PSIKIS
JURNAL PSIKOLOGI ISLAMI

**Psikis : Jurnal Psikologi Islami**
https://doi.org/10.19109/psikis.v10i2.24641
https://jurnal.radenfatah.ac.id/index.php/psikis/index

# Predictive Factors of Academic Procrastination: A Cross-Cultural Comparison between Indonesian and Egyptian Students

**Muhammad Hisyam Syafii[1*], Halim Purnomo[2], Cahyo Setiadi Ramadhan[3], Husain Azhari[4]**

[1,2,3]Muhammadiyah University of Yogyakarta, Indonesia
[4]Al-Azhar Cairo University, Egypt
*Corresponding Author**: hisyamsyafii02@gmail.com

**Article Info**

***Article history:***

Received 09-18-2024
Revised 11-20-2024
Accepted 11-23-2024

***Keywords:***

Academic Procrastination
Predictor Factors
Indonesian,
Egypt
Comparative cross-sectional

**ABSTRACT**

This study explored the predictive factors of academic procrastination through a comparative cross-sectional analysis between Indonesian and Egyptian students. Academic procrastination is a widespread issue with negative implications on students' academic performance and psychological well-being. This research examined the role of personality traits such as maladaptive perfectionism, self-efficacy, self-regulation, and time orientation in predicting procrastination behaviour. The study involved 50 undergraduate students (25 from each country), selected through stratified random sampling. Data were collected via validated instruments including the Pure Procrastination Scale, Academic Self-Efficacy Scale, and Zimbardo Time Perspective Inventory. The results revealed that Indonesian students had a higher average academic procrastination score (M = 45.60, SD = 7.12) compared to Egyptian students (M = 43.20, SD = 6.89), though the difference was not statistically significant ($p > 0.05$). Both groups demonstrated similar levels of self-efficacy (M = 34.50 for Indonesia, M = 34.20 for Egypt). Maladaptive perfectionism was more prevalent in Indonesian students (M = 42.20, SD = 5.85) compared to their Egyptian counterparts (M = 39.80, SD = 6.12). Egyptian students, however, showed better self-regulation (M = 73.90, SD = 7.50) compared to Indonesian students (M = 70.50, SD = 8.30). Furthermore, Egyptian students were more future-oriented (M = 58.40, SD = 6.85), while Indonesian students were more present-oriented (M = 55.40, SD = 6.95). The findings highlighted the influence of cultural factors on procrastination, with future-oriented time perspectives in Egyptian students linked to better self-management. These results suggested that culturally sensitive interventions focusing on enhancing self-regulation and addressing maladaptive perfectionism could mitigate academic procrastination

## INTRODUCTION

Academic procrastination, defined as the intentional and irrational delay in starting or completing academic tasks, has become an increasingly troubling phenomenon among college students around the world (Mocan, 2022). This phenomenon not only has a negative impact on academic performance, but also has the potential to disrupt students' psychological well-being. (Kiuru, 2020). In the increasingly competitive context of global higher education, an in-depth

Published by : Program Studi Psikologi Islam Fakultas Psikologi Universitas Islam Negeri Raden Fatah Palembang
E-ISSN: 2549-6468, P-ISSN: 2502-728X

understanding of the factors that contribute to academic procrastination is crucial for the development of effective intervention strategies.

Previous studies have identified various factors correlated with academic procrastination, including personality characteristics such as low conscientiousness and high neuroticism (Bäulke, 2021), academic self-efficacy (Schunk, 2022), maladaptive perfectionism (Malivoire, 2019), and poor self-regulation (Palacios-Barrios, 2019). However, most of these studies were conducted in a Western cultural context, raising questions about the generalizability of these findings to different cultural contexts. Cross-cultural research on academic procrastination is still relatively limited, especially comparing countries with different socio-cultural backgrounds such as Indonesia and Egypt. These two countries represent two different educational traditions: Indonesia with strong influences from the Dutch and American educational systems (Shaturaev, 2021), while Egypt has a strong heritage of Arab-Islamic education system (Daifallah, 2019). These differences can influence students' perceptions, attitudes, and behaviours toward academic tasks, including the tendency to procrastinate.

In addition, contextual factors such as curriculum structure, teaching methods, and social expectations of higher education in both countries may also play an important role in shaping students' procrastination behaviour, for example, research Fentaw et al (2022) showed that Turkish students tend to procrastinate due to fear of failure and laziness, while a study by Svartdal et al (2020) in German university students found that lack of motivation and time management skills were the main factors. These differences suggest the importance of considering cultural context in understanding academic procrastination. These gaps in the literature lead to the main research question: How are the predictors of academic procrastination different or similar between Indonesian and Egyptian university students? To answer this question, this study adopts a comparative cross-sectional approach, utilizing a theoretical framework that integrates the theory of self-determination (Ryan, 2024), cognitive-motivational-relation model of procrastination (Tan, 2023), and cross-cultural psychology perspectives (Shiraev, 2020).

This study aims to: (1) identify and compare the predictors of academic procrastination among Indonesian and Egyptian university students; (2) investigate the moderating role of cultural variables such as time orientation and power distance in the relationship between predictors and procrastination; and (3) explore the psychological mechanisms underlying differences or similarities in procrastination patterns across the two countries.

## Overview of Academic Procrastination Theory

In the increasingly complex landscape of contemporary education, the phenomenon of academic procrastination has become a major concern for researchers, educators, and practitioners of educational psychology. Academic procrastination, which can be defined as the tendency to procrastinate the completion of academic tasks despite being aware of the potential negative consequences, is a prevalent problem among students (Shaked, 2022). This phenomenon affects not only individual academic performance but also psychological well-being and long-term professional development (Kaya, 2021). Previous studies have revealed that academic procrastination can manifest in various forms, ranging from delays in starting or completing assignments to lateness in attending classes or other academic meetings (Fulano, 2021).

From a psychological perspective, academic procrastination is often associated with the concepts of self-regulation and time management (Zhao, 2021). Motivation theories, such as self-determination theory, provide valuable insights into understanding the dynamics of procrastination,

particularly in relation to intrinsic and extrinsic motivation (Ryan, 2020). Meanwhile, the psychodynamic approach highlights the role of unconscious conflicts and ego defence mechanisms in maintaining procrastination behaviour (Yuan, 2019). In a broader context, the social-cognitive perspective emphasizes the importance of self-efficacy and outcome expectancies in influencing academic procrastination behaviour (Cheng, 2021).

Interestingly, when we integrate the Islamic perspective into our understanding of academic procrastination, we find a profound alignment between religious teachings and the principles of modern psychology. Islam, as a comprehensive religion, provides clear guidance on the importance of discipline, time management, and the pursuit of knowledge (Adiyono, 2022). The concept of 'ihsan' in Islam, which teaches us to do everything in the best way possible, can be seen as the antithesis of procrastination (Rakhmat, 2023). The Qur'an explicitly emphasizes the importance of time and its wise use, as stated in Surah Al-'Asr: "By time! Verily mankind is in loss, Except for those who believe and do righteous deeds and advise one another to truth and advise one another to patience." (Al-'Asr: 1-3).

In the Islamic scholarly tradition, the concept of *'tawakkal'* (surrender to Allah) is often misunderstood as a justification for being passive or procrastinating. However, a deeper understanding shows that *'tawakkal'* actually contains an element of maximum effort before surrendering (Nurjaman, 2020). This is in line with the hadith of the Prophet Muhammad SAW which emphasizes the importance of trying before putting your trust in: "Tie your camel, then put your trust in Allah" (HR. Tirmidzi). Furthermore, the Islamic scientific tradition emphasizes the concept of 'barakah' or the blessing of time. Classical Muslim scholars such as Imam Al-Ghazali in his work "Ihya Ulumuddin" have discussed time management in-depth and emphasized the urgency of avoiding negligence (*ghaflah*) (Adnan, 2024). This concept aligns with modern time management principles and serves as a strong spiritual foundation for overcoming academic procrastination.

Integrating Islamic perspectives with modern psychological theories to understand academic procrastination creates opportunities for developing more holistic and culturally sensitive interventions. This approach considers not only cognitive, affective, and behavioural aspects but also the spiritual dimension that is often overlooked in the conventional approach, for example, mindfulness techniques rooted in Buddhist meditation traditions can be modified with Islamic practices of muraqabah (self-introspection), providing an alternative that is more in line with the religious values of Muslim learners (Dewi, 2024). Research on academic procrastination has been widely conducted in Western countries, but the generalizability of those findings to different cultural contexts is still a big question. Indonesia and Egypt, with their distinct educational and cultural backgrounds, provide unique contexts for understanding cultural influences on academic procrastination. Indonesia, with an educational tradition influenced by the Dutch colonial system and collectivist values, tends to emphasize social harmony and group obligations.

In contrast, Egypt, which has a legacy of the Arab-Islamic education system and individualistic tendencies in academic contexts, highlights differences in time orientation and social expectations. Cross-cultural research between these two countries is rare, making the lack of understanding of how such cultural factors influence academic procrastination a significant gap in the literature. Thus, exploring these cross-cultural differences not only makes a theoretical contribution to cross-cultural psychology but also offers practical insights for more effective and culturally appropriate interventions. This study explores the causes and effects of dependency in an academic context, by reviewing the relationships between academic self-efficacy, academic stress, performance expectancy, and their effects (Zhang, 2024). Using the I-PACE model, it was found that

academic self-efficacy indirectly influences dependency through the mediation of academic stress and performance expectancy. The five main negative effects identified include increased laziness, spread of misinformation, decreased creativity, and weakened critical and independent thinking skills.

.

## METHODS

This study used a comparative cross-sectional design with a quantitative approach to compare academic procrastination factors in Indonesian and Egyptian students in a cross-cultural context. The study sample consisted of 50 undergraduate students (25 from Indonesia and 25 from Egypt) recruited through stratified random sampling. The participant was selected based on the exploratory nature of the research design and logistical limitations in cross-cultural data collection. This sample also met the statistical power analysis to detect a medium effect with a 95% confidence level and $\alpha = 0.05$. Although relatively small, the stratification procedure applied ensured a balanced representation. Inclusion criteria included: (1) active undergraduate students, (2) aged 18-25 years, and (3) had completed at least one year of study. Stratification was done based on gender, year of study, and field of study to ensure balanced representation. A priori power analysis using G*Power 3.1 indicated that this sample size was adequate to detect a medium size effect ($f^2 = 0.15$) with a power of 0.95 at $\alpha = 0.05$ for multiple regression analysis with a maximum of 15 predictors.

Academic Procrastination was measured using the Pure Procrastination Scale (PPS; Steel, 2010) which has been adapted and validated in Indonesian and Arabic. The scale consists of 12 items with good internal reliability ($\alpha = 0.92$ for Indonesian sample, $\alpha = 0.89$ for Egyptian sample). Academic Self-Efficacy was measured by the Academic Self-Efficacy Scale (Zimmerman et al., 1992), which consists of 10 items ($\alpha = 0.88$ for both samples). Perfectionism used the Almost Perfect Scale-Revised (Slaney et al., 2001), which measures adaptive and maladaptive perfectionism ($\alpha = 0.86$ and 0.89 for the Indonesian sample; $\alpha = 0.84$ and 0.87 for the Egyptian sample). Self-Regulation measured by the Short Self-Regulation Questionnaire (Carey et al., 2004), consisting of 31 items ($\alpha = 0.92$ for the Indonesian sample, $\alpha = 0.90$ for the Egyptian sample). Time Orientation used relevant subscales of the Zimbardo Time Perspective Inventory (Zimbardo & Boyd, 2014), focusing on future and hedonistic present orientation ($\alpha$ ranged from 0.78-0.82 for both samples). Power Distance was measured using the Power Distance Scale (Earley & Erez, 1997), which consists of 8 items ($\alpha = 0.83$ for the Indonesian sample, $\alpha = 0.85$ for the Egyptian sample).

A structured questionnaire used to collect data on age, gender, year of study, field of study, GPA, and socio-economic background. All instruments were translated into Indonesian and Arabic using a back-translation procedure and validated through a pilot study on a small sample ($n = 50$ for each country) to ensure cross-cultural equivalence. Data collection was conducted online using the Qualtrics survey platform. Participants were provided with electronic informed consent prior to participation. Questionnaires were presented in randomized order to avoid order effects. The average completion time was 30-40 minutes. Data analysis was conducted using SPSS 25 and Mplus 8.4 software. The stages of analysis consisted of descriptive analysis and assumption test, including the calculation of mean, standard deviation, and correlation between variables, as well as normality, linearity, and multicollinearity tests.

## RESULTS AND DISCUSSION

**Table 1.** Descriptive Statistics of Main Variables

| Variabel | N | Mean | SD (Indonesia) | Mean | SD (Egypt) |
|---|---|---|---|---|---|
| Academic Procrastination | 50 | 45.60 | 7.12 | 43.20 | 6.89 |
| Academic Self-Efficacy | 50 | 34.50 | 5.60 | 34.20 | 5.75 |
| Adaptive Perfectionism | 50 | 38.40 | 6.75 | 40.20 | 6.43 |
| Maladaptive Perfectionism | 50 | 42.20 | 5.85 | 39.80 | 6.12 |
| Self-Regulation | 50 | 70.50 | 8.30 | 73.90 | 7.50 |
| Time Orientation (Future) | 50 | 52.30 | 7.15 | 58.40 | 6.85 |
| Time Orientation (Present) | 50 | 55.40 | 6.95 | 49.70 | 7.12 |
| Power Distance | 50 | 30.50 | 5.10 | 28.30 | 5.75 |

The descriptive statistics (Table 1) shows some important trends in the data. Indonesian students showed a slightly higher mean score for academic procrastination (M = 45.60, SD = 7.12) compared to Egyptian students (M = 43.20, SD = 6.89), although the difference was not statistically significant ($p > 0.05$). This suggests that despite the slight variation, both groups showed relatively similar tendencies in terms of procrastination, reflecting that this phenomenon is widespread and common among university students. The mean scores for self-efficacy were almost identical for both groups (M = 34.50 for Indonesia, M = 34.20 for Egypt), indicating that university students in both countries have comparable levels of academic confidence. Perfectionism showed an interesting pattern: adaptive perfectionism was higher in Egyptian students (M = 40.20) than Indonesian students (M = 38.40), while maladaptive perfectionism was more prevalent in Indonesian students (M = 42.20 vs. 39.80). This pattern suggests a possible cultural influence, where Egyptian students may gain positive outcomes from their high standards, while Indonesian students tend to be more prone to stress and dissatisfaction when they fail to reach such standards. For self-regulation, Egyptian students showed significantly higher scores (M = 73.90) compared to Indonesian students (M = 70.50, $p < 0.05$). This suggests that Egyptian students were generally better able to manage their behaviour and emotions in an academic context, which could explain the slightly lower level of procrastination. Time orientation also showed cultural differences, with Egyptian students being more future-oriented (M = 58.40) and Indonesian students being more hedonistic present-oriented (M = 55.40). This difference was statistically significant ($p < 0.05$), indicating that perceptions of time and academic responsibility may be influenced by different cultural contexts.

**Table 2.** Intervariable Correlation Analysis (Indonesia and Egypt)

| Variable | Procrastination | Self-Efficacy | Perfectionism (Adaptive) | Perfectionism (Maladaptive) | Self-Regulation | Time Orientation (Present) | Time Orientation (Future) | Power Distance |
|---|---|---|---|---|---|---|---|---|
| Procrastination | 1 | -.34* | -.28* | ,44** | -.52** | .37** | -.22 | .19 |
| Self-Efficacy | -34* | 1 | .45** | -32* | .38** | -.29* | .41** | -.30 |
| Perfectionism (Adaptive) | -.28* | .45** | 1 | .38** | .29* | -.26** | .47** | -.35* |
| Perfectionism (Maladaptive) | .44** | -.32* | .38** | 1 | -.40** | .31* | -.28 | .33* |
| Self Regulation | -52** | .38** | .29* | -40* | 1 | -42** | .39** | -.31* |
| Time Orientation (Present) | .37** | -29* | -26* | .31* | -.42** | 1 | -.36* | .29* |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Time Orientation (Future) | -.22 | .41** | .47** | -.28* | .39** | -.36* | 1 | -.25* |
| Power Distance | .19 | -.30* | -35* | .33* | -.31* | .29* | -.25* | 1 |

Inter-variable correlations (Table 2) showed some important relationships between key variables. Academic procrastination was negatively correlated with self-efficacy ($r = -0.34$, $p < 0.05$) and self-regulation ($r = -0.52$, $p < 0.01$), confirming the important role of these two variables in reducing procrastination. Students who have higher levels of self-efficacy and self-regulation are less likely to procrastinate on their academic tasks, which is in line with the literature emphasizing the importance of self-management and self-confidence in academic success. Interestingly, maladaptive perfectionism showed a positive correlation with procrastination ($r = 0.44$, $p < 0.01$), suggesting that college students who set their standards too high and feel frustrated when they fail to achieve them are more likely to procrastinate their academic tasks. In contrast, adaptive perfectionism was negatively correlated with procrastination ($r = -0.28$, $p < 0.05$), suggesting that setting high yet realistic goals can motivate timely task completion.

The correlation between time orientation and procrastination also yielded significant results. Hedonistic present-orientation was positively correlated with procrastination ($r = 0.37$, $p < 0.01$), indicating that college students who focus more on current enjoyment tend to postpone their academic responsibilities. In contrast, future orientation was negatively correlated with procrastination ($r = -0.22$), although the correlation was not statistically significant. This suggests that focusing on the future might help reduce procrastination, although the effect varies between individuals.

**Table 3.** Multiple Regression Results (Academic Procrastination as the Dependent Variable)

| Predictor | B | SE | β | t | *p-value* |
|---|---|---|---|---|---|
| Self-Efficacy Academic | -0.32 | 0.15 | -0.28 | -2.13 | 0.037 |
| Perfectionism (Maladaptive) | 0.48 | 0.17 | 0.42 | 2.85 | 0.006 |
| Self-Regulation | 0.39 | 0.12 | -0.50 | -4.67 | 0.001 |
| Time Orientation (Present) | 0.39 | 0.14 | 0.35 | 2.73 | 0.009 |

Multiple regression analysis (Table 3) identified self-regulation, maladaptive perfectionism, and present-time orientation as significant predictors of academic procrastination, specifically self-regulation had a strong negative impact on procrastination ($\beta = -0.50$, $p < 0.001$), indicating that college students who were able to regulate their behaviour effectively tend to procrastinate less on academic tasks. Maladaptive perfectionism positively predicted procrastination ($\beta = 0.42$, $p = 0.006$), confirming the role of unhealthy perfectionistic tendencies in increasing task procrastination. Hedonistic present-time orientation was also a positive predictor ($\beta = 0.35$, $p = 0.009$), reinforcing the view that a focus on immediate enjoyment tends to increase the tendency to procrastinate. Interestingly, self-efficacy had a negative influence on procrastination ($\beta = -0.28$, $p = 0.037$), although its influence was weaker than that of self-regulation and perfectionism. These findings suggest that while academic confidence is important, the ability to manage emotions and behaviours in the face of academic pressure is a more critical factor in preventing procrastination.

**Table 4.** Analysis Results from Mplus 8.4: Confirmatory Factor Analysis (CFA)

| Fit Indices | Mark |
|---|---|
| Chi-Square ($\chi^2$) | 52.34 |
| df (Degree of Freedom) | 40 |
| CFI (Comparative Fit Index) | 0.98 |
| RMSEA (Root Mean Square Error of Approximation) | 0.035 |

| | |
|---|---|
| SRMR (Standardized Root Mean Square Residual) | 0.025 |

CFA analysis using Mplus (Table 4) resulted in an excellent model fit index, with a CFI of 0.98, RMSEA of 0.035, and SRMR of 0.025. These results confirmed that the measurement model is consistent for both Indonesian and Egyptian students, indicating that the measured constructs such as self-regulation, perfectionism, and time orientation are valid and reliable across both cultural contexts. In addition, the achievement of metric invariance indicated that the relationships between constructs can be meaningfully compared across both groups.

Previous research has identified various factors that contribute to procrastination, including perfectionism, anxiety, self-efficacy, and time management (Kurtovic, 2019). However, most of these studies were conducted in Western countries, so our understanding of procrastination in non-Western cultural contexts is still limited. This comparative study between Indonesian and Egyptian university students offers a new perspective in understanding academic procrastination across cultures. Indonesia and Egypt have significant differences in education systems, social values, and cultural orientation. Indonesia, with its strong collectivist culture, emphasizes social harmony and obligation to the group (Slikkerveer, 2019). Meanwhile, Egypt, while also having elements of collectivism, exhibits more individualistic characteristics in the academic context (Farahat, 2022).

From a psychological perspective, this research can explore how individual differences in personality traits, such as conscientiousness and neuroticism, correlate with procrastination tendencies. Conscientiousness, which reflects a tendency to be organized and disciplined, has been shown to have a strong negative correlation with procrastination (Saman, 2021). In contrast, neuroticism, which is characterized by anxiety and emotional instability, is often associated with higher levels of procrastination (Saman, 2021).

Academic self-efficacy, or an individual's belief in their ability to succeed in academic tasks, is also a key factor to consider. Previous research showed that students with higher self-efficacy are less likely to procrastinate (Graff, 2019). In a cross-cultural context, it is interesting to investigate whether the relationship between self-efficacy and procrastination is consistent across the two countries, or whether cultural factors moderate this relationship. Socio-cultural aspects also play an important role in understanding academic procrastination. Strong collectivist values in Indonesia may influence students' motivation to complete assignments on time, due to social pressure and the desire not to disappoint the group. On the other hand, the polychronic time orientation that is more common in Middle Eastern cultures, including Egypt, might contribute to different perceptions of urgency and time management (Terblanché-Greeff, 2023).

This research could also explore the role of external factors such as academic workload, social support, and family expectations. In many Asian countries, including Indonesia, family expectations of academic achievement tend to be high, which can be an additional source of pressure for students (Zamroni, 2019). While in Egypt, the social pressure to succeed academically may be balanced by expectations to fulfil other social and family roles.

The preponderance of maladaptive perfectionism among Indonesian students reflects high social pressure to meet family and community expectations, consistent with a collectivist culture that emphasizes group respect (Reyes, 2022). In contrast, Egyptian students who exhibit better self-regulation and a more future-focused time orientation indicate the influence of strong Islamic values in their upbringing, which emphasize individual responsibility for the future. These cross-cultural implications can be applied in the development of culturally sensitive interventions, for example, Indonesian university students may benefit from a perfectionism management program that

emphasizes realistic achievement, through a group-based approach in line with collectivist values (Pinton, 2024). In contrast, Egyptian students may be supported with more individualistic self-regulation enhancement strategies inherent in the values of personal responsibility in their education system. Integrating the concept of time orientation is also important, as the more hedonistic time orientation of Indonesian students can be shifted towards a more future-focused orientation through time management skills training (Chou, 2019).

From an Islamic perspective, time orientation has a strong theological basis, as described in Surah Al-'Asr, which emphasizes the importance of utilizing time for good deeds and patience (Amal, 2024). These values are aligned with good self-regulation and constructive future orientation. Islamic concepts such as "*tawakkal* '(surrendering to Allah after maximum effort) and *'barakah*" (blessing in time utilization) can also be used as motivational frameworks for behaviour change. In this context, "*tawakkal*" can help students manage stress associated with maladaptive perfectionism, as it teaches a balance between hard work and acceptance of uncontrollable outcomes (Afifah, 2024). On the other hand, the concept of "*barakah*" can encourage students to value time as a divine trust, linking every academic endeavour to a greater spiritual purpose. Additionally, the application of Islamic concepts in interventions can be realized through spiritual value-based training, such as *muraqabah* (self-introspection) to improve self-regulation, or the integration of *ihsan* (perfection in deeds) elements to motivate more productive behaviour (Yusufali, 2021). These practices not only provide culturally relevant solutions but also enrich intervention approaches with spiritual dimensions that are often overlooked in conventional psychology.

These findings underscore the importance of a cross-cultural approach in understanding and addressing academic procrastination. By integrating modern psychological theories and Islamic values, this study not only provides new insights into the behaviour of university students in Indonesia and Egypt, but also offers a more holistic, effective and culturally relevant intervention model. This model can be replicated in other contexts, particularly in Muslim-majority countries, to promote better study habits and higher psychological well-being.

## CONCLUSION

This study identified key predictive factors of academic procrastination through a cross-cultural comparison between Indonesian and Egyptian undergraduate students. The findings emphasized that self-regulation significantly reduces procrastination, while maladaptive perfectionism and present-oriented time focus increase procrastination tendencies. Despite cultural differences, both groups displayed comparable levels of academic self-efficacy, with Egyptian students exhibiting stronger self-regulation and future-oriented perspectives. These cultural influences shaped academic behaviours, suggesting that interventions should be adapted to the specific cultural contexts of students. This research contributes to the growing body of knowledge on procrastination, offering insights for educators and psychologists aiming to develop effective strategies for minimizing procrastination across diverse cultural settings.

This study has some limitations that need to be acknowledged to provide context to the generalizability of the results. First, the relatively small sample size (n=50, 25 Indonesian and Egyptian students each) may limit the representation of the wider student population. This makes it difficult to describe more diverse patterns of behaviour, especially in countries with cultural and educational heterogeneity such as Indonesia and Egypt. Secondly, the data collected relies entirely on self-reported measures, which are at risk of social biases, such as the tendency of participants to

give answers that they consider more socially acceptable rather than answers that truly reflect their behaviour. To overcome this limitation, future research should expand the diversity of the sample to include more educational institutions and geographical areas in both countries, so as to include variations in social, economic and cultural factors. A longitudinal approach can also be used to capture the dynamics of changes in procrastination behaviour over time. In addition, the use of triangulation methods, such as observational data collection or in-depth interviews, can provide stronger validation of findings obtained from self-reported questionnaires.

Other research directions could focus on exploring how specific cultural dimensions, such as social hierarchy (power distance) or collectivism versus individualism orientation, interact with predictors of procrastination. Cross-cultural research involving other countries with Muslim-majority populations, such as Malaysia, Turkey, or Saudi Arabia, may also provide greater insight into the generalizability of the results and enrich the understanding of how Islamic values influence academic behaviour. By addressing these limitations and expanding the scope of the research, future studies can make a greater contribution to the cross-cultural psychology literature and support the development of more effective culture-based interventions at the global level.

**ACKNOWLEDGMENTS:** The authors would like to extend their heartfelt gratitude to Muhammadiyah University of Yogyakarta for their invaluable support and funding for this research. This study would not have been possible without their generous contribution and encouragement.

**AUTHORS' CONTRIBUTIONS:** MHS and HP designed the study. MHS conducted the data collection and preliminary analysis. HA performed the advanced statistical analysis and interpreted the cross-cultural findings. MHS and HA collaboratively wrote and revised the manuscript. All authors have read and approved the final version of the manuscript.

**CONFLICTS OF INTEREST:** "The authors declare no conflicts of interest."

## REFERENCES

Adiyono, A. F. (2022). Skills of islamic religious education teachers in class management. *Al-Hayat: Journal of Islamic Education, 6*(1), 104-115. https://doi.org/10.35723/ajie.v6i1.229

Adnan, H. N. (2024). How sufism influences human behaviour ethical decision making and attitude toward technology dilemmas. *Asian Journal of Research in Education and Social Sciences, 6*(2), 736-349. https://doi.org/10.55057/ajress.2024.6.2.66

Afifah, N. A. (2024). Reducing stress levels in students using tawakal method. *In Proceeding Conference on Psychology and Behavioral Sciences* (pp. 342-349). Psychology and Behavioral Sciences.

Amal, M. M. (2024). The ethos of the Quran Surah Al-Ashr in building an advanced civilization. *Islam in World Perspectives, 3*(1), 96-107.

Bäulke, L. D. (2021). How conscientiousness and neuroticism affect academic procrastination. *Zeitschrift für Entwicklungspsychologie und Pädagogische Psychologie.* https://doi.org/10.1026/0049-8637/a000225

Cheng, S. L. (2021). Why college students procrastinate in online courses: A self-regulated learning perspective. *The Internet and Higher Education*, 50. https://doi.org/10.1016/j.iheduc.2021.100807

Chou, H. Y. (2019). Units of time do matter: How countdown time units affect consumers' intentions to participate in group-buying offers. *Electronic commerce research and applications*, 35. https://doi.org/10.1016/j.elerap.2019.100839

Carey, K. B., Neal, D. J., & Collins, S. E. (2004). A psychometric analysis of the self-regulation questionnaire. *Addictive behaviors*, *29*(2), 253-260. https://doi.org/10.1016/j.addbeh.2003.08.001

Daifallah, Y. (2019). *The idea of an Arab–Islamic heritage.* The Oxford handbook of comparative political theory.

Dewi, I. P. (2024). Mindfulness-Based Asmaul Husna and changes in general adaptive function response among schizophrenia: A Quasi-experimental study. *Jurnal Keperawatan Padjadjaran*, 172-181. https://doi.org/10.24198/jkp.v12i2.2506

Earley, P. C., & Erez, M. (1997). *The transplanted executive: Why you need to understand how workers in other countries see the world differently*. Oxford University Press. https://www.scirp.org/reference/referencespapers?referenceid=3316731

Farahat, A. (2022). Elements of academic integrity in a cross-cultural middle eastern educational system: Saudi Arabia, Egypt, and Jordan case study. *International Journal for Educational Integrity, 18*(1), 9. https://doi.org/10.1007/s40979-021-00095-5

Fentaw, Y. M. (2022). Academic procrastination behavior among public university students. *Education Research International, 1*. https://doi.org/10.1155/2022/1277866

Fulano, C. M. (2021). As the twig is bent, so is the tree inclined: Lack of prior knowledge as a driver of academic procrastination. *International Journal of School & Educational Psychology*. https://doi.org/10.1080/21683603.2020.1719945

Graff, M. (2019). Self-efficacy beliefs and academic procrastination. *North American Journal of Psychology, 21*(1).

Kaya, M. &. (2021). Students' well-being and academic achievement: A meta-analysis study. *Child Indicators Research, 14*(5), 1743-1767. https://doi.org/10.1007/s12187-021-09821-4

Kiuru, N. W.-A. (2020). Associations between adolescents' interpersonal relationships, school well-being, and academic achievement during educational transitions. *Journal of youth and adolescence, 49*(5), 1057-1072. https://doi.org/10.1007/s10964-019-01184-y

Kurtovic, A. V. (2019). Predicting procrastination: The role of academic achievement, self-efficacy and perfectionism. *International Journal of Educational Psychology, 8*(1), 1-26. https://dialnet.unirioja.es/servlet/articulo?codigo=7447499

Malivoire, B. L. (2019). An examination of emotion dysregulation in maladaptive perfectionism. *Clinical psychology review, 71*, 39-50. https://doi.org/10.1016/j.cpr.2019.04.006

Mocan, D. K. (2022). Change of academic procrastination by demographic characteristics: A research on university students. *Journal of Research in Higher Education, 6*(1), 109-129. https://www.ceeol.com/search/article-detail?id=1056697

Nurjaman, A. R. (2020). *Pendidikan agama islam.* Bumi Aksara.

Palacios-Barrios, E. E. (2019). Poverty and self-regulation: Connecting psychosocial processes, neurobiology, and the risk for psychopathology. *Comprehensive psychiatry, 9*, 52-64. https://doi.org/10.1016/j.comppsych.2018.12.012

Pinton, G. (2024). Interplay between collaborative learning and interculturality: the experience of international masters students. *University of edinburgh*. http://dx.doi.org/10.7488/era/4934

Rakhmat, K. J. (2023). *Afkar penghantar: sekumpulan pengantar.* Nuansa Cendekia.

Reyes, J. (2022). *Navigating the Multi-Tiered System of Supports for Students with Anxiety Disorders: A School Psychologist Resource Guide.* Alliant International University.

Ryan, R. M. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary educational psychology, 61*. https://doi.org/10.1016/j.cedpsych.2020.101860

Ryan, R. M. (2024). *Self-determination theory. In Encyclopedia of quality of life and well-being research.* Springer International Publishing.

Saman, A. &. (2021). Examining the impact of psychological capital on academic achievement and work performance: The roles of procrastination and conscientiousness. *Cogent Psychology, 8*(1). https://doi.org/10.1080/23311908.2021.1938853

Schunk, D. H. (2022). Academic self-efficacy. *Handbook of positive psychology in schools (pp. 268-282).* Routledge.

Shaked, L. &. (2022). Exploring academic procrastination: Perceptions, self-regulation, and consequences. *Journal of University Teaching & Learning Practice, 19*(3), 15. https://ro.uow.edu.au/jutlp/vol19/iss3/15/

Shaturaev, J. (2021). Indonesia: superior policies and management for better education (Community development through Education. *Архив научных исследований, 1*(1).

Shiraev, E. B. (2020). *Cross-cultural psychology: Critical thinking and contemporary applications.* Routledge.

Slikkerveer, L. J. (2019). Gotong royong: An indigenous institution of communality and mutual assistance in Indonesia. *Integrated community-managed development: Strategizing indigenous knowledge and institutions for poverty reduction and sustainable community development in Indonesia,*, 307-320. https://doi.org/10.1007/978-3-030-05423-6_14

Slaney, R. B., Rice, K. G., Mobley, M., Trippi, J., & Ashby, J. S. (2001). the revised almost perfect scale. *Measurement and Evaluation in Counseling and Development*, *34*(3), 130–145. https://doi.org/10.1080/07481756.2002.12069030

Svartdal, F. D.-K. (2020). How study environments foster academic procrastination: Overview and recommendations. *Frontiers in Psychology, 11*. https://doi.org/10.3389/fpsyg.2020.540910

Tan, S. E. (2023). Emotional presence as a cognitive appraisal process in higher education: Scale development and validation. *Issues in Educational Research, 33*(1), 369-389.

Terblanché-Greeff, A. C. (2023). Different strokes and different folks: Nuanced cultural values of time orientation and social self-construal. *Comparative Sociology, 22*(1), 138-165. Retrieved from https://brill.com/view/journals/coso/22/1/article-p138_5.xml

Yuan, Y. (2019). *The clinical operation of imagery communication psychotherapy.* World Scientific.

Yusufali, S. S. (2021). *A Values-Based, Holistic Approach towards School Mission in a US Islamic School.* [The Dissertation in Practice at Western University].

Zamroni, Z. (2019). Academic stress and its sources among first year students of islamic higher education in Indonesia. *International Journal of Innovation, Creativity and Change, 5*(4), 535-551.

Zhang, S. Z. (2024). Do you have AI dependency? The roles of academic self-efficacy, academic stress, and performance expectations on problematic AI usage behavior. *International Journal of Educational Technology in Higher Education, 21*(1), 34. https://doi.org/10.1186/s41239-024-00467-0

Zhao, J. M. (2021). The relationship between self-control and procrastination based on the self-regulation theory perspective: The moderated mediation model. *Current Psychology*, 5076-5086.

Zimbardo, P. G., & Boyd, J. N. (2014). Putting time in perspective: A valid, reliable individual-differences metric. In *Time perspective theory; review, research and application: Essays in honor of Philip G. Zimbardo* (pp. 17-55). Springer International Publishing. https://doi.org/10.1037/0022-3514.77.6.1271

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American educational research journal*, *29*(3), 663-676. https://doi.org/10.3102/00028312029003663