

DIGITAL JOURNALING FOR STRESS MANAGEMENT IN INTERNATIONAL STUDENTS

Shereen Mohamed¹, Cahyaning Suryaningrum², Yuni Nurhamida³

Faculty of psychology/ Muhammdiyah university in Malang

Email: shereenelmagraby1239@gmail.com

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Abstract

International students experience different stressors in host countries, stressors related to acculturation, academic pressure, and social integration. Adversely affecting their mental health. Studies addressed the significance of coping strategies as a tool for managing stress and relieving distress feelings. This study aimed to evaluate the efficacy of a digital journaling intervention in reducing perceived stress among this population. Based on Pennebaker's expressive writing theory, the program employed a one-week intervention using the "Unstuck" CBT-based journaling app with four first-semester international students in Indonesia. A mixed methods approach was used, with pre- and post-test measurements via the Perceived Stress Scale (PSS) and qualitative feedback discussions. Statistical analysis using the Wilcoxon Signed-Rank Test showed no significant difference in stress scores post-intervention ($p=0.357$), likely due to the extremely small sample size limiting statistical power. However, a descriptive trend indicated reduced stress for three of the four participants. Qualitatively, participants reported increased self-awareness and emotional clarity, highlighting journaling's role in facilitating emotional disclosure and self-discovery. The study concludes that while digital journaling shows promise as a low-cost, accessible tool for promoting self-reflection, its measurable impact on stress reduction requires further investigation with a larger sample, longer intervention duration, and a controlled research design.

Keywords: *International Students, Expressive writing, Coping strategies, Digital Journaling, Stress Management*

INTRODUCTION

Recently, Indonesia become the destination of students from different nationalities in Parelle with Indonesian government strategies towards international and educational presence on global level, to achieve this goal the government funds students who accepted into prestigious universities as a part of mission of some programs that designed for these purposes such as the Indonesia Endowment Fund for Education (known in Indonesian as the Lembaga Pengelola Dana Pendidikan [LPDP] and Indonesian International Student Mobility Awards (IISMA) (Simek & Stewart, 2024) . The effect of immigration among students that pursuing for broaden their global perspective, enhance their personal development and academic goals. whereas students embark on their educational journeys in foreign countries and between different communities, the challenges like cultural adjustment, social integration, language barriers and overcoming the social discrimination, all these cultural and adjustment barriers obstacle their efforts of making successful transition to new country and accordingly affect both their academic performance and mental health (Bokayev, 2024; Forbes-Mewett & Sawyer, 2016) . Thus, mental health is a crucial for students who study abroad due to their life is full of stressors where it has a direct impact on their academic performance and general well-being (Rahman & Kohli, 2024). Literatures have pointed out to multiple reasons for feeling stress by international students such as academic, cultural, linguistic, social and personal reasons where they're required to meet academic expectations and struggle with differences in learning and teaching style, in addition to pressure to meet deadline and these feeling is attached by feeling of competition (Alharbi & Smith, 2018; Nurhayati et al., 2025). Stress can be a real obstacle to college students and its negative effects on mental health beside physical health aren't additional information of outcomes of stress. In studies about international students, researchers addressed various types of stress such as acculturation or academic stress (Alharbi & Smith, 2018). For international students, coping strategies are a key driver of how they adjust to university life and experience stress. Study of Samawi and samawi highlighted the significance of coping strategies and resilience in difficulties and the crucial role of psychological

needs in determining well-being in these times, between sample of international students in Jordan 62.5 % of students reported using adaptive coping (e.g., problem-solving, seeking support) while 37.5 % relied on maladaptive strategies such as avoidance (Samawi & Samawi, 2025). The significance of coping strategies is assisting students in buffering negative effects of uncertainty, academic pressures, loneliness and promotes better cross-cultural adjustment (Ramrakhiani et al., 2021). Few literatures that discussed the efficacy of journaling in managing stress in international students; Although, proving the significance of journaling in guiding the feeling through writing process (Altın-Gök & Yorulmaz, 2025; Khairi Siregar & Novita Sari, 2021). Journaling offers several benefits for students' well-being where it effectively reduces perceived stress. By providing students with a structured way to process their feelings, expressive writing relieves psychological distress by controlling arousal and reducing the negative impacts of stress. Writing about profoundly good or intimate emotional events has been shown to boost mood considerably and reduce maladaptive eating-related restraint, indicating a more widespread calming effect on affective state (Kupeli et al., 2018)

As mentioned in study Mohamed and others (2023) have conducted a week-long expressive writing program (10-15 minutes) daily between 166 participants, and they recorded a reduction in stress score and improvement in well-being; additionally, provide students with high self-efficacy where writing positive experiences can enhance overall satisfaction with life and build confidence in managing future stressors (Flinchbaugh et al., 2012; Mohamed et al., 2023). By providing students with a structured way to process their feelings, expressive writing relieves psychological distress by controlling arousal and reducing the negative impacts of stress. therefore, this program seeks to achieve 2 main aims:

1. Determine the efficacy of apps- based journaling in reducing stress among international students.
2. Help students in self-knowledge and expressing their emotions where journaling provides individuals a chance to get free from their emotional burdens by express and understand thoughts, feeling and behaviors (Khairi Siregar & Novita Sari, 2021).

LITERATURE REVIEW

Theoretical framework

There are a variety of strategies that international students may adopt in coping with stressors and assimilating to the host country (Sullivan & Kashubeck-West, 2015). There are various frameworks that help in understanding the diverse ways individuals can regulate their emotions, these theoretical frameworks are commonly invoked to explain why international students experience stress and how they adjust to a new environment.

- Stress theories; Lazarus and Folkman's Appraisal theory.

According to Lazarus and Folkman's Appraisal theory, stress occurs when there is a discrepancy between the demands imposed by a situation and an individual's expectations and stress and burn adopted their perspective in explaining stress where referred stress to self-evaluation of individual that make them believe in their capability to cope or not (Sovic, 2008). Therefore, stress depends on both primary and secondary appraisals: the primary appraisal indicates the perception of the situation, and the secondary appraisal reflects either abilities or resources for coping (Alharbi & Smith, 2018). Berry demonstrated acculturative stress" a stress reaction in response to life events that are rooted in the experience of acculturation" (Berry, 2006, p.294).

- Pennebaker's expressive writing theory

Based on Pennebaker's Paradigm posits that structured self-expressive writing promotes emotional disclosure and health benefits, especially for culturally restrained students (Mohamed et al., 2023). James Pennebaker's expressive-writing theory proposes that putting stressful or traumatic experiences into words produces health benefits by reducing emotional inhibition, promoting cognitive restructuring, and facilitating emotional regulation. The seminal 1986 study showed that a brief (15-20 min) writing task about a personal stressor led to measurable improvements in psychological and physical outcomes. Based on Pennebaker's "inhibition hypothesis," expressive writing lowers stress-related arousal by releasing the physiological stress caused by unexpressed ideas.

METHOD

This program employed qualitative and quantitative design. The researcher conducted semi-structured discussion with participants that number 4 persons and have been asked about: the stress triggers - the main challenges they face since they came - their social interaction and friendship with domestic society - how they deal with feelings of missing family and home – the average of contacting with family and home – the average of contacting with family. Also, the perceived stress scale has been administered to participants pre and post implementation to measure the efficacy of the program. The program has been carried out in 2 weeks by using "Unstuck" CBT journaling app. After creating WhatsApp group with participants, the first week was a trial: sending reminders daily with explanations of parts of the app that they could use. To evaluate the process of practicing journaling, the evaluation form was sent on third

day and discussed in the meeting after the first week. Based on the evaluation form, next week starts with modifications. The second week of journaling has been done by sending reminders with questions as prompts to help participants in flowing thoughts and interacting with app and in the app. At the end of the week, a perceived stress scale was administered to participants to collect post-test scores.

RESULTS AND DISCUSSION

Results

1. statistical analysis of pre & post-test

In our sample that consist of 1 group, table 1 show the differences between pretest – posttest and no one scored the exactly the same:

- Negative ranks: refer to 3 participants scored lower on the posttest that pretest
- Positive ranks: refer to 1 participant scored higher on posttest than pretest

Table1 shows ranks of scores of pre and post-test

		Ranks		
		N	Mean Rank	Sum of Ranks
post-test - pre-test	Negative Ranks	3 ^a	2.50	7.50
	Positive Ranks	1 ^b	2.50	2.50
	Ties	0 ^c		
	Total	4		

a. post-test < pre-test

b. post-test > pre-test

c. post-test = pre-test

Table 2 reveal the Wilcoxon signed-rank test's standardized test statistic (based on positive ranks). Negative Z indicates that the total of the positive ranks is less than the total of the negative ranks (positive ranks is 2.5, while the sum of the negative ranks is 7.5). Considering a p-value of 0.357, which means that exceeded the common alpha level 0.05. This indicates that the pretest and posttest results in this sample do not differ statistically significantly.

Test Statistics^a

	post-test - pre-test
Z	-.921 ^b
Asymp. Sig. (2-tailed)	.357

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Discussion

1. Interpreting based on statistical analysis

The main objective of this study was to test the effectiveness of digital journaling as a tool for managing stress among international students. The purpose from using digital journaling that's easy and accessible for the sample. by utilizing the Wilcoxon Signed-Rank Test and due to the small sample size and assumed non-normal distribution, revealed no statistically significant difference between the pre-test and post-test stress scores (p = 0.357). This finding suggests that, within the constraints of this study's design and sample, the digital journaling intervention did not produce a measurable, statistically reliable reduction in stress among the participants.

The analysis of ranks indicated a trend toward improvement, with three out of the four participants recording lower stress scores on the post-test (negative ranks) compared to the pre-test. Only one participant recorded a higher score (positive rank). The sum of negative ranks (7.5) was greater than the sum of positive ranks (2.5), resulting in a negative Z-score. This result refers to a directional trend toward stress reduction that was not strong enough to achieve statistical significance, likely due to small size sample. mThe non-significant outcome of this study contrast with a substantial body of literature that support the impact of expressive writing and journaling for stress reduction, marginal improvement in mood, self-discovery and well-being (Khairi Siregar & Novita Sari, 2021a; Kupeli et al., 2018; Mohamed et al., 2023b; Smyth et al., 2018).

2. Interpreting based on discussion

Based on the posttest score. I conducted a discussion with 2 participants. The discussion focused on his feedback about the sequences of the program and what s/he discovered about him/herself. In the context of self-discovery and achieve self-awareness, journaling achieved its objective where the participant 1 discovered that he lacked consistency and that was reflected in not practicing journaling regularly. Expressive writing increased self-awareness between different population. Therefore, journaling is accounted for a beneficial therapeutic tool. Participant 2 apologized for participating in journaling group in the first week of journaling, she discovered it's difficult to write down her feeling which reflect the effectiveness of journaling in disclosing feelings and thoughts. Journaling is widely recognized as therapeutic tool assist individuals in self-awareness and acceptance. Further, it has an impact on mental health of college student where studies referred to expressive writing help in reduce depressive symptoms, particularly, between college students (Cheung et al., 2021; Khairi Siregar & Novita Sari, 2021).

Conclusion

The population of international students is particularly vulnerable to high levels of stress, that can affect their mental health and academic performance (Alharbi & Smith, 2018a). Understanding these stressors is essential for designing effective wellbeing and support services. while the literatures indicated the significance of psychoeducational intervention in managing stress of international students and enhancing their adaptation to the host culture (Aljaberi et al., 2021). the failure of this study in finding a significant effect may be attributable to several factors that different from successful interventions like expressive writing reported elsewhere. These factors include the brevity of the intervention, the specific digital platform used where likely participants have distracted by different notifications from other platforms, the intensity of the participants' underlying stressors and short version of used measuring method "perceived stress scale" that consist of 9 items whereas previous studies used the full version of the that tool. Thus, future research should focus on some points in order to address the limitations of the current study for example; using a large and sufficient sample that enables the application of more reliable parametric statistical analyses, implementing the program for longer period (e.g;4-8 weeks) with clear suggestions to help participants in building journaling habit, with including post-intervention interviews or content analysis of the journal entries, it may provide a rich information about the experiences, perceived advantages, and obstacles to participation of the participants and using an active control group in a randomized controlled trial (RCT) would strengthen the foundation for causal inference, evaluate the app and enable researchers to separate the impact of the digital journaling intervention from other confounding factors.

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