DOI: 10.7860/JCDR/2025/79085.21302

Original Article

Physiotherapy Section

Role of Resilience Factors Affecting Work Performance among Allied Health Professionals: A Systematic Review

H LALROHLUI[1], JYOTI SHARMA[2], MOHAMMAD SIDIQ[3], AKSH CHAHAL[4]

ABSTRACT

Introduction: It is becoming more and more important for health services worldwide that allied health professionals make sure they give patients the most appropriate and timely care. However, the demands of time pressure, workload, emotional worries, and interacting with numerous professional groups and clients frequently cause allied health practitioners stress that is detrimental to their physical and mental wellbeing. To cope with daily high-performance resilience, play an important role where resilience is defined as a capacity to bounce back from or change with ease.

Aim: The study aimed to to identify the resilience elements that have an impact on work performance of allied health professionals.

Materials and Methods: In the present Systematic review electronic databases like Scopus, PubMed, Google Scholar, Cochrane and Pedro were searched with keyword "allied health professionals", "resilience factors", "resilience" and "performance" using boolean operators "AND" and "OR" in between ("Resilience" OR "Resilience factors" OR "Psychological resilience" OR "Occupational resilience" OR "Coping strategies") AND ("Allied Health Professionals" OR "Health workers" OR "Rehabilitation professionals" OR "Physiotherapists" OR "Occupational therapists" OR "Speech-language pathologists" OR "Radiographers" OR "Medical technologists") AND ("Work performance" OR "Job performance" OR "Occupational performance" OR "Work productivity" OR "Job satisfaction" OR "Professional efficacy" OR "Burnout" OR "Stress management").A total of 291 articles were found in the year between January 2013 to December 2023. A number of 63 articles fell under eligibility criteria out of which 14 were included in this review.

Results: The resilience factors affecting work performance of allied health professionals were found from the literature. Primary resilience factors like coping, communication, mindfulness, and self-efficacy directly enhance work performance by improving stress management, focus, and confidence. Secondary factors such as positive emotions, self-management, and grit support sustained productivity and perseverance. Tertiary factors including life experience, maturity, optimism, social support, and healthy habits indirectly strengthen resilience, promoting well-being and long-term effectiveness. Together, these factors build a foundation for consistent, high-level work performance in challenging environments.

Conclusion: The study concluded key factors that impact the performance of allied health professionals were effective ways of coping, good communication skills, practicing mindfulness and feeling confident in one's abilities.

Keywords: Adaptation, Coping strategies, Psychological, Occupational performance

INTRODUCTION

Allied health professionals need to ensure that they provide patients with the most suitable and timely care and its becoming increasingly crucial for health services worldwide [1-3]. The demand for allied health professionals is growing in the exact same way as the elderly care, mental health, disability, and health sectors [4]. A wide range of diagnostic, technical, therapeutic, and direct health services are provided by allied health professionals for the benefit of the people they represent. Allied health practitioners are usually put together according to profession (discipline), despite the fact that they provide services across a range of clinical specialisations. Physiotherapy, podiatry, social work, dietetics, occupational therapy, and speech pathology are among the professions in this group [5]. They are a diversified collection of physicians that offer patients and clients high-quality care throughout a variety of care routes and in a wide variety of settings. They are essential to the provision of modern health and social care services [6-8].

Resilience is the ability to maintain or quickly regain mental health after being exposed to stressful situations, such as those brought on by potentially traumatic events, difficult personal circumstances, a significant life transition, or physical sickness [9,10]. When faced with adversity, resilience helps allied health professionals manage stress, lower their risk of burnout, and preserve their wellbeing with improving their performance to take care of patients [11,12]. According to community Industry group, in order to support ourselves during difficult circumstances, we need to cultivate several sorts of resilience. These comprise resilience on the physical, mental, emotional, and social levels.

Physical resilience: Physical resilience is the ability of our body to deal with physical challenges when they occur, such as illness or accidents, to recover from or treat persistent physical disorders.

Mental resilience: Mental resilience is the capacity to deal with difficult situations by solving difficulties, coming up with workable solutions, and exercising mental agility, creativity, and flexibility, the capacity to adapt to change and provide solutions for problems as they emerge.

Emotional resilience: The ability to control one's emotional response to adversity as well as one's feelings and negative emotions, such as anger, fear, vulnerability, or grief, is known as emotional resilience. Accepting the truth of our circumstance while maintaining the necessary emotional fortitude is crucial in this situation.

Social resilience: Social resilience is all about our relationships with one another and how we can help one another get through hard times. Support from our friends, families, and communities are essential as we tackle our individual and societal issues.

There are many types of resilience scale as follows:

1. 25-items Connor-Davidson Resilience Scale (CD-RISC) developed by Connor KM and Davidson JRT. They created

with the following objectives in mind: to create a measure of resilience that is valid and reliable; to establish reference values for resilience in both the general population and clinical samples; and to evaluate whether resilience can be altered in a clinical population in response to pharmacological therapy. Each of the 25 items on the CD-RISC has a 5-point scale with the following responses: not true at all (0), rarely true (1), occasionally true (2), frequently true (3), and practically always true (4). According to the subject's feelings throughout the previous month, the scale is graded. A total score between 0 and 100 is possible; higher scores indicate stronger resilience [13].

2. The Resilience Scale for Adults (RSA) by Hjemdal O et al., 2003 is a 33-item self-report scale for assessing protective resilience in adults. A number of studies have demonstrated that the RSA's reliability and validity are satisfactory. This scale consists of five scoring items that look at both intrapersonal and interpersonal protective variables that aid in dealing with adversity [14].
3. The Brief Resilience Scale (BRS) by Smith BW et al., 2008 is a self-rating questionnaire designed to assess an individual's ability to "bounce back from stress". Six items total, three of which are positively worded and three of which are negatively worded, make up the BRS instrument. All six have to do with the person's capacity to overcome difficulty. To obtain an accurate resilience measurement, the scale's development took into account safeguards such social support [15].

Resilience factors include:

- **Coping:** Coping is defined as the concepts and behaviours used to manage stressful situations both internally and externally [16-18].
- **Mindfulness:** According to Kabat-Zinn mindfulness is the "awareness that emerges through paying attention, on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment" [19,20].
- **Self-efficacy:** According to Stanford psychology professor Albert Bandura, self-efficacy is the belief that you can succeed when carrying out a particular task.
- **High communication skills:** It is crucial to remember that being able to communicate effectively, clearly, and as intended is one of the most crucial life skills. It's never too late to get better at communicating, and you could even find that it improves the quality of your life [21].

These resilience factors can be very helpful and increase the performance of the healthcare professionals. Nevertheless, allied health professionals frequently experienced stress that adversely affected their physical and mental welfare due to the demands of time pressure, workload, emotional concerns, and engaging with many professional groups and clients [22,23]. During emergency they were susceptible to mental distress and psychiatric problems [24,25]. These workers frequently experienced altered conditions, including an emotional state of frustration, a sense of powerlessness, a loss of personal efficacy, rage with depressive symptoms, and anxiety state with somatisations, such as insomnia [26,27]. It may be possible to gain insight into how healthcare workers perform in a highly stressful workplace by understanding their resilience [28,29].

For healthcare professionals, who must deliver standard patient care while dealing with several risk factors in their line of work, resilience is crucial. The healthcare professionals can manage the challenging circumstances and experience a better quality of working experience,with an increase in resilience,which reduces their risk of burnout [30-32]. The physical and mental state of the allied health professionals is very important to deliver high quality care to the patient as it can alter their performance in providing healthcare. High level of resilience will improve their work performance. According to Hanney S et al., (2013), "healthcare performance can be defined as "measures of clinical process, health outcomes, access, efficiency, productivity, and employee variables" [33-36].

As resilience is important for high performance in healthcare, this study aimed to bring out the resilience factors which affected the performance of the allied health professionals it could be environmental factors, individual factors, etc. An extensive literature search was done to understand which resilience factors influence work performance among allied health professionals.

Objectives

1. To systematically identify resilience factors that influence work performance among Allied Health Professionals.
2. To analyse the relationship between resilience and key work performance indicators such as job satisfaction, stress management, and productivity.
3. To evaluate existing evidence on interventions or strategies aimed at enhancing resilience among Allied Health Professionals.

MATERIALS AND METHODS

The review was conducted by using standardised Preferred Reporting Items for Systematic Review (PRISMA) guidelines. The keywords used in this search were "allied health professionals", "resilience factors", "resilience" and "performance" using Boolean operators "AND" and "OR" in between ("Resilience" OR "Resilience factors" OR "Psychological resilience" OR "Occupational resilience" OR "Coping strategies") AND ("Allied Health Professionals" OR "Health workers" OR "Rehabilitation professionals" OR "Physiotherapists" OR "Occupational therapists" OR "Speech-language pathologists" OR "Radiographers" OR "Medical technologists") AND ("Work performance" OR "Job performance" OR "Occupational performance" OR "Work productivity" OR "Job satisfaction" OR "Professional efficacy" OR "Burnout" OR "Stress management").The researcher conducted a revised search approach that included allied health professionals and a student for allied health profession. Scopus, PubMed, Google Scholar, Cochrane and Pedro were search. A total of 3-4 searches were systematically done for comprehensive coverage, filter application, removal of duplicates. The search included published evidence and 'grey' research literature; duplicate articles ware crossed out before quality screening. The search review glimpse between the year January 2013 to December 2023 were included which scope a wide variety of articles. A total of 291 articles were found in which all the articles underwent a quality screening. Additionally, the reference list of pertinent reviews and included research was manually examined to find pertinent studies that had been missed during the initial search.

Data sources: The information was gathered from a variety of sources, including computerised databases, hand searches of significant journals, and reference lists of publications that were relevant. Unpublished studies were sought after personally and by contacting the organisations that are affiliated with the profession's studies. The databases are mentioned above.

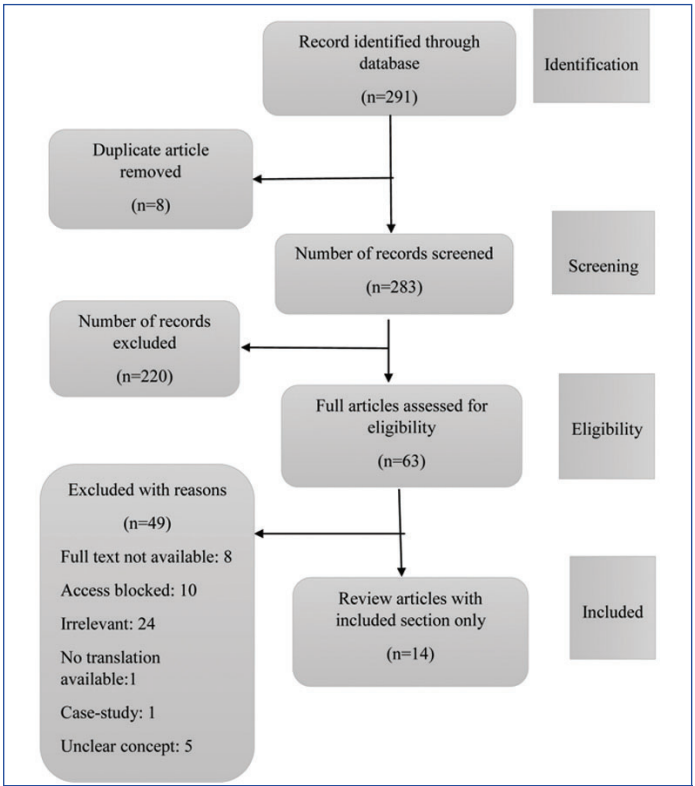
Inclusion and Exclusion criteria: The first 291 abstracts were gone through to make sure they were reliable and successful. After that, each resource was prescreened for proper emphasis and data presence using defined inclusion criteria. All chosen papers were then independently reviewed for relevance to ensure validity and reduce selection bias.

For additional consideration data content and quality evaluation, the complete texts of all research that deemed possibly relevant were retrieved. The inclusion criteria include observational study, review, questionnaire based study and the case studies, conference proceeding, group discussion falls under the exclusion criteria. The inclusion and exclusion are further detailed down in [Table/Fig-1].

Inclusion	Exclusion
January 2013-December 2023	Articles before January 2013
Allied health professionals like physiotherapists, psychological therapists, Physiotherapy (PT) students, occupational therapy students, optometry and medical laboratory students.	Physicians and first responders involved in direct patient care.
Observational studies Review Questionnaire based studies.	Case study Group discussion Conference proceeding

[Table/Fig-1]: Inclusion and exclusion criteria.

Search outcome: Numerous sites were irrelevant or of limited relevance due to the inclusive search technique necessitated by the changeable terminology that was used in PRISMA the methodology given by Liberati A et al., 2009 [36]. A numerical summary of the papers that came out of each stage of the review process is given in [Table/Fig-2].



[Table/Fig-2]: PRISMA flow diagram and list of excluded full-text articles with reasons.

This figure includes the PRISMA flow diagram details outlining the number of studies identified, screened, excluded (with reasons), and included.

Only 14 of the 291 papers that were deemed relevant actually underwent a thorough examination and data extraction since neither qualitative nor quantitative data were present or the quality of the data was degraded eight articles were found to be duplicate, eight articles were removed due to full article unavailability. A total of 283 articles were screened and 220 articles were excluded due to several reasons like case study, irrelevant to topics. The search outcome is further classified in a tabular form in [Table/Fig-3].

The literature search resulted in 291 citations out of which 63 potential relevant full text papers were reviewed. Only 14 papers met the eligibility criteria. The 14 articles consist of review articles, cross-sectional study, randomised control trails, questionnaire, survey, observational studies and interview. A brief summary of each included studies is listed in [Table/Fig-4] [10,37-49].

RESULTS

A total of 14 articles reviewed in this study bring out the role of resilience factors, which could affect the work performance in different field among allied health professionals. Among the 14 included articles contain the brief summary of resilience factors which were found to be affecting the work performance in allied health professions, are listed in [Table/Fig-5] [10,37-49].

The following resilience factors found were further classified into primary factors, secondary factors and tertiary factors according to the word familiarity and similarity. Factors which appeared more than four times were under primary factors, more than two to three times were secondary factors and single time were tertiary factors. The classifications are shown in the [Table/Fig-6].

Risk of bias assessment: The risk that is involved with bias across all of the included studies was evaluated systematically with the use of the Risk Of Bias In Non-randomised Studies - of Interventions (ROBINS-I) tool. The assessment focused upon seven domains; confounding biases (D1), participants being selected (D2), interventions that were classified (D3), intended interventions deviated from (D4), data missing (D5), outcomes that were measured (D6), also the reported result being selected (D7). Each study's overall risk of bias was also calculated.

Among the 14 studies assessed, most risked bias at a moderate level overall because just one study (Palmer J et al., 2022) [37] rated

Database	No. of articles	Duplicate	No. of record screen	Excluded due to irrelevant	Eligibility criteria	Excluded for other reason	Included
Scopus	156	2	154	121	33	28	5
PubMed	38	3	35	24	11	8	3
Google scholar	88	1	87	69	18	12	6
Cochrane	3	2	1	1	0	0	0
Pedro	6	0	6	5	1	1	0
Total	291	8	283	220	63	49	14

[Table/Fig-3]: Classification of search outcomes.

Author	Year	Study design	Population	Findings
Palmer J et al., [37]	2022	Scoping review	Healthcare professionals	Clear communication, assisting the firm and dedication can boost systematic resilience
Calo M et al., [38]	2022	Cross sectional study	Final year physiotherapy student	Having high grit is a predictor of resilience
Elizabeth Cade et al., [39]	2021	Interview	Occupational therapy students	Life experience, age and maturity are deemed likely factors that build greater resilience.
Marcolongo F et al., [40]	2021	Observational study	Healthcare professionals	Acceptance, planning and active coping result in high level of resilience.
Reitano G [41]	2021	Qualitative study and interviews	Psychological therapist	Self-awareness, self-care and shared values were found to be resilience factors.
Brown L et al., [42]	2021	Questionnaire and interview	Healthcare professionals	Communication, mindset and attitude are described to be sources of resilience.

Ching SSY et al., [43]	2021	Report survey and questionnaire	Medical laboratory students, optometry	Self-efficacy, mindfulness, coping is found to be all variables of resilience factors
Kunzler AM et al., [10]	2020	Systematic reviews and randomised control trails	Healthcare professionals	Resilience training may improve resilience
Brown T et al., 2020 [44]	2020	Cross sectional study and self-report questionnaire	Occupational therapy students	Professional behaviours, high self-management skills and high communication skills are found to improve resilience.
Kinsella EA et al., [45]	2020	Scoping review	Physiotherapy students, occupational therapy students, allied health student	Mindfulness shows to improve resilience.
Downs M et al., [46]	2019	Randomised controlled trail	Physiotherapy students	With positive emotions there is greater increase in resilience.
Webb K, [47]	2018	Questionnaire and interview	Allied health professionals	Regular relaxation, exercise, conversing with people and getting time for social activities improve resilience.
Delany C et al., [48]	2015	Psycho-education resilience program and self-report response	Final year Physiotherapy students	The resilience program appears to improve confidence, cognitive control and self-efficacy.
Rees CS et al., [49]	2015	New theoretical model	Healthcare professionals	Mindfulness, self-efficacy, coping, neuroticism and psychological adjustment shows to have high psychological resilience

[Table/Fig-4]: Summary of main findings [10,37-49].

Author	Population	Resilience Factors
Palmar J et al., 2022, [37]	Healthcare professionals	• Clear communication • Dedication • Assisting in the firm
Calo M et al., 2022, [38]	Physiotherapy students	• Grit
Elizabeth Cade et al., 2021, [39]	Occupational therapy students	• Life experience • Age • Maturity
Marcolongo F et al., 2021, [40]	Healthcare professionals	• Acceptance • Planning • Active coping
Reitano G et al., 2021, [41]	Psychological therapist	• Self-awareness • Self-care
Brown L et al., 2021, [42]	Healthcare professionals	• Communication • Attitude • Mindset
Ching SSY et al., 2021, [43]	Medical laboratory students, Optometry	• Self-efficacy • Mindfulness • Coping
Kunzler AM et al., 2020, [10]	Healthcare professionals	• Active coping • Self-efficacy • Hardiness • Positive emotions • Optimism • Self-esteem • Social support
Brown L et al., 2020, [44]	Occupational therapy students	• Self-management • Communication • Professional behaviors
Kinsella EA et al., 2020, [45]	Physiotherapy students, Occupational therapy students, Allied health students	• Mindfulness
Downs M et al., 2019, [46]	Physiotherapy students	• Positive emotions
Webb K 2018, [47]	Allied health professionals	• Regular relaxation • Exercise • Conversation with people • Social activities
Delany C et al., 2015, [48]	Physiotherapy students	• Confidence • Cognitive control • Self-efficacy
Rees CS et al., 2015, [49]	Healthcare professionals	• Mindfulness • Self-efficacy • Coping

[Table/Fig-5]: Summary of resilience factors of the included literature (Author-wise listing of study design, population studied, and major findings related to resilience factors) [10,37-49].

low in all domains. One study (Cade EE, 2021) [39] was flagged for a serious risk of bias, mostly due to confounding (D1). This lowered the study's methodological robustness to a substantial degree.

There was the most variability in studies for bias due to confounding (D1). Even though most investigations carried a moderate risk, Cade EE (2021) bore a serious risk since it did not control for some

Primary factors	Secondary factors	Tertiary Factors
• Coping • Communication • Mindset/Mindfulness • Self-efficacy	• Positive emotions • Self-management • Grit/Hardiness	• Life experience • Age • Maturity • Acceptance • Planning • Self-awareness • Attitude • Optimism • Self-esteem • Social support • Regular relaxation • Exercise • Confidence • Cognitive control

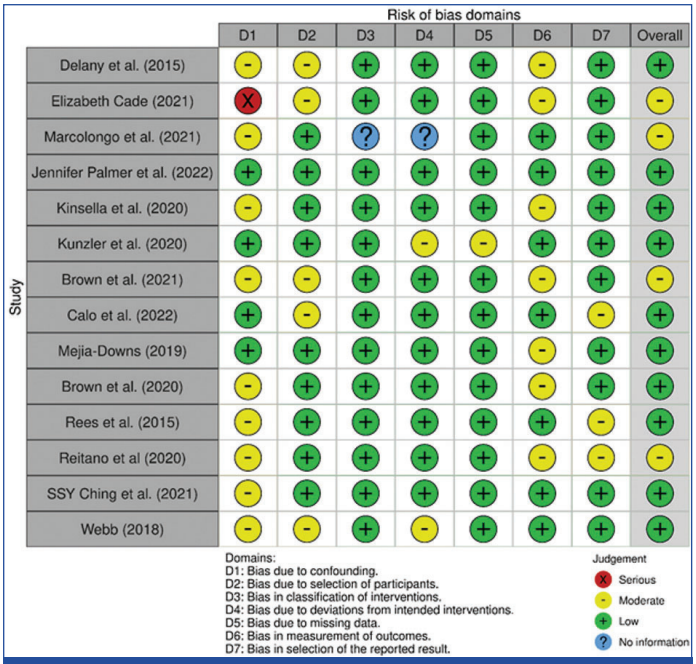
[Table/Fig-6]: Summary of resilience factors (primary, secondary and tertiary factors).

potential confounders [39]. Likewise, many studies such as those by Calo M et al., (2022) [38], Mejia-Downs (2019 [46]) and Palmer J et al., (2022) found that confounding bias was well managed because of the study design and methods [37]. Moderate levels of D2 bias (selection) in the studies suggest there were issues with how participants were picked or their inclusion in the studies. Moderate risk was given to these studies because Marcolongo F et al., (2021) and Webb K (2018) included very brief descriptions [40,47]. Every topic in the classification of intervention (D3) and deviation section (D4) received a low-risk rating in the included articles. As no details were available to Marcolongo F et al., (2021) in these domains, their assessment of the risks resulted in a "unclear" rating [40]. The fact that the studies lack information about some data, reduced the intervention's reliability everywhere. For example, a study by Rees CS et al., (2015) expressed moderate concerns, since it was not clear if some patients dropped out and some information remained incomplete [49]. Risk from selection bias in outcomes (D6) and selection bias in reported results (D7) was low in most cases. However, in some circumstances (for example, with self-reported results or when a study shows a trend instead of outcome), certain cautionary points were mentioned.

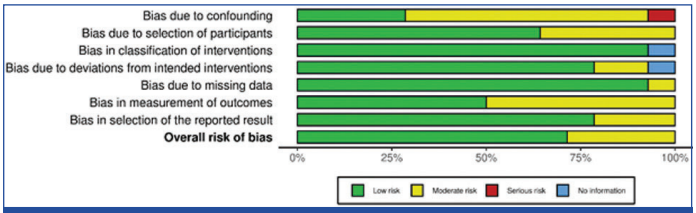
The summary bar chart led us to conclude that most studies had little bias; yet, there was still consistent evidence of moderate bias in the areas of study population and potential conflicting issues. Few studies managed to classify as low-risk, pointing to the wide range of study methods used as shown in [Table/Fig-7,8].

DISCUSSION

In this review, we have assessed the resilience factors which are affecting the performance of allied health professionals using studies published between 2013-2023. All the articles found were analysed by PRISMA guideline which bring the inclusion and exclusion criteria. The findings of this review were the resilience factors which were further classified into three factors as primary factors, secondary factors and tertiary factors. Most of the findings



[Table/Fig-7]: Risk of bias matrix of included studies using ROBINS-I.



[Table/Fig-8]: Overall Risk of Bias across Domains (ROBINS-I).

are related to each other but does not have enough evidence to support this. This reviewe focused on the primary factors on allied health professionals but the other factors are also mentioned.

The main resilience factors considered in this research are the primary factors which include coping, communication, mindset/ mindfulness and self-efficacy.

Coping is described as the ideas and actions used to control stressful conditions both internally and externally [16]. The various responses that people have to stressors are referred to as "coping styles," which are an accumulation of largely consistent characteristics that influence how people behave under stress. These remain the same across time and in many circumstances [49,50].

Finding of five studies showed that coping is the factor which could let health professionals and students overcome the unwanted situation which could be faced in the firm. Active coping can lead to acceptance and positive emotions which leads to higher resilience [10,37,40,43,49].

It is important to note that one of the most important life skills is the capacity to convey information effectively, clearly, and as intended. It's never too late to enhance your communication abilities, and you could even discover that doing so raises your quality of life. Effective communication includes consideration of the entire process as a whole, rather than just the message's contents. Not only verbal communications, non-verbal communication plays an important role in the whole conversation, one must pay attention to the body language too [21]. Four studies showed that clear communication could lead to greater resilience [37,42,47,51] having high communication skill could increase self-assurance and capability to recognise risk, inform, and support others.

Four of the studies included in this review reported that mindfulness leads to greater resilience. [42,43,45,49]. The potential benefits connected to the development of mindful qualities are alertness, self-awareness, compassion, non-judgment, and acceptance. In these studies, students show more of greater resilience with mindfulness rather than the professionals. The definition of mindfulness by Kabat-Zinn involves the "awareness that emerges through paying attention, on purpose, in the present moment, and non-judgmentally to the unfolding of experience moment by moment" [19]. In his words, "mindfulness is cultivated by paying close attention to your moment-to-moment experience while, as best you can, not getting caught up in your ideas and opinions, likes and dislikes" [52].

The notion that you can succeed when performing a certain task is known as self-efficacy. Albert Bandura, a professor of psychology at Stanford with a focus on developmental and educational psychology, originally put forth the concept of a self-efficacy theory in the 1960s. He developed the social cognitive theory a learning theory based on specific observations, and included self-efficacy as one of the goal realisation processes. Self-efficacy and self-confidence are related concepts that centre on an individual's faith in their ability to carry out activities and achieve success. The core idea of the self-efficacy theory is that people are more inclined to participate in activities for which they have a high level of self-efficacy. Four studies showed that self-efficacy improve and boost resilience through resilience training, the study also show that self-confidence, having high amount of grit is related to self-efficacy.

Three factors were identified and fall under this category in this review which are positive emotions, self-management, grit/hardiness. The findings showed that with greater positive emotion there is greater increase in resilience (Downs M et al., 2020) among the physiotherapy students. The ability to manage and care oneself is also an important factor to overcome workload and burnout. With the ability of having greater self-management planning task can become easy which are found to improve resilience [52]. According to Calo M et al., 2022 [38] having high grit can be a predictor of high resilience and Kunzler AM et al., 2020 [10] on the randomised controlled trial showed during resilience training which include hardiness as an outcome also found that hardiness is related to resilience.

These are the factors which were found to be appearing one time in the included studies, it does not conclude that they are not related to resilience factors but does not have enough evidence or support to consider them as the main factors, which include age, maturity, experience, acceptance, planning, self-awareness, attitude, optimism, self-esteem, social support, regular relaxation, exercise, confidence and cognitive control [10,39-42,47-48].

Limitation(s)

The limitation of this study is that in these studies only English language published articles between 2013-2023 were included; also include only observational studies, review and questionnaire-based study. The scope of the study does not stop only in India but a wide range of other countries has been used. It only focused on allied health professionals and allied health students and the result cannot be used as generalisation for resilience factors.

CONCLUSION(S)

The study concluded that the key factors that impact the performance of Allied Health Professionals were effective ways of coping, good communication skills, practicing mindfulness and feeling confident in one's abilities. For future scope, studies can include case studies, group discussion and conference proceeding which is excluded in this study, resilience factors on other professions can be study to find more variables as in a vast scope which can further be used as generalisation of resilience factors and for a smaller scope the population can be in India.

REFERENCES

[1] McPherson K, Kersten P, George S, Lattimer V, Breton A, Ellis B, et al. A systematic review of evidence about extended roles for allied health professionals. J Heal Serv Res Policy. 2006;11(4):240-47.
[2] NHS. Meeting the challenge : A strategy for the allied health. Secretary. 2000;(November).

[3] Health Professionals. The Chief Health Professions Officer's Ten Key Roles for Allied Health Professionals: Ten Key Roles for Allied Health Professionals. 1769. Available from: http://www.nursingleadership.org.uk/publications/ten-key-roles-ahp.pdf.
[4] Lane H, Sturgess T, Philip K, Markham D, Martin J, Walsh J, et al. Original Article what factors do allied health take into account when making resource allocation decisions? Kerman Univ Med Sci. 2018;7(5):412-20.
[5] Skinner EH, Lloyd M, Janus E, Ong ML, Karahalios A, Haines TP, et al. The IMPROVE-GAP Trial aiming to improve evidence-based management of community-acquired pneumonia : Study protocol for a stepped-wedge randomised controlled trial. Trials. 2018;19(1):88.
[6] Wenzel LA, White J, Sarkies MN, Morris ME, Carey L, Williams C, et al. How do health professionals prioritize clinical areas for implementation of evidence into practice? A cross-sectional qualitative study. JBI Evid Implement. 2020;18(3):288-96.
[7] Hulcombe J, Nut D, Dip G, Ed H, Allied C, Of H, et al. An approach to building research capacity for health practitioners in a public health environment: An organisational perspective. Aust Health Rev. 2014;(1):252-58.
[8] Harding K, Hons B, Health A, Porter J, Manager D, Taylor NF, et al. Organisational bene fi ts of a strong research culture in a health service: A systematic review. Aust Health Rev. 2017;41(1):45-53.
[9] Iacoviello BM, Charney DS. Psychosocial facets of resilience: Implications for preventing posttrauma psychopathology, treating trauma survivors, and enhancing community resilience. Eur J Psychotraumatol. 2014;5.
[10] Kunzler AM, Helmreich I, Chmitorz A, König J, Binder H, Wessa M, et al. Psychological interventions to foster resilience in healthcare professionals. Vol. 2020, Cochrane Database of Systematic Reviews. John Wiley and Sons Ltd; 2020.
[11] Holmes EA, O'Connor RC, Perry VH, Tracey I, Wessely S, Arseneault L, et al. Multidisciplinary research priorities for the COVID-19 pandemic: A call for action for mental health science. The Lancet Psychiatry. 2020;7(6):547-60.
[12] West CP, Dyrbye LN, Sinsky C, Trockel M, Tutty M, Nedelec L, et al. Resilience and burnout among physicians and the general US working population. JAMA Netw Open. 2020;3(7):01-11.
[13] Connor KM, Davidson JRT. Research Article development of a new resilience scale: 2003;82(September 2002):76-82.
[14] Hjemdal O, Friborg O, Stiles TC, Rosenvinge JH, Martinussen M. Protective factors and their role in adjustment to stressful life events. Clinical Psychology & Psychotherapy. 2006;201:194-201.
[15] Smith BW, Dalen J, Wiggins K, Tooley E, Christopher P, Bernard J. The brief resilience scale: Assessing the ability to bounce back. Int J Behav Med. 2008;13(3):194-200.
[16] Folkman S, Moskowitz JT. Coping: Pitfalls and promise. Annu Rev Psychol. 2004;55:745-74.
[17] Chizeck S. Stress, coping, and development: An integrative perspective. Clinical Sociology Review. 1997;15(1):15.
[18] Aspinwall LG, Taylor SE. A stitch in time: Self-regulation and proactive coping. Psychol Bull. 1997;121(3):417-36.
[19] Kabat-zinn J. Mindfulness based interventions in context: Past, present, and future. 2003;(2002):144-56.
[20] Hayes SC. Acceptance, mindfulness, and science. Clinical Psychology: Science and Practice. 2002;9(1):101-06.
[21] Cohn H. Developing effective communication skills. J Oncol Pract. 2007;3(6):314-17.
[22] McCann CM, Beddoe E, McCormick K, Huggard P, Kedge S, Adamson C, et al. Resilience in the health professions: A review of recent literature. Int J Wellbeing. 2013;3(1):60-81.
[23] McAllister M, McKinnon J. The importance of teaching and learning resilience in the health disciplines: A critical review of the literature. Nurse Educ Today. 2009;29(4):371-79.
[24] Lai J, Ma S, Wang Y, Cai Z, Hu J, Wei N, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. JAMA Netw Open. 2020;3(3):1-12.
[25] Zhang WR, Wang K, Yin L, Zhao WF, Xue Q, Peng M, et al. Mental health and psychosocial problems of medical health workers during the COVID-19 epidemic in China. Psychother Psychosom. 2020;89(4):242-50.
[26] Mehta M, Singh MM, Gupta SK, Kushal A. Study of stress among health care professionals: A systemic review. Int J Res Found Hosp Healthc Adm. 2018;6(1):06-11.
[27] Sehlen S, Vordermark D, Schäfer C, Herschbach P, Bayerl A, Pigorsch S, et al. Radiation Oncology. 2009;9:01-09.
[28] Cheng CKT, Chua JH, Cheng LJ, Ang WHD, Lau Y. Global prevalence of resilience in health care professionals: A systematic review, meta-analysis and meta-regression. J Nurs Manag. 2022;30(3):795-816.
[29] Chambers R, Belcher J. Self-reported health care over the past a survey of general practitioners years: Br J Gen Pract. 1992;(April):153-56.
[30] Jose S, Dhandapani M, Cyriac MC. Burnout and resilience among frontline nurses during covid-19 pandemic: A cross-sectional study in the emergency department of a tertiary care center, north india. Indian J Crit Care Med. 2020;24(11):1081-88.
[31] Stress F. Managing healthcare workers' stress associated with the COVID-19 virus outbreak. 2020;(March):01-04.
[32] Jacelon CS. The trait and process of resilience. J Adv Nurs. 1997;25(1):123-29.
[33] Hanney S, Boaz A, Jones T, Soper B. Engagement in research: An innovative three-stage review of the benefits for health-care performance. Heal Serv Deliv Res. 2013;1(8):01-152.
[34] Hospitals L performing. Physicians' Identification of factors associated with quality in high- and low-performing hospitals. Jt Comm J Qual Patient Saf. 2010;36(5):217-23, AP1.
[35] Lavis J, Davies H, Oxman A, Iouis DJ, Golden-biddle K, Ferlie E, et al. Towards systematic reviews that inform health care management and policy-making care management and policy-making. J Health Serv Res Policy. 2005;10 Suppl 1:35-48.
[36] Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ioannidis JPA, et al. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. BMJ. 2009:339:b2700.
[37] Palmer J, Ku M, Wang H, Crosse K, Bennett A, Lee E, et al. Public health emergency and psychological distress among healthcare workers: A scoping review. BMC Public Health. 2022;22(1):1396.
[38] Calo M, Judd B, Chipchase L, Blackstock F, Peiris CL. Grit, resilience, mindset, and academic success in physical therapist students: A cross-sectional, multicenter study. Phys Ther. 2022;102(6):pzac038.
[39] Cade EE. A propensity to thrive: Occupational therapy students in role-emerging placements through understanding of personality, resilience and entrepreneurship. Glyndŵr University Professional Doctorate Thesis. Glyndŵr University Research Online. 2021. Available from: https://glyndwr.repository.guildhe.ac.uk/id/eprint/18004/.
[40] Marcolongo F, Ottaviani M, Romano P, Bonassi S, Garramone A, Infarinato F, et al. The role of resilience and coping among Italian healthcare workers during the COVID-19 pandemic. Med del Lav. 2021;112(6):496-505.
[41] Reitano G. Psychological therapists' experiences of occupational stress and team environment in oncology settings. Couns Psychother Res. 2021;21(3):672-82.
[42] Brown L, Haines S, Amonoo HL, Jones C, Woods J, Huffman JC, et al. Sources of resilience in frontline health professionals during covid-19. Healthc. 2021;9(12):1699.
[43] Ching SSY, Cheung K. Factors affecting resilience of nursing, optometry, radiography and medical laboratory science students. Int J Environ Res Public Health. 2021;18(8):3867.
[44] Brown T, Yu M lin, Hewitt A, Etherington J. Professionalism as a predictor of fieldwork performance in undergraduate occupational therapy students: An exploratory study. Occup Ther Heal Care [Internet]. 2020;34(2):131-54. Available from: https://doi.org/10.1080/07380577.2020.1737896.
[45] Kinsella EA, Smith K, Bhanji S, Shepley R, Modor A, Bertrim A. Mindfulness in allied health and social care professional education: A scoping review. Disabil Rehabil. 2020;42(2):283-95.
[46] Mejia-Downs A. An intervention enhances resilience in entry-level physical therapy students: A preliminary randomized controlled trial. J Phys Ther Educ. 2019;34:1.
[47] Webb K. Enhancing Frontline Health Professionals' Resilience: MedTRiM – An evaluation of the effectiveness of a training programme to assist in improving the resilience of health professionals on the frontline of healthcare delivery. Final Report. Cardiff: Cardiff University School of Social Sciences. 2018. Available from: https://orca.cardiff.ac.uk/id/eprint/123443/1/MedTRiM%20Report%20final.pdf.
[48] Delany C, Miller KJ, El-Ansary D, Remedios L, Hosseini A, McLeod S. Replacing stressful challenges with positive coping strategies: A resilience program for clinical placement learning. Adv Heal Sci Educ. 2015;20(5):1303-24.
[49] Rees CS, Breen LJ, Cusack L, Hegney D. Understanding individual resilience in the workplace: The international collaboration of workforce resilience model. Front Psychol. 2015;6(FEB).
[50] Boer SF De, Buwalda B, Koolhaas JM. Untangling the neurobiology of coping styles in rodents: Towards neural mechanisms underlying individual differences in disease susceptibility. Neurosci Biobehav Rev. 2017;74(Pt B):401-22.
[51] Brown T, Yu ML, Hewitt AE, Isbel ST, Bevitt T, Etherington J. Exploring the relationship between resilience and practice education placement success in occupational therapy students. Aust Occup Ther J. 2020;67(1):49-61.
[52] Kabat-Zinn J, Hanh TN. Full catastrophe living: Using wisdom of your body and mind to face stress, pain and illness. 2009;3:52.

PARTICULARS OF CONTRIBUTORS:
1. Undergraduate Student, Department of Physiotherapy, Galgotias University, Greater Noida, Uttar Pradesh, India.
2. Professor, Department of Physiotherapy, Galgotias University, Greater Noida, Uttar Pradesh, India.
3. Associate Professor, Department of Physiotherapy, Galgotias University, Greater Noida, Uttar Pradesh, India.
4. Professor, Department of Physiotherapy, Galgotias University, Greater Noida, Uttar Pradesh, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Jyoti Sharma,
Galgotias University, Plot No. 2, Yamuna Expy, Opposite Buddha International Circuit, Sector 17A, Greater Noida-203201, Uttar Pradesh, India.
E-mail: jyoti.sharma@galgotiasuniversity.edu.in

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Mar 21, 2025
- Manual Googling: Jun 03, 2025
- iThenticate Software: Jun 05, 2025 (1%)

ETYMOLOGY: Author Origin

EMENDATIONS: 6

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? No
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Mar 03, 2025**
Date of Peer Review: **Apr 19, 2025**
Date of Acceptance: **Jun 07, 2025**
Date of Publishing: **Aug 01, 2025**