitly mention crucial details of some studies. Fifty per cent (n=6) of studies did not mention the timescale of their project—that is, how long it took the authors to collect their data. Forty-two per cent (n=5) of studies did not specify details about the backgrounds of their participants, such as the majors of students and the industries in which graduates worked.
The findings about mental health from each included study are provided in table 2 of online supplemental file 2. Some studies did not explicitly state how they operationalized mental health. We included these studies because they did focus on mental health in their findings, but nevertheless, they did not explicitly operationalise it as a variable. Other studies defined mental health through the scales they used. For instance, Yang and Gysbers (2007) operationalized the variable of ‘psychological distress’ (p. 160) as measured by the Brief Symptom Inventory, which assessed the constructs of depression and anxiety. Other studies defined mental health as comprising elements of psychological distress, including negative emotions, anxiety and depression. Finally, there was little uniformity in the scales used to assess mental health, with studies using a variety of scales from the General Health Questionnaire to the State Anxiety Inventory.

Findings related to mental health in university-to-work transitions

The review’s second objective was to synthesise the findings in relation to students’ and graduates’ mental health during university-to-work transitions. Some sources of mental health difficulties for students and graduates during these transitions are provided in table 2 of online supplemental file 2. The absence of social support and economic forces (eg, overqualification and a poor job market) is associated with mental health problems. Mental health is also related to other health problems for graduates, for instance, poor mental health is also linked to excessive alcohol consumption.

The findings also revealed a temporal dimension to mental health—namely, that there can be different mental health experiences at different points during the transition. Arnold and Rigotti identified different ‘trajectories of mental health’ (p. 724), including one whereby people started the transition with relatively good mental health, but this deteriorated over time. The studies’ findings also reveal what we call ‘prospective negativity’, which relates to students experiencing stress, anxiety, and negative emotions before they even graduate because of the uncertainty associated with the university-to-work transition. Furthermore, some graduates may experience stress and other mental health problems because of issues with their jobs.

Although the inclusion criteria specified a focus on negative mental health, the review also revealed positive dimensions of mental health. For instance, traits and variables such as optimism and career preparedness appear to offer some protection against adverse mental health. Furthermore, obtaining a desired job is associated with lower psychological distress for graduates. Finally, some studies found that graduates can achieve a state of relative psychological well-being as time passes and they gain experience in their jobs.

Theoretical and epistemological foundations

The review’s third objective was to unpack the theories used to conceptualise mental health and transitions. Some studies did not specify the theories that they used to conceptualise mental health. One reason for the omission of the theoretical foundations of mental health was that, in most studies, it was not the primary variable that was examined. In fact, the studies examined a range of variables, from choice in underemployment, to employability, to substance abuse. Indeed, mental health was sometimes an ancillary focus of the analyses. Alternatively, mental health was one dimension of the theories used to explain other variables in a study. For example, Okay-Somerville and colleagues’ (2022) theoretical framework of a ‘graduate identity perspective (on) employability’ (p. 545) included psycho-emotional well-being as one dimension of graduates’ employability. Finally, one study developed its own theory of university-to-work transitions, which was characterised by distinct mental health outcomes at the different stages.

Only three studies explicitly stated how they defined transitions in a substantive way. For most studies, we had to surmise from other information that was provided—such as the participant inclusion criteria—in order to arrive at a definition. Based on these ‘educated guesses’, one can infer that graduation from university indicates the transition’s beginning, which also involves a sustained period characterised by employment or job searching. Some studies acknowledge that the period prior to graduation is also important in these transitions, and thus, examined those students in their final year of undergraduate study.

The word transition implies a linear concept—shifting from one discrete stage of life to another. However, some studies have acknowledged that university-to-work transitions are not necessarily linear. Indeed, Aronson et al (2015) found that the university-to-work transition is an unstable period characterised by ‘frequent job changes’ (p. 1099). Glassburn (2020) found that 63% of her interviewees indicated that they had changed jobs during their transition. These findings imply that there can be smaller ‘transitions’ within the wider period. In addition, Glassburn (2020) provided the only staged model of transition among the studies, specifically focusing on graduates from a Master of Social Work programme. Each phase of this transition model is characterised by unique mental health profiles. For instance, in the ‘sinking or swimming’ phase (p. 148), graduates experience excessive psychological distress, and in the ‘treading water phase’ (p. 151), graduates deal with burnout.

Relative to mental health, it is arguably the case that there is a stronger theoretical grounding for transitions. Some studies did not mention the theories they used to conceptualise university-to-work transitions. Yet, there were diverse theoretical frameworks in these studies in relation to transitions. The studies drew on human capital theory, organisational socialisation theory, adaptation theory, conservation of resources theory and existing theoretical frameworks around resilience, adaptability and employability. These observations highlight
the varied intellectual traditions involved in studying university-to-work transitions.

**DISCUSSION AND CONCLUSIONS**

This scoping review mapped the research on the mental health experiences and outcomes for students and graduates during the university-to-work transition. The goal was to identify the methodological characteristics of these studies. One conclusion is that this literature is fragmented because there are only 12 studies from different disciplines. Furthermore, not all of the studies directly focused on mental health. Rather, mental health was sometimes a secondary focus. The lack of an exclusive focus on mental health in some studies is understandable, as this is a period of empirical interest for many different reasons, such as employment and the skills needed in the workplace. Nevertheless, a sustained focus on future studies on mental health would be beneficial, as it could identify the unique features of mental health outcomes during this period.

Another methodological feature of these studies was multiple absences. First, there was an absence of studies from outside the USA and Europe. It is imperative to understand this topic in the context of the Global South and other ‘peripheries’. The mental health outcomes for graduates in these geographical settings may be different owing to the diverse cultural norms and stigma surrounding mental health. Mental health may be understood and conceptualised differently across cultures, and thus, we may have an incomplete picture of the culturally specific mental health challenges for graduates during university-to-work transitions. Second, there was an absence of clear definitions of the concepts of mental health and transitions in some studies. There should be systematicity in how concepts are defined in order to allow direct comparison across studies. A ‘shared vocabulary’ would allow researchers to understand whether references to mental health in one study are equivalent in conceptual and empirical terms to other studies. Researchers should make explicit their conceptualisations of mental health and transitions, and address questions such as, does the definition of mental health incorporate emotions, how long does a university-to-work transition last, and what are some of the features of this period of life?

A second goal was to identify the findings regarding the mental health of graduates and students during these transitions. In line with our inclusion criteria, the included studies found that people experienced mental ill health during this period. Yet, some of the studies also identified graduates’ positive psycho-emotional experiences in these transitions and some of the variables that protect against mental health problems. These findings underscore that university-to-work transitions do not necessarily have negative mental health impacts on students and graduates. The positive side of mental health during these transitions provides a more complete picture and enables others to create effective resources to intervene through the identification of protective factors.

The third goal was to investigate the theoretical foundations of mental health and university-to-work transitions. The review revealed that transition is not a uniform concept that relates to a linear change from student to worker. The university-to-work transition can be complicated by socioeconomic upheavals, such as the Great Recession and the COVID-19 pandemic, and differential access to material and social resources. The findings reveal the idiosyncratic nature of the trajectories during this period, the varying length between each stage and the unstable nature of employment. Thus, university-to-work transitions are processual in nature, with the ideal type being the linear change, but the reality is more complicated. Definitions of transitions should allow for movement throughout stages and delimit when these stages begin and end. In all, the scoping review reveals the complexity of the notion of transitions. Theoretical clarity on transitions benefits an understanding of mental health by clarifying issues including the variation in mental health outcomes at different points in the transition, and identifying times when students and graduates are at higher risk of psychological distress.

Future research should better conceptualise mental health and transitions, which would benefit stakeholders. To begin with, transitions and clarifying their exact time period(s) would aid universities in better targeting resources to support students’ and graduates’ mental health. If the university-to-work transition starts in the final year of education, then universities could direct tailor support directly to those students. Clarifying this time period would be beneficial to employers as it would provide them with insights into interventions and for how long they may need to support new hires.

This scoping review has some limitations, particularly, in its scope. The review was limited to research published since 2000, which was set because of the reasoning that it would provide the most up-to-date work. There may well be seminal work on this topic during prior decades that was missed. The review excluded studies not published in English, which perhaps led to an absence of work from the Global South. Thus, the review arguably provides a culturally limited understanding of mental health during university-to-work transitions. The small number of studies from a diverse range of disciplines is also a limitation as it means that the conclusions are somewhat disparate. A final limitation is that we did not include studies focusing on medical (and related) students and graduates. As such, there may be certain findings that were missed as a result.

The job market is subject to the whims of the economy, which could adversely impact people’s mental health during the university-to-work transition. This review provides insights into this research base and identifies the existing findings and gaps. Understanding this issue of societal importance provides concrete avenues for universities, employers and students to develop resources.
to bolster psychological well-being and prepare them for successful transitions.

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Contributors O2S and ZF conceptualised the research project, decided on the scoping review topic, supervised the scoping review and drafted and edited the paper. DME, AC and JSGC conducted the scoping review and drafted the paper. O2S is the guarantor of this paper and project.

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Patient and public involvement Patients and/or the public were involved in the design, conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Ethics approval Our scoping review did not need ethical clearance because it did not use materials from human participants. In addition, it was focused on materials that are publicly available. Nevertheless, the scoping review is part of a wider project that received ethical approval from the University of Hong Kong’s Human Research Ethics Committee (ethics code: EA2000104).

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