



Evaluation and Socioeconomic Risk Factors of Psychological Distress Levels in Asian University Students: A Systematic Review

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Abstract

This paper aims to review the factors influencing psychological distress in 47,857 university students aged between 17 and 27 years old in 10 Asian countries, including Bangladesh, China, India, Japan, Myanmar, Pakistan, South Korea, Taiwan, Thailand, and Vietnam. The systematic review was utilized as the research methodology, and 18 papers were assessed. There were two popular evaluation forms, including the Center for Epidemiological Studies-Depression Scale (CES-D) and the Depression Anxiety Stress Scales (DASS-21). The CES-D's strength lies in its established validity and ease of use. Extensively employed in research and clinical settings, it offers a reliable measure of depressive symptoms through clear language and a simple format. The DASS-21 offers a concise assessment of depression, anxiety, and stress, encompassing these interrelated states within a single instrument, facilitating shorter administration times compared to deploying separate measures. The results show that most university students have problems with depression, anxiety, and stress-related mental health issues. The factors influencing their psychological distress are ethnicity, language, education, relationship issues, health problems, genetics or gender, socioeconomic factors, financial issues, and internet usage problems. Analyzing CES-D and DASS-21 data from students can reveal risk factors for depression, compare assessment methods, and tailor mental health support. This ultimately aims to boost education, recreation, and overall student well-being.

Keywords: Anxiety, CES-D, DASS-21, Depression, Psychological Distress, Stress

1. Introduction

University students across continents face increasing mental health concerns, and Asian students might have unique experiences. Investigating their psychological distress about various factors and the COVID-19 pandemic can not only shed light on their specific struggles but also inform culturally sensitive support mechanisms and interventions. By examining sociodemographic factors, academic demands, and individual characteristics, key contributors to depression, anxiety, and stress are identified in this population.

To assess mental health conditions, the Center for Epidemiologic Studies Depression Scale (CES-D) and the Depression Anxiety Stress Scales-21 (DASS-21) are practically employed (Lei et al., 2017; Zu et al., 2020; Lee & Joo, 2021; Cao et al., 2023; Long et al., 2020). CES-D focuses on evaluating an individual's level of depression through a series of questions concerning mood and depressive symptoms. While its primary focus is depression, the answers provided can also offer insights into the individual's anxiety levels. On the other hand, DASS-21 is a comprehensive tool designed to measure not only depression but also anxiety and stress levels. It provides scores for each of these conditions, allowing for a more nuanced understanding of the individual's mental health status. DASS-21 is versatile, available in self-reported questionnaire formats, or administered by mental health professionals. By providing quantifiable scores, they assist mental health professionals in tailoring interventions and recommendations to meet the individual's specific needs. Whether managing depression, anxiety, stress, or a combination of these conditions, CES-D and DASS-21 offer valuable insights into mental health status among university students for facilitating appropriate care and support (Nguyen et al., 2019; Yin et al., 2021; Pham et al., 2019). Generally, students' psychological distress is caused by various factors, e.g., ethnicity, language barrier, education, relationship and social environment, health condition, genetic and gender, financial status, etc. (Lei et al. 2017; Khan et al., 2021; Cheung et al., 2020; Dessauvague et al., 2021; Nguyen et al., 2019). Comparisons between regions and cultures can lead to feelings of sadness or loss of confidence due to perceived differences, creating distance and mistrust (Dessauvague et al., 2021; Bhakat & Das, 2023). Language barriers can hinder relationships with peers from the same or different ethnic backgrounds, leading to feelings of loneliness or isolation (Dessauvague et al., 2021; Yin et al., 2021). Adjusting to different cultural or educational environments and high-pressure academic environments can lead to stress and pressure to succeed, affecting mental well-being in Asian countries (Zu et al., 2020; Cao et al., 2023). Regarding Asian culture, pressure from family or societal expectations to succeed in academics or career choices can lead to feelings of inadequacy or difficulty fitting in (Khan et al., 2021; Cheung et al.,

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2020). Students with health conditions as well as sleep problems can contribute to feelings of depression, causing mechanisms for mental health issues (Tuyen et al., 2018). Considering genetic factors and gender, women are more likely to experience depression due to societal pressures, responsibilities, and stress from gender inequality (Islam et al., 2022; Tuyen et al., 2018). While financial stress, internet use, and social media can impact university students' mental health, the relationship is complex and nuanced. Financial pressure can lead to anxiety and depression, while excessive internet use and social media comparison can contribute to loneliness, low self-esteem, and cyberbullying (Khan et al., 2021; Huang et al., 2023; Tuyen et al., 2018). Therefore, studying mental health among university students is crucial to fostering a healthier, happier, and more productive generation for the country's future. Early identification of issues leads to better support, fostering a productive and healthy future workforce.

To gain a better understanding of psychological distress among Asian university students, this paper gives the research objectives and scope in Section 2. The material and methods of systematic review are described step-by-step in Section 3. The results regarding the implications of the CES-D and DASS-21 forms to assess psychological distress in university students are illustrated in Section 4, followed by the discussion and conclusion in Sections 5 and 6.

2. Objectives

University students in Asia face unique pressures that can negatively impact their mental well-being. To address this growing concern, this study delves into the root causes of psychological distress among this population. Through a series of key objectives, we aim to identify the specific risk factors contributing to these mental health challenges. The key objectives are given as follows:

- 1) To review and compare the assessment tools, including CES-D and DASS-21 forms.
- 2) To identify various factors contributing to mental health and psychological distress, including depression, anxiety, and stress, among university students in Asia.
- 3) To investigate and explore the application of research findings and study the impact of addressing mental health issues among university students in Asia.

3. Materials and Methods

Gathering evidence concerning the assessment and risk factors associated with depression among student groups in Asia, the systematic review was employed as the main tool to identify the risk factors. University students in Asia are known to experience high levels of psychological distress. To understand the factors contributing to this, a systematic review was conducted. In the beginning, the analysis examined 30 studies that utilized the CES-D and DASS-21 scales to assess depression, anxiety, and stress—of Asian university students. Focusing on the evaluation and socioeconomic factors of psychological distress in Asian university students, the PRISMA diagram for paper selection is shown in Figure 1, and the systematic review was carried out in 5 steps as follows:

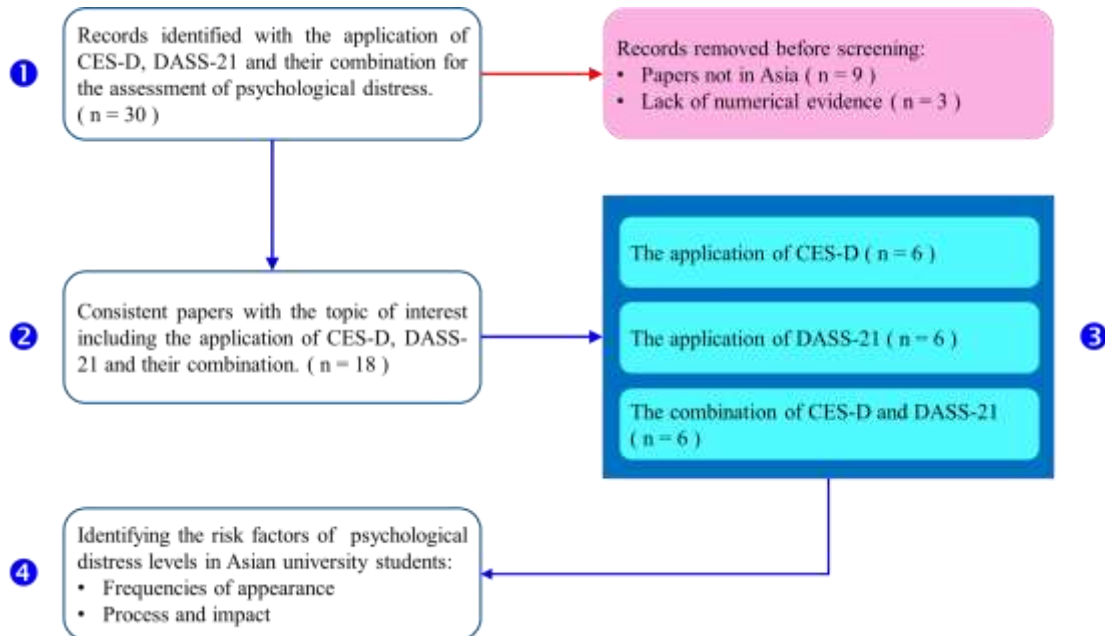


Figure 1. PRISMA diagram of the screening process for systematic review

Step 1: Research Question Definition – This study mainly considers the assessment and risk factors associated with depression among students in Asia.

Step 2: Literature Review – Focusing on depression among students evaluated by CES-D, DASS-21, and their combination, 30 research articles were included. This is a crucial step in obtaining accurate and reliable information related to research.

Step 3: Data Selection and Collection – Prioritizing only Asian students, there were 18 papers concerning the psychological assessment based on CES-D, DASS-21, and their combination. Due to a lack of numerical evidence and the non-Asian population, 12 papers were removed. This step aids in selecting and gathering the risk factors influencing the mental health of Asian university students.

Step 4: Analyze Data from Research – The risk factors related to depression in 18 papers were counted separately, i.e., CES-D, DASS-21, and their combinations were utilized in 6 papers. The risk factors and their frequency were analyzed.

Step 5: Discussion and Summary – In the 18 papers, various risk factors associated with depression and their mechanisms were summarized. Understanding fundamental risk factors from depression research can support efforts to prevent depression among students in Asia and promote mental health.

4. Results

Focusing on the psychological distress of university students, there are two standards of evaluation tools, including CES-D, DASS-21, and their combination. This section illustrates the application of CES-D, DASS-21, and their joint evaluations to study the psychological distress of Asian university students. Analyzing 18 papers, there were 8 main risk factors, including A = Ethnicity and culture, B = Language barrier, C = Educational system, D = Relationship and social environment, E = Health conditions, F = Genetics/Gender, G = Financial and economic status, and H = Internet usage problems.

4.1 Center for Epidemiologic Studies Depression Scale (CES-D)

The CES-D stands as a valuable tool for assessing depressive symptoms in the general population. Developed by public health researchers, this 20-item questionnaire delves into emotional and behavioral indicators of depression experienced over the past week (Lei et al., 2017; Zu et al., 2020; Nway et al., 2023; Lee & Joo, 2021). Each question uses a 0-3 rating scale, allowing individuals to self-report their state. The resulting score is categorized into levels of depression, ranging from “low” to “very high”. This psychometrically validated instrument finds widespread use in both

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research and mental health assessments, offering valuable insights into individual well-being. The research studied in this instance has been integrated with research conducted during 2017-2022, and the studied population groups were from China, Myanmar, Pakistan, and South Korea. The total number of populations was 23,925, with an average age of 17-27 years old. The frequency of factors from six selected literatures using CES-D is presented in Table 1.

Table 1. The frequency of factors from 6 literatures using CES-D

Authors	Country	Age	Number of Students			Risk Factors								
			Male	Female	Total	A	B	C	D	E	F	G	H	
Lei et al., 2017	China	17-24	1,730	1,280	3,010	✓		✓	✓		✓			
Zu et al., 2020	China	17-24	2,576	2,147	4,721				✓	✓	✓	✓		
Nway et al., 2023	Myanmar	17-24	13	217	230	✓			✓	✓	✓	✓		
Khan et al., 2021	Pakistan	18-23	-	-	15,487		✓	✓	✓					
Lee & Joo, 2021	South Korea	17-24	95	93	188	✓	✓	✓	✓	✓			✓	✓
Kim et al., 2022	South Korea	18-27	92	198	290			✓		✓				
			Total			23,925	3	2	4	5	4	3	3	1

The mental health of students in Asia is significantly influenced by various educational and socioeconomic factors, as evidenced by the synthesis of six research papers on the CES-D. The highest frequency was found in factor D (relationship and social environment), followed by C (educational system) and E (health condition). Unhealthy relationships with friends, partners, teachers, or family, coupled with a lack of social support, create a cocktail of isolation, inadequacy, and overwhelm. These factors can create feelings of isolation, inadequacy, and overwhelm, potentially leading to depression. Academic pressure, stemming from both academic demands and societal expectations, is a prominent contributor to heightened levels of stress among Asian students. Competitive educational environments further exacerbate these challenges, as students may feel insecure or anxious when comparing themselves to their peers. Health issues, such as chronic illnesses, can impede academic performance and contribute to stress and depression. The factors A (ethnicity and culture), F (genetic/gender), and G (financial and economic status) present a frequency of three each. The region's culture places a high value on academic success, leading to intense pressure from families and societies to excel academically. This pressure, coupled with personal expectations and validation, often results in stress and depression among students. Financial constraints and economic instability also play a significant role in impacting the mental health of Asian students. Moreover, uncertainties regarding future economic prospects, such as job opportunities post-graduation or financial management, add to the burden of stress and anxiety among students. The complexity of factors affecting mental health underscores the need for comprehensive support systems in educational institutions and communities.

4.2 Depression and Anxiety Stress Scale (DASS)

The DASS-21 is a psychological tool used to measure the levels of depression, anxiety, and stress in individuals (Cheung et al., 2020; Cao et al., 2023; Wittayapun et al., 2023; Long et al., 2020). It consists of 21 questions in total, aiding in the assessment and analysis of a person's mental well-being. Converting the scores from the DASS-21 self-report questionnaire, there are four levels. That is, 0 = not applicable, 1 = sometimes, 2 = considerable, 3 = very much, or most of the time. Each question is assigned to either a depression, anxiety, or stress score, and the total score can be interpreted as mentioned in the literature. Reviewing six papers conducted during 2020-2023, the studied population groups include Bangladesh, China, South Korea, Taiwan, Thailand, and Vietnam. The total number of students was 15,567. Table 2 presents the frequency of factors from six literatures using DASS-21 as the assessment tool for psychological distress among Asian students.

Table 2. The frequency of factors from 6 literatures using DASS-21

Authors	Country	Age	Number of Students			Risk Factors								
			Male	Female	Total	A	B	C	D	E	F	G	H	
Islam et al, 2022	Bangladesh	17-26	86	81	167					✓	✓	✓		
Cheung et al, 2020	China	17-24	4519	4960	9,479	✓		✓	✓		✓	✓		
Cao et al, 2023	South Korea	17-24	573	747	1,320	✓			✓	✓	✓	✓	✓	✓

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Huang et al, 2023	Taiwan	17-24	391	207	598			✓	✓		✓	✓
Wittayapun et al, 2023	Thailand	17-24	3,490	215	3,705	✓		✓	✓	✓		
Long et al, 2020	Vietnam	17-24	217	87	298	✓	✓	✓	✓	✓		✓
			Total	15,567	4	1	3	5	5	3	5	2

Factors D (relationship and social environment), E (health conditions), and G (financial and economic status) showed their highest frequencies of 5 each. Strained relationships with friends, romantic partners, teachers, or family, and a lack of social support can all pile on, leading to feelings of isolation, inadequacy, and overwhelm. This complex pressure cooker can trigger depression in students, making strong support systems crucial. While individual health concerns can contribute to depression, it's important to remember that it's rarely a single cause. University students already face intense pressure, and chronic illnesses, disabilities, or pain can add significant burdens. These challenges might affect sleep, social interaction, academic performance, and self-esteem, creating a cycle that feeds into depression. Asian students face immense mental health burdens due to financial pressure. Research shows high DASS scores linked to economic insecurities – inadequate income, family struggles. This translates to severe stress, depression, and worries about finances, education, and self-sufficiency. Economic uncertainty and pressure to achieve success further fuel anxiety. This highlights the urgency to address financial issues and their impact on Asian students' mental well-being. For factor A (ethnicity and culture), discrimination, cultural pressures, and adapting to new environments can be stressful. Regarding factor C (educational system), intense competition, high academic expectations, and workload can lead to anxiety and burnout. The impact of factor F (genetic/gender) can influence vulnerability to depression.

4.3 Joint Evaluation between CES-D and DASS-21

Based on a comprehensive analysis of six articles focusing on the utilization of the CES-D and DASS-21 scales, the research studied in this instance has been integrated with research conducted since 2018-2023. The studied population groups include China, India, Japan, Taiwan, and Vietnam, with a total number of 8,365 students. As presented in Table 3, Factor D (relationship and social environment) has the highest frequency of appearance, followed by factors C (educational system) and E (health condition). Similar to Section 4.1, university life can be a breeding ground for depression. Unsupportive relationships with peers, family, or even teachers can create isolation and loneliness. Intense academic pressure and a competitive environment can lead to stress, anxiety, and feelings of inadequacy. Additionally, pre-existing health conditions or neglecting physical and mental health can exacerbate depression. However, the factor G (financial and economic status) still played an important role in students' psychological distress. High tuition fees and related costs amplify feelings of financial inadequacy and insecurity. Economic instability within the family further magnifies stress levels, contributing to depression and anxiety. In addition, the factors A (ethnicity and culture) and B (language barrier) were related to a new university environment. For international students, cultural differences, language barriers, and navigating societal norms can add extra layers of stress.

Table 3. The frequency of factors from 6 literatures using the joint evaluation between CES-D and DASS-21

Authors	Country	Age	Number of Students			Risk Factors							
			Male	Female	Total	A	B	C	D	E	F	G	H
Dessauvagine et al., 2021	China	18-24	1,730	1,280	3,600	✓	✓	✓	✓				✓
Bhakat & Das, 2023	India	17-24	277	217	413		✓	✓	✓	✓			✓
Nguyen et al., 2019	Japan	17-24	98	170	268	✓		✓	✓	✓			✓
Yin et al., 2021	Taiwan	17-24	120	460	580	✓	✓	✓	✓	✓			✓
Pham et al., 2019	Vietnam	17-24	277	217	494				✓	✓			✓
Tuyen et al., 2018	Vietnam	19-27	1,730	1,280	3,010			✓	✓	✓	✓		
			Total	8,365	3	3	5	6	5	1	4	1	

5. Discussion

Identifying mental health concerns among university students is crucial for their well-being and academic success. Asian cultural values can create both support and pressure for university students. Tight family bonds and collectivism offer belonging but also family expectations and social comparison, impacting relationships. Individual health issues may be neglected due to cultural norms, while educational systems may emphasize grades over well-being.

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Financial challenges are common, fueled by societal pressures and economic realities, adding stress, and affecting mental health. The CES-D and DASS-21 offer valuable tools for screening and monitoring. This discussion explores the suitability, limitations, and practical implementation of using these scales in university settings, highlighting their potential to inform intervention strategies and promote student mental health as follows:

5.1 Suitability and Limitation

CES-D focuses on general depressive symptoms (mood, appetite, sleep), while DASS-21 assesses depression alongside anxiety and stress. CES-D uses a broader scope (20 items), while DASS-21 offers faster screening (7 items per category). Both are self-reported, but CES-D may capture deeper nuances, while DASS-21 provides wider information on mental well-being. The CES-D is an easy-to-use and straightforward tool with high reliability for measuring depressive symptoms. It is suitable for screening populations at risk of depression. Still, the CES-D focuses solely on assessing depressive symptoms and does not cover other symptoms such as anxiety or stress. The DASS-21 assesses depression, anxiety, and stress, and it has high reliability in measuring these conditions. Nevertheless, the assessment process with DASS-21 can be more complex and time-consuming compared to CES-D, which might make it less suitable for certain situations. By reviewing existing studies on psychological distress and socioeconomic risk factors, it identifies areas needing intervention. Therefore, evaluating past research findings helps develop better support programs.

5.2 Practical Implementation

After studying and collecting data from CES-D research and obtaining data from DASS-21 research, these datasets can be utilized for research purposes to investigate and understand the factors associated with depression (Yin et al., 2021; Tuyen et al., 2018). By analyzing the scores from CES-D and DASS-21 and examining various influencing factors on mental health, comparative research between CES-D and other types of depression assessment tools can be conducted to identify their respective strengths and weaknesses. Among university students, psychological distress stems from diverse sources, including cultural background, language barriers, educational experiences, relationship challenges, health concerns, personal characteristics like gender or genetics, economic hardship, and problematic social media habits (Nuansomsri et al., 2023; Yang et al., 2022; Tuyen et al., 2019; Pham et al., 2019; Dessauvague et al., 2021). Managing depression, policies, and mental health programs can be developed using data from CES-D to help researchers and health managers understand the factors contributing to depression in the target population. This understanding can then inform the development of appropriate policies and mental health improvement programs. Additionally, mental health service providers can use these datasets to refine rehabilitation programs, utilizing DASS-21 to help patients reduce their levels of depression, anxiety, and stress. Researchers can also utilize DASS-21 for studies aimed at understanding the factors associated with depression, anxiety, and stress, as well as investigating methods to address mental health issues effectively. Researchers can use this research to design targeted mental health services for students, taking into account their unique socioeconomic challenges. Educational initiatives, encompassing workshops, seminars, and awareness campaigns, can be implemented to disseminate knowledge about the identified socioeconomic risk factors and their ramifications on the psychological well-being of Asian university students to the broader academic community, including students, faculty members, and administrative personnel. Establishing collaborations with mental health professionals can facilitate the development of culturally sensitive interventions and outreach programs tailored to the unique needs of vulnerable student populations. Moreover, the systematic review serves as a robust foundation for future research endeavors, fostering the pursuit of longitudinal and interdisciplinary studies to delve into the intricate interplay between socioeconomic factors and mental health among Asian university students. This ongoing exploration will contribute to the development of evidence-based practices and the cultivation of a supportive and inclusive academic environment that nurtures the holistic growth and well-being of this student demographic.

6. Conclusion

This systematic review focuses on the factors influencing psychological distress among university students in Asian countries. There were 47,857 university students aging between 17 and 27 years old in 10 Asian countries, including Bangladesh, China, India, Japan, Myanmar, Pakistan, South Korea, Taiwan, Thailand, and Vietnam. The CES-D and DASS-21 research papers were screened across all 18 papers to identify the risk factors for psychological distress. Factors contributing to this distress are diverse, ranging from ethnicity and language barriers to education pressures, relationship challenges, health problems, and socioeconomic factors. Moreover, the current economic instability also leads to anxiety about the future, exacerbating concerns about financial security. From the 18 pieces of literature, the factors frequently found to be related to mental health problems are (1) relationships and social environments, (2) individual health conditions, (3) the educational system; and (4) financial and economic status. Besides, ethnicity and culture, language barrier, genetics/gender, and internet usage were also found to be risk factors. This study recommends

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that both CES-D and DASS-21 offer valuable insights into student mental health, each with unique strengths. CES-D, a well-established and user-friendly tool, provides a reliable measure of depressive symptoms through simple language. DASS-21, on the other hand, efficiently assesses depression, anxiety, and stress simultaneously, saving time compared to separate measures. However, research shows a high prevalence of mental health issues among university students, including depression, anxiety, and stress. Studying CES-D and DASS-21 data can help understand depression causes, compare assessment tools, and develop targeted mental health programs and interventions. This research ultimately aims to improve education, recreation, and overall well-being. Workshops, seminars, and awareness campaigns can be organized to educate students, faculty, and administrators about these risk factors and their impact on mental well-being. Collaborations with mental health professionals can create culturally sensitive programs for vulnerable students. Finally, the review lays the groundwork for future research, encouraging in-depth studies to build evidence-based practices and foster a supportive academic environment for Asian university students.

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