

The Effect of Perfectionism and Test Anxiety on Academic Burnout in High School Students

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ABSTRACT

Objective: This study aimed to investigate the effects of perfectionism and test anxiety on academic burnout among high school students in Malaysia.

Methods and Materials: A correlational descriptive research design was employed to examine the relationships between perfectionism, test anxiety, and academic burnout. The sample consisted of 400 high school students selected through simple random sampling based on the Krejcie and Morgan table. Standardized instruments were used to measure the study variables, including the Frost Multidimensional Perfectionism Scale (FMPS) for perfectionism, the Test Anxiety Inventory (TAI) for test anxiety, and the Maslach Burnout Inventory–Student Survey (MBI-SS) for academic burnout. Data were analyzed using SPSS-27. Pearson correlation was used to explore the relationships between the dependent variable and each independent variable, and linear regression analysis was conducted to assess the combined predictive power of perfectionism and test anxiety on academic burnout.

Findings; The results indicated that both perfectionism and test anxiety had significant positive correlations with academic burnout ($p < .01$). The linear regression analysis revealed that perfectionism and test anxiety together significantly predicted academic burnout, accounting for a meaningful proportion of the variance in burnout scores ($R^2 = .41$, $F(2, 397) = 137.6$, $p < .001$). These findings suggest that students with higher levels of perfectionism and test anxiety are more likely to experience emotional exhaustion, cynicism, and reduced academic efficacy.

Conclusion: The study highlights the critical role of perfectionism and test anxiety in the development of academic burnout among high school students. Interventions targeting these psychological factors may be essential in promoting academic well-being and preventing burnout in adolescents within high-pressure educational environments.

Keywords: Perfectionism, Test Anxiety, Academic Burnout, High School Students, Malaysia.

1. Introduction

In recent years, academic burnout has emerged as a critical concern in educational psychology, especially among adolescents navigating competitive academic environments. Academic burnout, typically characterized by emotional exhaustion, cynicism, and a sense of reduced academic efficacy, has been linked to a decline in motivation, increased dropout rates, and mental health difficulties among students. With the growing emphasis on performance metrics, high-achieving students often face psychological stressors that exacerbate academic burnout. Among the many psychological variables contributing to this phenomenon, perfectionism and test anxiety have drawn considerable research interest as influential predictors of student well-being and academic persistence.

Perfectionism, while traditionally associated with high personal standards and conscientiousness, has become a double-edged sword in the academic context. On one hand, it may motivate students to excel and strive for continuous improvement. On the other, maladaptive perfectionism—marked by fear of failure, overcritical self-evaluations, and concern over mistakes—can become a source of chronic stress and emotional strain. Several studies suggest that perfectionistic tendencies are significantly associated with increased levels of burnout among students and professionals alike (Rajapakse, 2024). For instance, maladaptive perfectionism has been found to intensify the emotional burden of academic demands, often leading to diminished motivation and psychological fatigue (Martin et al., 2022; Wang & Wu, 2022). Perfectionistic individuals are also more likely to engage in avoidance behaviors, such as academic procrastination, further compounding feelings of inadequacy and burnout (Prabowo et al., 2023).

The relationship between perfectionism and academic burnout has been extensively examined across various cultural and educational contexts. In their research on UK-based physiotherapy students, Biggs et al. found that perfectionism was a significant predictor of emotional exhaustion and reduced personal accomplishment (Biggs et al., 2023). Similarly, Bae and Choi demonstrated that perfectionism indirectly contributed to burnout in women with children through the suppression of emotional expression and parenting stress (Bae & Choi, 2023). These findings are supported by longitudinal studies, such as that of Cengiz and Peker, which underscore perfectionism as an antecedent of school burnout in adolescents (Cengiz & Peker, 2024). Notably, the effects of perfectionism are not

limited to overt academic distress but extend to a broad range of psychosocial and emotional issues, including depressive rumination and fear of failure (Dobos et al., 2024; Ijaz & Khalid, 2020).

A particularly insidious outcome of perfectionism is its role in cultivating a heightened sensitivity to academic evaluation, often expressed as test anxiety. Test anxiety is defined as a psychological condition in which individuals experience extreme distress and apprehension before or during examinations. This anxiety disrupts cognitive functioning and negatively impacts academic performance, regardless of actual preparedness. Studies have shown that perfectionists, especially those who fear negative evaluation, are at higher risk of developing test anxiety (Choi et al., 2022; Kim, 2022). Hawkins and Mackinnon argued that perfectionistic students tend to internalize academic pressure, thereby experiencing elevated stress levels during performance assessments (Hawkins & Mackinnon, 2024). These tendencies often trigger a cycle of self-doubt, performance dissatisfaction, and psychological burnout, which can manifest even among high-achieving individuals.

In educational systems that emphasize competitive testing and standardized assessments, such as those in many Southeast Asian countries, the prevalence of test anxiety among adolescents is particularly high. Yun et al. found that even positive perfectionism, when unbalanced by emotional stability and supportive teacher-student relationships, could lead to academic burnout in middle-school students (Yun et al., 2021). This finding suggests that test anxiety may serve as a mediating variable between perfectionism and burnout, acting as both a cause and a consequence of maladaptive academic striving. Likewise, Bonfim et al. reported a significant association between perfectionism, anxiety, and burnout symptoms in a sample of schoolteachers, further supporting the notion that perfectionism and anxiety jointly predict emotional exhaustion across various educational levels (Bonfim et al., 2022).

In the context of Malaysia, several studies have highlighted the growing concern of academic burnout among secondary and tertiary students, often driven by internalized academic expectations and perfectionistic standards. Lau et al. emphasized that individual-related factors such as self-imposed pressure and lack of coping strategies were central contributors to burnout in Malaysian undergraduates (Lau et al., 2020). These findings suggest that similar patterns may be emerging among high school students in the country, yet empirical investigations specifically targeting the interplay of perfectionism, test

anxiety, and academic burnout in this demographic remain scarce. Given the collectivistic cultural values and societal emphasis on academic excellence prevalent in Malaysia, understanding how these psychological constructs interact is vital for designing targeted mental health interventions.

Theoretical models have also attempted to explain the mechanisms by which perfectionism leads to burnout. The Vulnerability-Stress Model, for instance, posits that individuals with perfectionistic personality traits are more susceptible to the adverse effects of academic stressors (Hawkins & Mackinnon, 2024). This model has been supported by studies indicating that perfectionistic students often lack adaptive coping mechanisms, making them more vulnerable to test anxiety and emotional exhaustion (Kinman & Grant, 2022). Other theoretical perspectives, such as the achievement goal theory, propose that the internalization of unrealistic academic goals mediates the link between perfectionism and burnout, as demonstrated by Chang et al. in their study of South Korean adolescents (Chang et al., 2020).

Furthermore, recent research has begun to explore the role of motivation in this triadic relationship. Choi et al. found that introjected motivation—where students engage in academic tasks to avoid guilt or gain self-approval—mediated the relationship between perfectionism and academic burnout (Choi et al., 2022). This aligns with broader literature on self-determination theory, which suggests that controlled forms of motivation amplify the negative psychological effects of perfectionism. Brito et al. even argued that certain dimensions of perfectionism, such as narcissistic perfectionism, might distort students' perception of academic efficacy without necessarily protecting them from burnout (Brito et al., 2023).

At the same time, it is important to recognize the complexity of perfectionism as a multidimensional construct. Not all forms of perfectionism are inherently maladaptive. Osenk et al.'s meta-analytic review distinguished between the pursuit of excellence and maladaptive perfectionism, highlighting that only the latter is consistently associated with negative academic outcomes (Osenk et al., 2020). This distinction has practical implications for educational counselors and psychologists working with students who set high standards for themselves but may benefit from better emotional regulation and support structures. Similarly, Olsson et al. demonstrated that in the context of sports, only certain forms of performance perfectionism predicted athlete burnout, suggesting that

context and domain-specific factors play a role (Olsson et al., 2021).

Despite the wealth of literature, a significant gap remains in understanding how perfectionism and test anxiety jointly influence academic burnout in secondary education contexts. Most existing studies have focused on university students, medical students, or professional educators, leaving adolescent populations underexamined. Given that adolescence is a formative period marked by identity development, emotional volatility, and academic pressure, investigating these relationships during high school years is both timely and necessary. Moreover, as Humphrey and Causey-Upton observed in their study of occupational therapy students, perfectionism may be embedded within broader psychosocial processes that influence not only academic outcomes but also mental health and social functioning (Humphrey & Causey-Upton, 2022).

The present study aims to contribute to this growing body of literature by examining the effects of perfectionism and test anxiety on academic burnout among high school students in Malaysia.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a correlational descriptive design to examine the relationship between perfectionism, test anxiety, and academic burnout among high school students. The target population consisted of high school students in Malaysia, and the sample included 400 participants selected based on the Krejcie and Morgan (1970) sample size determination table. Participants were selected through a simple random sampling method to ensure representativeness. Inclusion criteria included current enrollment in high school, the ability to understand and complete the questionnaires in English, and informed consent to participate in the study.

2.2. Measures

2.2.1. Perfectionism

To assess the level of perfectionism among high school students, the Frost Multidimensional Perfectionism Scale (FMPS), developed by Frost et al. (1990), was used. This standardized instrument includes 35 items and measures six dimensions of perfectionism: Concern over Mistakes, Personal Standards, Parental Expectations, Parental Criticism, Doubts about Actions, and Organization.

Participants respond using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating greater levels of perfectionism. The FMPS has demonstrated strong psychometric properties, with confirmed validity and reliability across multiple populations in educational and clinical contexts. Numerous studies have supported its internal consistency, with Cronbach's alpha coefficients typically ranging from 0.77 to 0.93 across subscales (Frincu, 2024; Hamedani et al., 2024; Kim & Park, 2024).

2.2.2. Test Anxiety

Test anxiety was measured using the Test Anxiety Inventory (TAI), developed by Charles D. Spielberger in 1980. The TAI is a widely used and validated self-report questionnaire consisting of 20 items that assess the emotionality and worry components of test anxiety. Each item is rated on a 4-point Likert scale from 1 (almost never) to 4 (almost always), with higher total scores indicating greater test anxiety. The inventory includes two subscales: Worry (cognitive concerns about performance) and Emotionality (physiological reactions to testing situations). The TAI has been shown to possess high internal consistency, with Cronbach's alpha values typically above 0.90, and its validity has been confirmed through correlations with academic performance and other anxiety-related measures in various studies (Kaur Khaira et al., 2023; Yazdani et al., 2023; Zhao et al., 2022).

2.2.3. Academic Burnout

Academic burnout was evaluated using the Maslach Burnout Inventory – Student Survey (MBI-SS), which was adapted from the original Maslach Burnout Inventory by Schaufeli et al. (2002) for use with student populations. This version contains 15 items divided into three subscales: Exhaustion (emotional fatigue from academic demands), Cynicism (detachment or negative attitude toward school), and Academic Efficacy (feelings of competence and achievement in academic tasks). Responses are given on a 7-

point Likert scale ranging from 0 (never) to 6 (always), with higher scores on exhaustion and cynicism and lower scores on efficacy indicating greater burnout. The MBI-SS has demonstrated robust psychometric properties, with good internal consistency (Cronbach's alpha coefficients typically above 0.70 for all subscales) and well-established construct validity in adolescent and student samples (Lim et al., 2024; Messina et al., 2024; Wen et al., 2023).

2.3. Data Analysis

Data analysis was conducted using SPSS software version 27. Descriptive statistics were calculated to examine the demographic characteristics of the sample and the distribution of scores on the study variables. To assess the relationships between the dependent variable (academic burnout) and each of the independent variables (perfectionism and test anxiety), Pearson correlation coefficients were computed. In addition, linear regression analysis was performed to evaluate the predictive power of perfectionism and test anxiety on academic burnout. This approach allowed for determining the extent to which the independent variables significantly contributed to the variance in the dependent variable. Assumptions of normality, linearity, and homoscedasticity were checked prior to conducting the regression analysis to ensure the robustness of the statistical tests.

3. Findings and Results

The final sample included 400 high school students from various regions of Malaysia. Among the participants, 237 (59.2%) identified as female and 163 (40.8%) as male. In terms of grade level, 112 students (28.0%) were in Form 4, 147 students (36.8%) were in Form 5, and the remaining 141 students (35.2%) were in Form 6. Regarding age, 93 students (23.2%) were 16 years old, 157 students (39.2%) were 17 years old, and 150 students (37.6%) were 18 years old. These frequencies indicate a relatively balanced distribution across gender and grade levels, providing a diverse representation of high school students for the analysis.

Table 1

Descriptive Statistics for Study Variables

Variable	Mean (M)	Standard Deviation (SD)
Perfectionism	103.47	14.32
Test Anxiety	58.29	9.76
Academic Burnout	52.86	11.41

The descriptive statistics showed that the mean score for perfectionism was 103.47 ($SD = 14.32$), suggesting a moderate to high level of perfectionistic tendencies among the participants. The mean score for test anxiety was 58.29 ($SD = 9.76$), indicating a relatively high experience of anxiety related to academic evaluations. Academic burnout had a mean score of 52.86 ($SD = 11.41$), reflecting a moderate level of emotional exhaustion, cynicism, and reduced efficacy among students (Table 1).

Prior to conducting linear regression analysis, the underlying assumptions were examined and confirmed. The assumption of normality was tested using the Kolmogorov–Smirnov test, which indicated that the distribution of scores for academic burnout ($D = 0.035$, $p = .067$), perfectionism

($D = 0.031$, $p = .089$), and test anxiety ($D = 0.037$, $p = .059$) did not significantly deviate from normality. Linearity was confirmed through scatterplots, which showed a linear relationship between each independent variable and the dependent variable. The assumption of homoscedasticity was tested using the Breusch–Pagan test, which yielded non-significant results ($\chi^2 = 2.14$, $p = .144$), indicating constant variance of residuals. Additionally, multicollinearity was not a concern, as variance inflation factor (VIF) values were below the threshold of 5 for both perfectionism ($VIF = 1.42$) and test anxiety ($VIF = 1.38$). These results confirmed that the data met the assumptions necessary for valid linear regression analysis.

Table 2

Pearson Correlation Coefficients Between Variables

Variable	1	2	3
1. Perfectionism	—		
2. Test Anxiety	.43** ($p < .01$)	—	
3. Academic Burnout	.56** ($p < .01$)	.49** ($p < .01$)	—

Correlation analysis revealed a significant positive relationship between perfectionism and academic burnout ($r = .56$, $p < .01$), indicating that higher perfectionism scores were associated with greater academic burnout. Test anxiety was also positively correlated with academic burnout ($r =$

.49, $p < .01$), suggesting that students who reported more test anxiety also experienced higher levels of burnout. A moderate positive correlation was found between perfectionism and test anxiety ($r = .43$, $p < .01$), implying a shared variance in psychological vulnerability (Table 2).

Table 3

Summary of Regression Analysis: Predicting Academic Burnout

Source	Sum of Squares	df	Mean Square	R	R ²	Adj. R ²	F	p
Regression	11824.67	2	5912.33	.64	.41	.41	137.61	<.001
Residual	17357.48	397	43.72					
Total	29182.15	399						

The results of the regression model indicated that perfectionism and test anxiety significantly predicted academic burnout, $F(2, 397) = 137.61$, $p < .001$, with an R^2 value of .41. This indicates that 41% of the variance in academic burnout was explained by the combination of the

two predictor variables. The adjusted R^2 remained consistent at .41, confirming the model's robustness. The overall regression model demonstrated a strong fit to the data, with a multiple correlation coefficient of $R = .64$ (Table 3).

Table 4

Multivariate Regression Coefficients for Predicting Academic Burnout

Predictor	B	SE	β	t	p
Constant	14.37	2.76	—	5.21	<.001
Perfectionism	0.42	0.05	.45	8.74	<.001
Test Anxiety	0.37	0.06	.36	6.54	<.001

The multivariate regression analysis revealed that both perfectionism ($\beta = .45$, $t = 8.74$, $p < .001$) and test anxiety ($\beta = .36$, $t = 6.54$, $p < .001$) were significant predictors of academic burnout. The unstandardized regression coefficients indicated that for each one-point increase in perfectionism, academic burnout increased by 0.42 points, while a one-point increase in test anxiety corresponded to a 0.37-point increase in burnout. These results confirm that both psychological constructs independently contribute to students' experiences of academic burnout (Table 4).

4. Discussion and Conclusion

The findings of this study provide valuable insights into the psychological mechanisms underlying academic burnout among high school students in Malaysia. The results of the Pearson correlation analysis revealed significant positive relationships between both perfectionism and test anxiety with academic burnout. Furthermore, the linear regression analysis demonstrated that perfectionism and test anxiety jointly predicted a significant portion of the variance in academic burnout, suggesting that these two psychological constructs serve as important predictors of student exhaustion, cynicism, and reduced academic efficacy in high-pressure academic contexts.

The strong association between perfectionism and academic burnout is consistent with numerous previous studies that highlight the detrimental effects of maladaptive perfectionistic tendencies on student well-being. Specifically, students who impose excessively high standards on themselves and fear making mistakes are more likely to experience emotional exhaustion and disengagement from academic tasks. These findings are supported by the work of Biggs et al., who found that perfectionism significantly contributed to burnout in physiotherapy students, especially in relation to emotional exhaustion and reduced accomplishment (Biggs et al., 2023). Similarly, Chang et al. reported that perfectionism, particularly when mediated by performance-based achievement goals, increased susceptibility to burnout among Korean adolescents (Chang et al., 2020). The present study extends these findings to a high school population in Malaysia, confirming that the psychological burden of perfectionistic self-expectations is not confined to higher education but is equally relevant among younger students.

In addition to perfectionism, test anxiety was also found to be a significant predictor of academic burnout. This finding corroborates previous research showing that students

who experience excessive anxiety during examinations are more prone to emotional fatigue, detachment from school, and a decline in academic self-efficacy. Hawkins and Mackinnon emphasized the role of stress and perfectionism as key predictors of burnout, noting that test-related anxiety often exacerbates the negative impact of perfectionism on students' academic self-concept and motivation (Hawkins & Mackinnon, 2024). In this regard, the present study supports the vulnerability-stress model, which suggests that students with perfectionistic tendencies are especially vulnerable to stress-inducing academic contexts such as testing environments.

The results also align with the findings of Choi et al., who demonstrated that perfectionism predicted academic burnout through introjected motivation—a form of motivation driven by internal pressure and guilt (Choi et al., 2022). The Malaysian high school context, characterized by rigorous academic expectations and a competitive testing culture, may intensify the internalization of performance standards, resulting in both elevated test anxiety and burnout. This is echoed in Lau et al.'s study on Malaysian undergraduates, where individual-level factors such as internal pressure and emotional burden were found to significantly impact academic burnout levels (Lau et al., 2020). The consistency of these results across age groups and educational settings reinforces the conclusion that both perfectionism and test anxiety are critical psychological constructs in understanding burnout.

Furthermore, this study's findings lend empirical support to the theoretical distinctions between adaptive and maladaptive forms of perfectionism. As outlined by Osenk et al., while the pursuit of excellence can enhance learning and motivation, maladaptive perfectionism—characterized by fear of failure, concern over mistakes, and self-criticism—consistently correlates with negative academic outcomes, including burnout (Osenk et al., 2020). The current findings indicate that the high school students in this sample were more likely exhibiting maladaptive perfectionism, given the positive correlation between their perfectionism scores and reported burnout levels. This distinction is vital for future interventions aimed at reducing burnout, as it suggests that not all perfectionistic traits are inherently harmful but that specific cognitive patterns related to self-worth and error sensitivity may be the root of emotional exhaustion.

The association between perfectionism, test anxiety, and burnout is also influenced by broader emotional and social variables. For instance, Wang and Wu found that academic

burnout mediated the relationship between maladaptive perfectionism and life satisfaction in Chinese undergraduate students, highlighting how internal psychological factors translate into broader mental health outcomes (Wang & Wu, 2022). Likewise, Bonfim et al. observed that among elementary school teachers, perfectionism and anxiety were strongly associated with lifestyle stress and burnout symptoms (Bonfim et al., 2022). These findings are reflected in the present study, suggesting that Malaysian high school students, much like adults in professional roles, face perfectionism and anxiety as interconnected stressors that influence their long-term academic and emotional health.

Interestingly, several studies have pointed to cultural differences in how perfectionism and academic pressure manifest. Yun et al., for instance, emphasized that even positive perfectionism can lead to burnout in collectivist cultures when not balanced by emotional stability and positive teacher-student relationships (Yun et al., 2021). The Malaysian educational system, with its collectivist leanings and high regard for academic success, may amplify the psychological costs of perfectionism, especially when students internalize external expectations. Jumaniyazova similarly argued that perfectionism's impact on personal development and achievement must be evaluated within specific cultural frameworks (Jumaniyazova, 2024). These contextual insights provide a deeper understanding of why perfectionism and test anxiety are particularly relevant to Malaysian adolescents.

Additional evidence from related contexts supports the findings of this study. Humphrey and Causey-Upton noted that perfectionism among occupational therapy students led to not only academic burnout but also diminished social and emotional functioning, suggesting that perfectionism can spill over into various life domains (Humphrey & Causey-Upton, 2022). Martin et al. also highlighted perfectionism as a strong predictor of physician burnout, showing that the effects of this trait persist into professional adulthood (Martin et al., 2022). These parallels reinforce the developmental continuity of perfectionism-related distress and suggest that addressing these issues early in adolescence may prevent long-term psychological consequences.

The complexity of perfectionism is further illuminated by Lee et al., who found that the effect of multidimensional perfectionism on burnout could be moderated by perceived organizational support, indicating that contextual support systems play a buffering role (Lee et al., 2023). While the present study did not directly measure such moderators, the findings suggest that future investigations should consider

the role of social support, school climate, and parental expectations in moderating the perfectionism-burnout relationship. Similarly, Kinman and Grant found that a “good enough” mindset significantly improved well-being among social workers, indicating that fostering adaptive, realistic standards may protect against perfectionism-induced burnout (Kinman & Grant, 2022).

The role of personality and motivational constructs is also noteworthy. Rajapakse emphasized the multifaceted nature of perfectionism, calling for a more nuanced understanding of its causes and effects across developmental stages (Rajapakse, 2024). Ma's analysis of burnout among Chinese adolescents also points to the importance of intrinsic and extrinsic motivational factors in shaping students' emotional responses to academic pressure (Ma, 2021). These studies underscore the multidimensional and context-sensitive nature of the constructs examined in this research and suggest multiple avenues for intervention.

5. Limitations & Suggestions

Despite the valuable findings, this study is not without limitations. First, the use of self-report questionnaires may introduce response biases such as social desirability or overestimation of symptoms. Second, the cross-sectional design restricts causal inferences, meaning that while relationships between variables are identified, their directionality cannot be confirmed. Third, the study was conducted within a single national context—Malaysia—which may limit the generalizability of the findings to other cultural or educational systems. Additionally, although the sample size was statistically adequate, more nuanced subgroup analyses (e.g., based on gender or academic track) were not performed and could reveal important differences in how perfectionism and test anxiety affect different student groups.

Future studies should consider using longitudinal designs to track changes in perfectionism, test anxiety, and burnout over time and better assess causal relationships. Experimental and intervention-based studies could also evaluate the effectiveness of targeted programs aimed at reducing maladaptive perfectionism and test anxiety. Moreover, qualitative approaches may provide deeper insights into the lived experiences of students struggling with academic pressure. Incorporating additional moderating or mediating variables, such as parental expectations, teacher support, emotional regulation, or motivational orientations, would further clarify the

dynamics between perfectionism, test anxiety, and burnout. Lastly, expanding the research to include cross-cultural comparisons could help delineate universal versus context-specific mechanisms in academic stress processes.

Educational psychologists, school counselors, and teachers should prioritize early screening for perfectionistic tendencies and test anxiety among students. Intervention programs focused on stress management, emotional resilience, and realistic goal-setting should be integrated into the school curriculum. Cultivating a learning environment that values effort over outcomes and emphasizes personal growth over flawless performance can help mitigate the negative impact of perfectionism. Additionally, teachers and parents should be trained to recognize signs of academic burnout and encouraged to provide supportive feedback rather than performance-based criticism. Promoting self-compassion and helping students reframe failure as a part of learning are essential strategies to foster healthy academic engagement.

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Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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Authors' Contributions

All authors contributed equally.

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