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The benefits of peer mentoring in higher education: findings from a systematic review

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Abstract

The integration of peer mentoring into academic programmes as a mechanism for supporting new students has received considerable attention in higher education worldwide, especially in developed countries. Despite a growing body of research on peer mentoring in higher education, an extensive review of the benefits of this approach is needed to establish a nuanced understanding of the impacts of peer mentoring on students across various contexts. This study employed a systematic review method to examine the benefits of peer mentoring in higher education. The review covered research articles about peer mentoring published within the last decade (2013−2023). The findings showed that the benefits of peer mentoring in higher education could be categorised into four fundamental aspects, including academic performance, retention rates, emotional and psychological wellbeing, and social integration. These categories of benefits could be developed into a conceptual framework for studying the impacts or benefits of peer mentoring in higher education. The study highlights the significance of adopting peer mentoring as a supportive scheme for students encountering critical challenges due to its manifold benefits and points to the importance of identifying the varying factors contributing to the success of peer-mentoring schemes. The study concludes with a discussion and the implications of the findings, as well as suggestions for future research to examine how peer mentoring could be effectively implemented in different educational contexts.

Introduction

The transition from secondary school to higher education in many parts of the world is widely recognised as a challenging phase for first-year university students (Byl et al., 2015; Fitzpatrick et al., 2021; Wilton et al., 2021). While significant resources are allocated to attracting students to pursue higher education, strategies to retain them often receive insufficient attention (Husband and Jacobs, 2009; Ball and Hennessy, 2020). Without proper and adequate support, students who encountered difficulties in navigating the high school−university transition tended to drop out within the first year (Claybrooks and Taylor, 2016), delay their graduation beyond the typical four-year timeframe (Miller and Lesik, 2014), receive lower grade point averages (GPAs) (DeMarinis et al., 2017), and have reduced engagement with campus life (Colvin and Ashman, 2010). Furthermore, research has shown that there are a multitude of barriers that hinder students' successful higher education completion, including financial constraints, limited academic preparedness, restricted access to support services, and the absence of a supportive academic environment (Straw, 2014; Blankenship et al., 2020; Koke et al., 2022). The presence of these obstacles points towards the need for comprehensive and tailored interventions to minimise the challenges and foster academic success in higher education settings.

Due to these barriers and difficulties, the demand for tailored support to help students successfully navigate their academic life has significantly increased (Ball and Hennessy, 2020). To overcome their struggles, students often seek guidance from peers rather than from their institutions (Hall, 2004; Colvin and Ashman, 2010). This has given rise to a student-support mechanism called peer mentoring, which is also known as 'peer assisted learning' (Giles et al., 2016, p.3), peer coaching, or peer learning (Hagen et al., 2017). Peer mentoring has been found to have the potential to help students deal with their learning challenges, emotional issues, or engagement issues during their academic journey (Dedrick and Watson, 2002; Colvin and Ashman, 2010). Personal academic mentoring/tutoring or peer mentoring has also been found to significantly enhance course completion and graduation rates among at-risk students (Koke et al., 2022).

The term 'peer mentoring' is usually defined as a reciprocal relationship that fosters the development of skills, knowledge, potentials, and competencies, benefiting all parties involved (Chapman and Collins, 2009). It is a form of educational process that allows personal and professional development between individuals and promotes the benefits of

their organisations (e.g., educational institutions) (Woolhouse and Nicholson, 2020). Because the settings, purposes, and relationships between mentees and mentors generally vary, the definition of peer mentoring also differs according to contexts (Klasen and Clutterbuck, 2012; Doyle et al., 2019; Garvey et al., 2021). In higher education settings, peer mentoring usually involves individualised guidance provided by senior students to assist other students in developing effective study habits, setting goals, managing their time, and accessing campus resources and academic developments (Ball and Hennessy, 2020).

Previous research has shown that peer mentoring is an effective pedagogical support strategy (Leidenfrost et al., 2014; Cornelius et al., 2016). It can support students psychologically and enhance their capacity to understand complexity and navigate institutional cultures (Mullen and Klimaitis, 2021). Crisp et al. (2017) noted that one of the most common pedagogic strategies used to help vulnerable or less experienced students was to assign those with more experience or knowledge to guide new students and help the latter solve problems. This strategy employs a fundamental concept of mentoring and can trigger fast-paced changes, as the support could be tailored to individuals' needs (Klasen and Clutterbuck, 2012; Doyle et al., 2019). Furthermore, peer mentoring is much preferred over other training courses because it is a person-to-person, interactive-development method that can bring benefits, such as improved competence for the mentees and can provide learning experiences and credits for the mentors (Nation et al., 2020).

Due to its various benefits, such as improving students' academic behaviours, increasing retention rates, supporting emotional wellbeing, and developing self-development skills (Nation et al., 2020; Graham et al., 2022; Meletiadou, 2022), peer mentoring has been adopted and widely documented in developed higher education contexts, such as the United States (US), the United Kingdom (UK), and Australia. It is particularly employed to help international students with their studies and reduce acculturation stress (Quintrell and Westwood, 1994; Ragavan, 2014a; Collings et al., 2016). Moreover, considering its affordability, accessibility, and relatively easy-to-employ procedure, peer mentoring is a convenient and efficient strategy for educational institutions to provide support to their students (Meletiadou, 2022). The support and guidance provided by mentors have also been found to help students develop resilience, self-confidence, and a sense of belonging within the academic community (Hayes and Fulton, 2019; Meletiadou, 2022). All of these

play a crucial role in improving students' overall wellbeing and increasing their engagement in university life (Venegas-Muggli et al., 2021).

The need for a systematic review on the benefits of peer mentoring

Considering the importance of peer mentoring, a lot of scholarly attention has been paid to its roles and benefits in educational settings (Colvin and Ashman, 2010; Gunn et al., 2017; Seery et al., 2021). However, most of the previous studies, including those in the form of review articles, have predominantly focused on the influence of peer mentoring on one or two aspect(s) of academic success, such as students' knowledge acquisition and productivity (Doyle et al., 2019), as well as students' stress and anxiety management (Kachaturoff et al., 2020; Lane, 2020; Lim et al., 2022). For example, in their review of the impact of peer mentoring on stress and anxiety levels of undergraduate Nursing students, Kachaturoff et al. (2020) found that peer mentoring could decrease students' stress and situational anxiety. In a similar vein, a systematic review by Lim et al. (2022) found that peer mentoring could alleviate students' stress, while enabling peer mentors to support peer mentees to achieve their desired goals.

Other studies have pointed out the positive academic outcomes of peer mentoring on students who are struggling with their studies, mental health issues, and career development in higher education (Lane, 2020; Morris et al., 2022). Lane's (2020) literature review, for instance, showed that peer mentoring could enhance academic performance and satisfaction for both mentors and mentees, which ultimately led to positive retention outcomes. Seery et al. (2021) also added to the discussion of peer mentoring by reviewing its impacts on students. It was found that ongoing mentoring relationships could serve as a strong foundation for successful and sustainable partnerships in later stages of life. A review by Wilton et al. (2021) suggested that the impact of peer mentoring went beyond the scope of grades and wellbeing, as there was evidence of improvement in students' retention rates and their social assimilation after participating in a university mentoring programme. A scoping review by Morris et al. (2022) also found improvement in academic and non-academic aspects among autistic university students.

Despite the studies discussed above, there are various reasons why there is a need for a systematic review on the benefits of peer mentoring. Firstly, to the best of our knowledge,

most of the research on this topic has been conducted in a Global North context, with focus on countries such as the US, UK, and Australia, with little information on whether such benefits can be generalised for other contexts (Giles et al., 2016). Therefore, this review aims to establish a nuanced and comprehensive understanding of peer mentoring benefits on students' academic improvement, which could act as a useful framework for those aspiring to study such benefits in different higher education contexts. Secondly, existing review work has focused on one or two benefits of peer mentoring with regards to academic improvement, without showing the manifold nature of peer mentoring benefits and how they are interrelated and contribute to students' experience and performance in a broader sense. This article, therefore, offers a critical account of the benefits of peer mentoring, addressing previously mentioned research gaps and pointing to directions for future research and practice in this area. To this end, the present study employs a systematic review to examine the benefits of peer mentoring for university students.

In what follows, the study begins by outlining the systematic review procedure, particularly the database-search method and the article-elimination process based on specific inclusion criteria adopted. The study then presents key findings from the systematic review, outlining the manifold benefits of peer mentoring for students in higher education. A discussion of the findings is then provided, followed by the conclusion and implications drawn from the review. The study concludes by highlighting the limitations of the review and identifying potential avenues for future research.

Methodology

This study employed a systematic review method and followed the guidelines of Page et al.'s (2021) Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines to critically assess previous literature on the benefits of peer mentoring in higher education. PRISMA guidelines were used to ensure the rigorous and transparent review process. To locate relevant studies, a number of online databases were used for the search. These included Summon (an e-library of the University of Huddersfield), PubMed, Google Scholar, ScienceDirect, Directory of Open Access Journals, ERIC, and the International Journal of Mentoring and Coaching in Education. The search was carried out utilising a range of keywords, including 'peer mentoring in higher education/university', 'peer mentorship in higher education/university', 'peer

coaching in higher education/university', 'peer mentees and mentors in higher education/university', 'peer mentoring for undergraduate students', 'benefits/impacts of peer mentoring', 'learning outcomes', 'academic performance', 'academic success', 'academic/learning achievement', 'retention rates', and 'social integration'. Boolean operators (AND, OR) were also used to facilitate the search and enhance the search focus. However, it is important to note that the searches were limited to the peer-reviewed articles published within the past decade, from 2013 to 2023. The searches were performed between April and May 2023. Inclusion and exclusion criteria were used to ensure the quality and reliability of research articles (Page et al., 2021). In the process, we excluded irrelevant studies that did not meet the following inclusion criteria:

1. Studies that are based on primary data and employ quantitative, qualitative, or mixed-methods design. This is to ensure that the studies are based on empirical data to show the benefits of peer mentoring in higher education.

2. Studies that include participants (mentees) who are undergraduate students, irrespective of discipline. Studies about primary and secondary school students or postgraduate students pursuing their master's and doctoral degrees were excluded. This is to ensure the focus of the present study.

3. Studies that are written in English. All of the authors of the present study use English for communication as they do not share a first language. Only including studies in English allows for verification and discussion when conducting this review.

4. Studies that are published as journal articles. Those in the form of books, book chapters, newspaper reports, research reports, or theses/dissertations were excluded. As mentioned above, we focus on empirical data on the benefits of peer mentoring. As empirical research findings are generally reported in journal articles, we decided to include only journal articles in our review.

Figure 1 shows the elimination process used in this review. Through the searches, we identified a total number of 564 articles, yet 359 studies were excluded due to duplication; therefore, only 205 articles remained. The second author then critically screened the articles by reading the abstracts to identify those that were most relevant to the current study. In this process, 103 articles were deemed eligible for our study after a comprehensive review of their abstracts, research methodologies, findings, and

conclusions. However, following the inclusion criteria, only 27 of 103 articles were included in the present study. The details of these 27 articles are provided in the Appendix. It is worth noting that 75 articles were not included because they did not meet the inclusion criteria. Some of them mentioned mentoring in general, not specifically peer mentoring, while other articles involved other participants such as master's and/or doctoral students, who fall outside the focus of the current study.

Figure 1. The article elimination process based on PRISMA guidelines (Page et al., 2021).
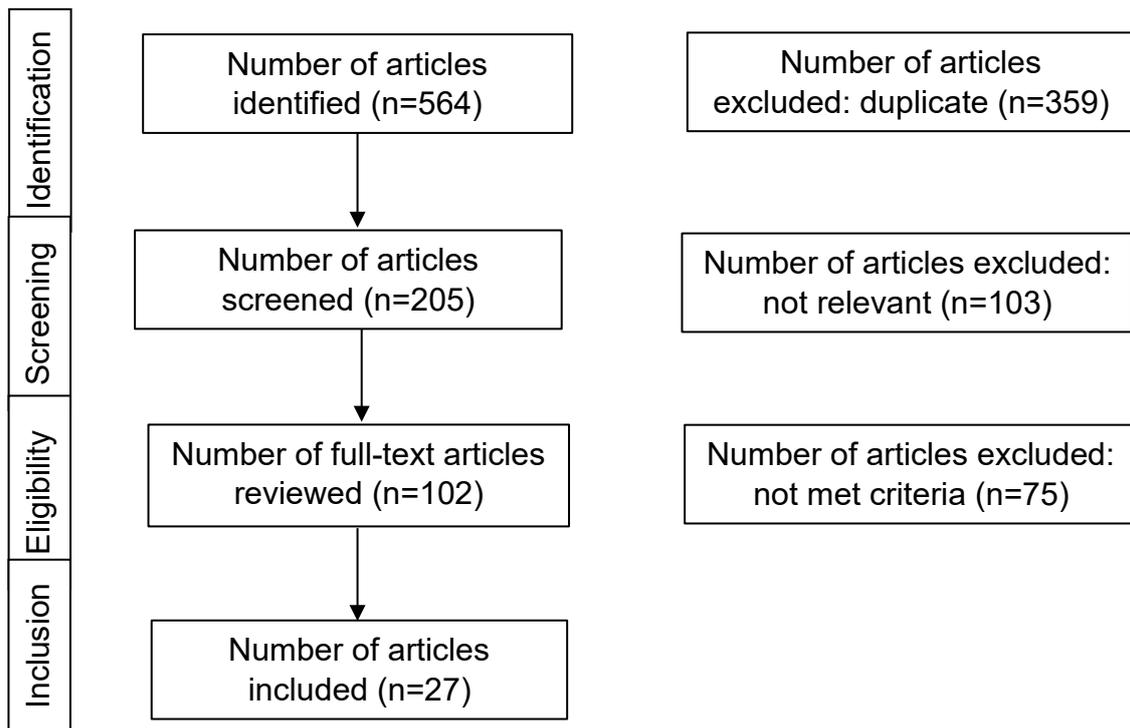
Findings

This systematic review showed that peer mentoring in higher education generally has a positive effect on a variety of aspects of learning success. Our analysis identified various potential benefits of peer mentoring that could be classified into four themes: (1) academic performance, (2) retention rates, (3) emotional and psychological wellbeing, and (4) social integration. These four themes are discussed in turn.

Academic performance

Many studies have demonstrated that peer mentoring in post-secondary education could enhance students' academic achievements (de Oliveira et al., 2015; Flores and Estudillo,

2018; Wilton et al., 2021; Graham et al., 2022; Núñez-Andrés et al., 2022). Peer mentoring indeed helped improve students' GPA (Kim et al., 2013; Dos Reis and Yu, 2018; Cruz et al., 2021; Graham et al., 2022), elevate students' test scores (Chester et al., 2013; Leidenfrost et al., 2014; Dos Reis and Yu, 2018; Venegas-Muggli et al., 2021), and increase students' passing rates (Leidenfrost et al., 2014; Masehela and Mabika, 2017). More specifically, a large-scale, mixed-methods study with 4,174 participants (mentees and mentors) in the US showed that peer mentoring had a statistically significant impact on students' learning achievement, as evidenced by an increase in the average GPA from 2.41 to 2.83 (Graham et al., 2022). Similarly, Dos Reis and Yu (2018) revealed in their study with 267 participants in South Africa that final test results of students who received peer mentoring were significantly higher (Mean: 60.9) than those who did not receive mentoring (Mean: 52.9). Cruz et al. (2021) conducted a quasi-experimental method involving 90 first-year Latinx students in the US and found similar results; that is, students who did not receive mentoring only obtained an average GPA of 2.78, while those who received mentoring obtained an average GPA of 3.28.

Moreover, Ragavan (2014b) found that peer mentoring was an effective form of support that could yield positive outcomes, such as increased passing rates, for first-year international students in the UK. Núñez-Andrés et al. (2022) also showed in their large-scale study in the US that students' academic performance increased by more than 25% compared to earlier courses that adopted conventional face-to-face teaching techniques without peer-learning intervention. The data confirmed that students who received peer-tutoring sessions have not only improved knowledge, commitment, and motivation, but also enhanced communication skills through working in groups with the tutors, which might have resulted in enhanced academic outcomes. The study suggested that a mix of peer learning and peer tutoring was more likely to result in greater learning achievement among undergraduates. Masehela and Mabika (2017) conducted a mixed-methods study with 45 undergraduate students in South Africa to evaluate the effect of peer mentorship on their learning achievement. The findings indicated that there was an increase by 12% (from 80% to 92%) in the passing rate, indicating an improvement in students' learning success.

Retention rates

The present review revealed that peer mentoring also had an impact on students' retention rates (Collings et al., 2014; Kiyama and Luca, 2014; Dos Reis and Yu, 2018; Flores and

Estudillo, 2018; Wilton et al., 2021; Koke et al., 2022). The key aspects of retention rates that were typically examined include dropout, attendance, graduation, and persistence rates. A study by Koke et al. (2022), for instance, showed that the use of a personal learning coach could increase the course-completion and graduation rates among probation or near-probation students, while a study by Flores and Estudillo (2018) showed that approximately 65% of mentees reported that the mentor scheme had a positive impact on their decision to continue university for the next semester.

Ragavan's (2014b) pilot study in the UK employing a focus-group method revealed that the peer-mentoring intervention had decreased the number of dropouts or the number of students switching to other courses. A study by Dos Reis and Yu (2018) showed that mentees (n = 267) who were first-year students had much higher attendance rates at tutorials than that of their counterparts (e.g., non-mentees). The results of these studies seem to suggest that not only do peer-mentorship schemes have the possibility to amplify students' persistence and course completion, but it can also enable universities to reduce student dropouts and elevate attendance rates.

Emotional and psychological wellbeing

Peer mentorship in higher education also has an impact on students' emotional and psychological wellbeing. This review identified a number of key elements related to students' psychological and emotional wellbeing, including stress, anxiety, self-confidence, self-esteem, motivation, and mental and emotional health. Indeed, peer mentoring could assist students in managing their academic stress (Collings et al., 2014; Raymond and Sheppard, 2018; Yu et al., 2023), reducing anxiety (Kim et al., 2013; Altonji et al., 2019; Meletiadou, 2022), boosting their level of confidence (Andreanoff, 2013; Altonji et al., 2019; Cust et al., 2023), alleviating fear (Altonji et al., 2019; Cust et al., 2023), and increasing their motivational beliefs (Najafinejad et al., 2021). More notably, prior studies indicated that peer mentoring is a potential means to help students with both social and academic transition to university, thus mitigating any stress associated with the process (Collings et al., 2014). Another study by Sibiya et al. (2018), employing a qualitative design with 10 participants in South Africa, reported that mentees had experienced enhanced self-confidence and self-esteem. Likewise, Demir et al.'s (2014) non-experimental study with 66 mentees in Turkey suggested that peer mentoring could assist mentees in a

number of important aspects, such as developing self-awareness and self-confidence, enhancing problem-solving skills, building positive relationships with their mentors, and acclimating to university life. It is worth noting that these crucial skills are deemed imperative for students to succeed academically and professionally.

Raymond and Sheppard (2018) conducted a quasi-experimental study with 70 Nursing university students in Canada and found that the mentoring scheme could boost students' psychological attachment and sense of self-efficacy. It could also lead to a statistically substantial reduction in social isolation and reported stress among students. Thus, peer mentoring can be an effective mechanism for fostering the development of self-efficacy, self-esteem and resilience, and mental health among university students, thereby promoting retention and academic success as well as assisting with stress and anxiety management.

Social integration

Another positive influence of peer mentorship in higher education is the promotion of social integration. Many studies have shown that peer-mentored students had closer connections with their universities (see Collings et al., 2014; Yomtov et al., 2017; Flores and Estudillo, 2018; Moschetti et al., 2018; Graham et al., 2022). For instance, a quasi-experimental study by Yomtov et al. (2017) with 304 participants showed that students who received peer-mentoring support felt considerably more assisted, connected, and integrated on campus than those of their peers who did not receive peer-mentoring support. Flores and Estudillo's (2018) study similarly found that peer mentoring considerably enhanced interconnectedness among first-year university students. The study revealed that around 93% of the mentees who responded to the survey (n = 50) reported that their peer mentors had assisted them in engaging with their university.

Moschetti et al. (2018) conducted a mixed-methods study involving 458 mentored Latinx students and 86 non-mentored Latinx students. The results showed a significant increase in university engagement and integration among mentored students. These findings demonstrated a substantial influence on mentored students compared to non-mentored ones. Thus, peer mentoring has the potential to help students be more involved in social
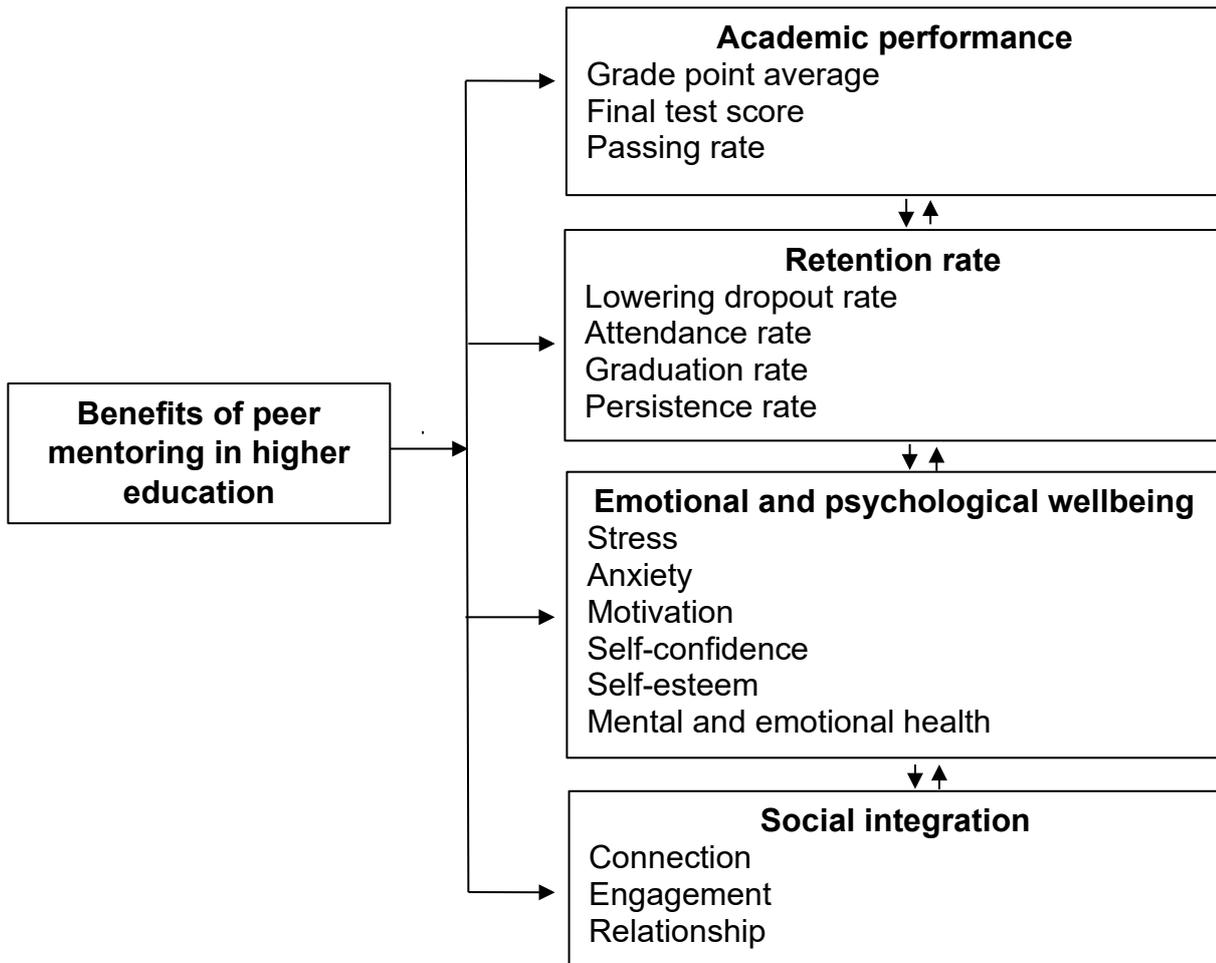
and academic activities on campus, which could enable them to build a robust rapport with faculty members, senior students, and their peers.

Peer mentoring has also been found to be a valuable tool to increase student engagement and support their transition process into a new academic environment. Meletiadou (2022), for instance, showed that peer mentoring could foster relationships among students from different backgrounds and increase their engagement. Yu et al.'s (2023) study of 139 Indian students in a university in China also indicated that peer mentoring effectively served as a stress-reducing intervention. The mentees received consistent support on academic assistance, intercultural knowledge, and self-improvement skills, which were helpful for their transition process. The study also noted that cultural and ethnic backgrounds should be taken into account when creating peer-mentoring dyads, as the Chinese mentors' hospitable attitude toward international students might be a substantial contributor to the success of the programme.

A framework of the benefits of peer mentoring in higher education

The findings reported in this systematic review can be summarised and developed into a framework of the benefits of peer mentoring in higher education, as shown in Figure 2. In the framework, there are four possible benefits of peer-mentoring schemes in higher education, which are interrelated. First, peer mentoring can lead to a substantial improvement in students' academic performance. Second, it has the potential to improve students' retention rates. Third, peer mentoring plays a critical role in boosting students' wellbeing by supporting their mental and emotional health, increasing motivational beliefs, strengthening resilience and self-esteem, and dealing with academic stress and anxiety. Lastly, peer mentoring can also facilitate social integration, enabling students to be more engaged and connected with their educational institutions through consistent support from peer mentors. This framework may be used as a conceptual framework to study the effects of peer mentoring in other educational settings, including general education.

Figure 2. Conceptual framework of the benefits of peer mentoring in higher education.

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Academic performance
Grade point average
Final test score
Passing rate

Retention rate
Lowering dropout rate
Attendance rate
Graduation rate
Persistence rate

Emotional and psychological wellbeing
Stress
Anxiety
Motivation
Self-confidence
Self-esteem
Mental and emotional health

Social integration
Connection
Engagement
Relationship

Benefits of peer mentoring in higher education

Discussion

This systematic review has shown that the benefits of peer mentoring extend beyond academic success. However, it is worth noting that the impacts of peer mentorship on academic results were only maximised when there was an effort to cater to mentees' specific needs, as their characteristics and cultural traits should be taken into account (Cruz et al., 2021). Without such an effort, students' academic performance might not show significant improvement. Thus, in order for peer mentoring to be effective, a certain level of commitment from students and moderation from programme organisers are needed to ensure the implementation of productive study skills and habits during and after the implementation of mentoring schemes (Koke et al., 2022).

Regarding the benefits of peer mentoring on student-retention rates, it is important to note that students' decisions to drop out were influenced by various factors. Underrepresented,

marginalised, and near-probation students are especially prone to not complete their courses. When joining the peer-mentoring scheme, these students were reported to be more persistent with their presence in class, their studies, and their course completion (Ragavan, 2014b; Flores and Estudillo, 2018). Therefore, it might be beneficial for universities to adopt peer mentoring as a preventative scheme for potential dropouts, especially for at-risk students. Yet, it is important to note that mentor−mentee compatibility is crucial, as academic and demographical biases might negatively impact these relationships (Wilton et al., 2021).

As discussed above, peer mentoring could also improve students' cognitive and non-cognitive skills. When transitioning to a new environment, students might suffer from stress, anxiety, and fear. Peer mentors could equip students with the ability to manage stress, develop self-awareness and self-confidence, and improve problem-solving skills (Collings et al., 2014; Demir et al., 2014; Sibiya et al., 2018). These are crucial to foster a successful academic transition and completion of a university course. Thus, universities should employ peer mentoring, along with professional counselling, as a routine support scheme for students who require help to deal with emotional and mental health issues (Sibiya et al., 2018). This type of support will contribute to students' consistent attendance and academic success.

As the findings showed, peer mentoring could also promote social integration. By building a strong relationship with university staff and peers, new students can receive more support and thus become more successful with their transition into higher education. More importantly, peer mentoring is particularly beneficial for international students, as their transition was considered more difficult due to demographic and cultural differences (Yu et al., 2023). This is helpful for educational institutions with a large number of international students, as peer mentoring could be adopted to assist students who are struggling with both academic and socio-cultural adaptation. When adopting peer-mentoring intervention for international students, factors like the cultural backgrounds of mentors and mentees should be taken into consideration, as some communication difficulties might occur.

Despite a range of evidence supporting the positive impacts of peer mentoring, there were studies indicating that peer mentoring did not significantly influence students' academic improvement (Blankenship et al., 2020; Lombardi et al., 2020; Koke et al., 2022). Blankenship et al. (2020), for example, found that peer mentoring had neither a significant

effect on students' GPA nor their retention rates in a bi-weekly mentoring programme. The study suggested that the duration and frequency of mentoring meetings might have had negative impacts on students' time management, which in turn negatively impacted their GPA. Likewise, Koke et al.'s (2022) study indicated that there was very little or no significant increase of GPA between students who received peer mentoring and those who did not. Despite these results, other studies discussed above have found benefits of peer mentoring on students' learning outcomes. These conflicting results suggest the need for further research into this issue.

Conclusion and implications

This study has reviewed relevant literature on the topic of peer mentoring to consolidate current knowledge on the benefits of peer mentoring in higher education. The study has shown that peer mentoring, if implemented effectively, could have various interrelated enhancements on student academic experience and performance. For instance, peer mentoring could improve students' retention rates by preventing dropouts among high-risk students, enhancing their attendance, and improving their course-completion rates. The study has also shown that peer mentoring could support students' transition into a new academic environment. Students who joined a peer-mentoring programme tended to exhibit improvements in emotional wellbeing, self-confidence, and self-esteem, all of which contributed to better mental and psychological health. Thus, peer mentoring has multifaceted benefits on students' learning success.

Considering the findings, this study has some implications. First, as peer mentoring in higher education settings is beneficial for students in various ways, it should be considered as a supportive scheme for students who face problems in navigating their academic transition. Second, as the impacts of peer mentoring vary and its success relies on various factors, research should be conducted to identify the issues relating to the application of peer mentoring to ensure successful implementation. For example, the criteria of choosing mentors or matching the mentoring dyads and the impact of these aspects on the outcome of the mentoring practice should be studied more thoroughly, as there have been conflicting suggestions on whether these factors impact the mentoring outcome. When applying the peer-mentoring approach, however, educational administrators should be aware of the mediating factors that constitute peer-mentoring success, such as

compatibility between the mentors and mentees, the programme duration and frequency, and student characteristics to ensure maximum effectiveness. Third, researchers may consider using the conceptual framework developed by this study as the foundation for large-scale studies to determine the impact of peer mentoring and how it can be effectively implemented, especially in Global South contexts. It is worth noting that the impact of mentoring could be very complex and manifold, as one improved aspect, such as mental health or social connection, could naturally lead to improvement in other aspects of students' academic experience as well.

This systematic review is not without limitations. First, this study is limited to research published in academic journals, as other forms of publications were excluded from the review. Second, the review is far from comprehensive because only studies published between 2013 and mid-2023 were considered; therefore, studies published before and after this review time frame were not included, which may have shaped the results of the current study. Third, most of the studies have been conducted in the Global North, particularly in the US and the UK, which have striking contextual differences compared to other countries in the Global South.

Considering these limitations, future research should continue to explore the impacts of peer mentoring, as well as factors affecting the outcome of mentoring programmes in higher education and other educational contexts, as they have been proven to stand the test of time and have been proliferating and expanding progressively (Mullen and Klimaitis, 2021). Future research should also examine how peer mentoring interventions could be effectively implemented in contexts outside the Global North, especially North America and Europe, to understand its impacts in different settings. Empirical studies into how peer mentoring could be employed in foreign-language classrooms are also worth considering. Moreover, there is a need to expand the scope of future review studies to include other forms of publications beyond academic journals to contribute to a more comprehensive understanding of the complexity and the multifaceted impacts of peer mentoring.

Acknowledgements

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Licence

Appendix: a summary of articles on the benefits of peer mentoring in higher education (N = 27)

Articles	Context	Research Methods	Sample	Benefits of peer mentoring found
Altonji et al. (2019)	US	Mixed-method survey (questionnaire)	112 second-year medical student mentors and 190 first-year medical-student mentees Total: 302	• Academic performance • Emotional and psychological wellbeing
Andreanoff (2013)	UK	Mixed-methods design: pre- and post-test questionnaire	21 students	• Academic performance • Emotional and psychological wellbeing
Chester et al. (2013)	Australia	Quantitative: pre- and post-test data	231 first year students	• Academic performance •
Collings et al. (2014)	UK	Quantitative research: a matched longitudinal comparison employing questionnaires	109 first year undergraduates	• Emotional and psychological wellbeing • Academic performance • Social integration • Retention rates
Cruz et al. (2021)	US	A quasi-experimental study: randomly generated comparison group	90 first-year Latinx STEM students	• Academic performance

Cust et al. (2023)	UK	Mixed-methods questionnaire and focus group	20 mentees and 19 mentors Total: 39	• Academic performance • Emotional and psychological wellbeing
de Oliveira et al. (2015)	Brazil	Qualitative and quantitative methods: questionnaires, reports, and final test grades	146 students	• Academic performance
Demir et al. (2014)	Turkey	Quantitative research: the quasi-experimental study	66 first-year Nursing college students	• Emotional and psychological wellbeing
Dos Reis and Yu (2018)	South Africa	The education production function approach (quantitative approach)	267 first-year students	• Academic performance • Retention rates
Flores and Estudillo (2018)	US	Mixed-methods design: two survey instruments and qualitative analysis, interviews	50 students	• Academic performance • Retention rates • Social integration
Graham et al. (2022)	Colorado	Mixed-methods study (qualitative and quantitative)	4,174 students	• Academic performance • Social integration
Kim et al. (2013)	US	Quantitative experimental research	76 mentees 34 mentors	• Academic performance

		(questionnaire; pre- and post-test)		• Emotional and psychological wellbeing
Kiyama and Luca (2014)	US	Qualitative approach: collecting text narratives in the form of online essays (first phase), focus group (second phase)	47 mentors (2 phases)	• Academic performance • Retention rate
Koke et al. (2022)	US	Qualitative and quantitative methods: qualtrics surveys distance-matching approach based on the K-means method (student's result and GPA)	109 students (survey) 536 students of treatment group 536 students of control group	• Retention rate
Leidenfrost et al. (2014)	Austria	Quantitative method: average grade and the number of courses passed	417 Psychology students	• Academic performance
Masehela and Mabika (2017)	South Africa	Qualitative and quantitative methods; open-ended questionnaire, interview	45 mentees (open-ended questionnaire), 10 mentees, and 3 mentors (interviews) Total: 58	• Academic performance

Meletiadou (2022)	UK	Mixed-methods case study, pre-test and post test	80 undergraduates	• Emotional and psychological wellbeing • Social integration
Moschetti et al. (2018)	US	Quantitative and qualitative methods	458 Latinx students with mentors, 86 Latinx students without mentors	• Social integration
Najafinejad et al. (2021)	Iran	Quantitative method; questionnaire (survey)	196 students	• Emotional and psychological wellbeing
Núñez-Andrés et al. (2022)	US	Qualitative and quantitative approaches; subjective surveys	A total of 502 survey responses were obtained in the study.	• Academic performance
Ragavan (2014b)	UK	Qualitative study: focus group	17 mentees 8 mentors Total: 25	• Academic performance • Retention rates
Raymond and Sheppard (2018)	Canada	A quasi-experimental design (quantitative)	70 Nursing college students	• Emotional and psychological wellbeing
Sibiya et al. (2018)	South Africa	A qualitative exploratory research design: interviews	10 Nursing students	• Emotional and psychological wellbeing
Venegas-Muggli et al. (2021)	Chile	A quantitative quasi-experimental method	8,678 students	• Academic performance

Wilton et al. (2021)	US	A mixed-methods study design	2920 first-year Biology students	• Academic performance • Retention rates
Yomtov et al. (2017)	US	Quasi-experimental design (quantitative): pre-test and post-test	304 first-year students (mentored and non-mentored)	• Social integration
Yu et al. (2023)	China	Quantitative method: survey	139 students	• Emotional and psychological wellbeing • Social integration

Note. The education context of all these studies is higher education.