

A Study on the Relationship of Financial Stress with Academic Participation and Sense of Belonging

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Brief Introduction

Since Brown School is comprised of students from a variety of economic backgrounds, the purpose of this study is to examine whether the financial status of these students would be related to their academic performance and inclusion. Based on this, this study hopes to update variables from GPA to academic participation, as well as understanding student integration from a sense of belonging perspective. The first question of the study is to examine the relationship between financial stress and academic participation. The independent variable is financial stress, and the dependent variable is academic participation. The second question is the relationship between financial stress and the sense of belonging. The independent variable is financial stress, and the dependent variable is the sense of belonging.

Table 1: Demographics

Variable	Frequencies N = 65 (n (%))
Study major	
MSW	42 (64.6)
MPH	16 (24.6)
MSP	3 (4.6)
MSW&MSP	2 (3.1)
Other	2 (3.1)
Year of Study	
First-year	42 (64.6)
Second year	20 (30.8)
Other	1(1.5)
Third year	2 (3.1)
Age	
19-21	35 (53.8)

26-30	22 (33.8)
31-35	5 (7.7)
36 and above	3 (4.6)
Gender	
Male	10 (15.4)
Female	50 (76.9)
Non-Binary	5 (7.7)
Race of students	
White	33 (50.8)
Black or African American	14 (21.5)
Asians	13 (20.0)
Hispanic	1 (1.5)
Others	4 (6.2)
International student	
Yes	22 (33.8)
No	43 (66.2)

Sample Description

Excluding incomplete responses, the sample size totaled 65 individuals. The participant demographics, as illustrated in Table 1, offer a comprehensive overview of the sample characteristics. Most participants, constituting 64.6%, were pursuing Master of Social Work (MSW) degrees, while 24.6% were enrolled in Master of Public Health (MPH) programs. In terms of academic progression, first-year students were the most represented, comprising 64.6% of the sample, followed by second-year students at 30.8%, third-year students at 3.1%, and a minimal representation from other categories. The age distribution revealed that a significant portion, 53.8%, fell within the 19-21 age bracket, with 33.8% aged between 26-30. Gender distribution indicated

a predominance of female participants, constituting 76.9% of the sample, while males represented 15.4%, and non-binary individuals constituted 7.7%. In terms of racial background, the sample was predominantly White, accounting for 50.8%, followed by Black or African American at 21.5%, Asian at 20.0%, and Hispanic at 1.5%. International students constituted 33.8% of the sample, with 66.2% being domestic students.

Table 2: Reliability of Financial Stress Scale

Cronbach's Alpha	N of Items
.928	9

Table 3: Reliability of Academic Participation Scale

Cronbach's Alpha	N of Items
.812	9

Table 4: Description of Variables

	Minimum	Maximum	Mean	Std. Deviation
Financial Stress	9.00	45.00	26.89	9.22
Academic Participation	18.00	45.00	35.18	6.18
Sense of Belonging	8.00	35.00	25.38	6.04

Table 5: Pearson Correlation

Variable	AP(r(p-value))	SB(r(p-value))
Financial Stress	-.027(.831)	-.132(.294)

Table 6: Spearman Correlation

Variable	AP (p (p-value))	SB (p (p-value))
Financial stress	-.045 (.719)	-.175 (.163)

Results

The findings are divided into three parts. The first part tests the reliability of the Financial Stress Scale and the Academic Participation Scale through Cronbach's alpha. The second part uses descriptive indicators to describe the scores of financial stress, academic participation, and sense of belonging. Part three explores correlations. For the relationship between financial stress and academic participation, Pearson and Spearman correlation coefficients are used. For the relationship between financial stress and sense of belonging (including SB1 identification of university and SB2 social acceptance), Pearson and Spearman correlation coefficients are used.

Since the Financial Stress Scale added items about upset and scared, it is tested for consistency. The alpha coefficient is .928, showing a high degree of reliability. Since the Academic Participation Scale is based on a framework of a former study, a consistency test is performed. The alpha coefficient is .812, showing a high degree of reliability.

In Table 4 Description of Variables, the range of financial stress is from a minimum value of 9 to a maximum value of 45, which are respectively equal to the extreme values of the scale design. Academic participation values range from 18 to 45, and the

scale is designed to range from 9 to 45. The value of the sense of belonging ranges from 8 to 35, and the scale is designed to range from 7 to 35. The level of academic participation is relatively high. Financial stress has the largest standard deviation, indicating large differences in economic conditions. Calculating the ratio of the highest scores in the mean station scale design, the lowest is financial stress, 59.76%, the highest is academic participation, 78.18%, and the sense of belonging is 72.51%. The results indicate that overall financial stress is high, while scores of academic engagements and the sense of belonging are also high.

Pearson's coefficient and Spearman's coefficient are used as separate measures due to uncertainty about the correlation between the variables. Table 5 above indicates that there is no relationship between financial stress and academic participation. The correlation analysis between financial stress and academic participation revealed a Pearson correlation coefficient of -.045 ($p = .719$), indicating a weak negative association. However, the lack of statistical significance suggests that this correlation is not robust enough to substantiate the hypothesis that an increase in financial stress corresponds to a decrease in academic participation. The negligible correlation coefficient near zero underscores the minimal linear relationship within the studied sample, emphasizing that changes in financial stress are not substantially tied to alterations in academic participation. In Table 6, as to the Spearman correlation of financial stress and academic participation, $p = -.045$, showed little to no correlation between financial stress and academic participation, and the p -value of .719 showed that the results were not significant.

The correlation analysis in Table 5 revealed a weak negative relationship between financial stress and sense of belonging ($r = -.175$, p -value = .163), but this association was not statistically significant. The negligible correlation coefficient near zero and the non-significant p -value indicate that changes in financial stress are not substantially linked to variations in the sense of belonging within the studied sample. As to the Spearman correlation of financial stress and sense of belonging in Table 6, $p = -.045$ showed little to no correlation between financial stress and academic engagement, and the p -value of .719 showed that the results were not significant. This implies that there is no evidence supporting the hypothesis that financial stress may not significantly impact the student's sense of belonging.

Since the sense of belonging scale contains two subscales, they are named SB1 and SB2.

The former is Identification with the University, and the latter is Social Acceptance. According to Table 7, Pearson correlation, $r = -.160$ and $p = .202$, they are correlated by a weak negative correlation, but the results were not significant. Based on the Spearman correlation in Table 8, the $p = -.127$ and $p = .315$ show weak negative correlation and insignificant results. These results demonstrate that financial Stress is not correlated with the identification of a university.

According to Table 7, Pearson correlation, $r = -.176$ and $p = .161$, they are correlated by a weak negative correlation, but the results were not significant. Based on the Spearman correlation in Table 8, the $p = -.138$ and $p = .274$ show weak negative correlation and insignificant results. These results demonstrate

that financial Stress is not correlated with social acceptance. All findings underscore the complexity of the relationships examined, emphasizing the need for a nuanced understanding of how financial stress interacts with a sense of belonging and academic performance. The detailed results are available in the accompanying tables, providing a comprehensive overview of the bivariate statistics employed in the analysis.

Table 7: Pearson Correlation

Variable	SB1(r(p-value))	SB2(r(p-value))
Financial Stress	-.160(.202)	-.176(.161)

Table 8: Spearman Correlation

Variable	SB1(ρ (p-value))	SB2(ρ (p-value))
Financial Stress	-.127(.315)	-.138(.274)

Discussion

The analysis of our study, comprising 65 participants, indicates no significant correlation between financial stress and academic participation. This contrasts with research on 8997 undergraduate students, which demonstrated a negative correlation, suggesting that increased stress, particularly financial burden, is associated with lower average GPA [1]. This Study also contrasts with Baker and Montalto, who argue that increased financial stress decreases academic performance [2]. As for financial stress and sense of belonging, the no- nocorrelation result contradicts the research of Taylor, which indicates that there is a weak negative correlation between financial stress and belongingness [3].

The research findings revealed no significant correlation between financial stress and academic participation among brown school students. Despite initial expectations of a potential association, other factors such as time management, personal health, lack of motivation, and teaching methods may be influential contributors to students' engagement in academic activities. The absence of a direct link between financial stress and academic participation highlights the intricate and multifaceted nature of the various factors influencing students' active involvement in their academic pursuits. As for the strength of the sense of belonging, it is also related to factors such as the student structure, the richness of international student-oriented clubs, psychological support, and job opportunities. Thus, the correlation between financial stress and a sense of belonging is compromised.

Despite these varying results, our study contributes valuable insights into the nuanced relationship between financial stress and academic participation. However, it's crucial to acknowledge the limitations of our research. The Convenience sampling method does not respond well to the distribution of the study population, which in turn affects the results of the study. The small sample size may restrict the generalizability of our findings, and the reliance on self-reported measures introduces the possibility of response bias. Additionally, the contextspecific nature of our study at the Brown School may impact the transferability of our results to other settings.

The implications of our study for practice and research underscore the need for a comprehensive understanding of the complex interplay between financial stress and academic outcomes. Acknowledging the varied findings in the literature, future research should explore additional predictive factors, as suggested by a study on 985 North Kentucky University students. This study revealed that financial hardship, especially when intersecting with concepts such as racial minorities, significantly impacts students' sense of belonging (Taylor et al., 2022). Thus, future studies should consider these intersections and their potential implications. These insights can inform practices aimed at mitigating the impact of financial stress on academic participation and contribute to the broader discourse on student well-being.

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