

The Journal of Behavioral Science (TJBS)

Quantitative Research Article

Antisocial Behavior and Academic Performance of Undergraduates Students in Nigeria: The Mediating Effect of Social Support

Kabara Auwal Halabi^{1*}, Masitah Shahrill¹, and Roslinawati Roslan¹

Abstract	Author Affiliation
Background/ problem: In recent years, there has been an increase of student participation in protests and other forms of civil unrest within Nigerian educational institutions. This trend has contributed to social tension and may be linked to a rise in antisocial behavior. Objective/ purpose: The current study investigates the effects of antisocial behavior (physical aggression, social aggression and rule breaking) on academic performance, with a particular focus on the mediating role of social support. Design and Methodology: Data was collected from 257 undergraduate students in Nigeria. A statistical analysis was conducted using SEM-covariance with AMOS software. Results: The findings of the study revealed a significant negative effect between physical aggression and academic performance ($\beta = -.17$, $CR = -2.85$, $p = .03$). In addition, the findings indicate that social aggression and rule breaking shows no significant relation to students' academic performance ($\beta = .13$, $CR = 1.07$, $p = .20$, and ($\beta = -.11$, $CR = 1.00$, $p = .24$). However, the findings support the link between social support and academic performance ($\beta = .58$, $CR = 8.01$, $p = .00$). Additionally, it signifies that social support partially mediates the link between academic performance and antisocial behavior. Conclusion and Implications: These findings suggest that social support not only helps to diminish antisocial behavior among students but also contributes positively to their academic outcomes. Therefore, it is recommended that university administration provides awareness to students on the benefits of engaging in prosocial behavior and clearly outlines the consequences of antisocial behavior.	1 Sultan Hassanal Bolkiah Institute of Education, Universiti Brunei Darussalam, Brunei Darussalam. *Corresponding author e-mail: 22h1604@ubd.edu.bn https://orcid.org/0000-0001-7795-7351 Article Information <i>Received:</i> 26.11.24 <i>Revised:</i> 08.01.25 <i>Accepted for review:</i> 14.01.25 Keywords Academic performance, antisocial behavior, physical aggression, social aggression, rule breaking.

The world is currently witnessing rapid advancement, which can positively and negatively impact students. On the downside, these advancements can lead to aggressive behavior, risky intimate behavior, and substance abuse. On the upside, it can foster empathy and a greater acceptance of diversity. Consequently, it is crucial to prioritize the protection and well-being of students (Suud et al., 2024). Higher education enrollees have various demographic characteristics such as age, gender, culture, and ethnicity, as well as different innate abilities and emotional issues (Allen et al., 2021; Hwang et al., 2021). In recent years, there has been a noticeable increase in student participation in demonstrations, protests, and other forms of dissent within universities. This trend has contributed to social tensions and may have exacerbated the emergence of antisocial behavior, ultimately resulting in a decline in academic performance (Khan et al., 2019; Wang et al., 2024; Xu, 2024). Moreover, antisocial behaviors among students in Nigeria have severe personal and societal consequences, a student who exhibit such behavior especially over an extended

period may face limited employment and educational opportunities. This can contribute to maladaptive behaviors in adulthood, including substance addiction and criminal activities as well as mental health issues and potential legal consequences (Halabi et al., 2024; Olivier et al., 2020; Sunday et al., 2022;).

Academic performance plays a vital role in student success, reflecting the degree to which a student, educator, or institution meets their short- and long-term educational objectives (Halabi et al., 2024). It is intimately connected to academic success and is a significant determinant of a student's overall achievement, alongside their academic growth and learning journey. Elevated academic performance often signifies an individual's intelligence, the quality of their scholarly contributions, and their character (Halabi et al., 2024). Numerous factors, including attitudes, learning capabilities, motivation, support from family and friends, and available financial resources, can impact a student's academic performance (Bakar et al., 2023; Boot & Shaw, 2023). Many studies indicate that the academic performance of graduate students significantly influences their success in higher education (Bakar et al., 2023; Halabi et al., 2024; Lee & Paliliunas, 2024). In addition, social support plays a crucial role in improving a student's academic performance, school attitude, homework completion, and attendance behavior (Suud et al., 2024; Xu, 2024). However, when families overly depend on teachers for the care and guidance of their children, it can affect students' behavior. Failure to instill moral values, given that teachers are often seen as part of the primary agents of socialization can also derail students' academic performance (Otto et al., 2021; Rashid et al., 2020; Sivrikaya, 2019).

There is some recent empirical evidence that used antisocial behavior and academic performance simultaneously (Marzilli et al., 2021). However, these studies were conducted with a sample of adolescent students, such as primary and secondary students, in similar study contexts and countries other than the current study areas. This study contributes to literature in different ways. This study adds to these recent studies and adopts social learning theory (SLT), cognitive behavioral theory (CBT) to link antisocial behavior (physical aggression, social aggression and rule breaking) with academic performance, through mediating role of social support, providing a theoretical perspective to understand how antisocial behavior influences academic performance. Considering social support as a mediating, this study extends previous studies by proposing that the mediated relationships between antisocial behavior and academic performance depend on social support. Secondly, this study provides new insight into the underlying process and behavior for the relationship between antisocial behavior and academic performance in light of SLT and CBT theory. This research tries to add to the existing body of knowledge and literature and to the inconsistent evidence on the effect of antisocial behavior towards the academic performance of university students in Nigeria. In line with the problem and identified knowledge gaps, the following research questions were formulated:

1. How does antisocial behavior affect academic performance among undergraduate students?
2. To what extent does social support affect academic performance of undergraduate students?
3. How social support does mediate the relationship between antisocial behavior and academic performance?

Literature Review

This section reviews the theoretical, conceptual, and hypotheses development on antisocial behavior, social support and academic performance. Furthermore, the mediating role of social support and the relationship between some key variables. In addition, a conceptual framework that clarifies the relationship among the variables is presented.

Theoretical Background

There is a growing need to improve and explain behaviors and academic performance, particularly among undergraduate students around the world. This led to the proposition of many theories and models. This study uses the social learning theory (SLT), cognitive behavioral theory (CBT), and achievement motivation theory. They are used to understand the relationships between antisocial behavior, social support

and academic performance. The SLT is predicated on the notion that people learn by seeing others and that psychological processes play a role in character comprehension. The theory uses the three key ideas of observation, imitation, and modelling. Bandura and Walters (1977) explained that a vast majority of human behaviors are acquired through modeling and observation.

According to Bandura and Walters (1977), various circumstances affect whether people learn from observable behavior, the need to focus attentively, remember what they saw, and be driven to imitate the behavior. If the model's traits are comparable to those of the observer, the observed behavior's impacts are amplified. Furthermore, models were mentioned as those that are observed. Students in society are surrounded by a variety of powerful role models, including their parents, members of their immediate family, characters on shows, friends, social circle, and teachers. These role models offer instances of behavior to study and emulate, including behaviors that are both good and antisocial, and that are both masculine and feminine (Bird et al., 2019; Shaheb et al., 2023). Students learn behaviors by observing teachers, peers, and parents. This shows that positive academic behaviors are learned when these are modelled and rewarded. Students who observe classmates engaging in academic dishonesty or disengagement may mimic these behaviors, especially if such actions are rewarded. According to SLT, belief in student's ability is developed through observed successes and failures of others. Additionally, observing peers succeed despite challenges can boost a student's academic performance. It has been shown that students direct and adjust their environment based on their self-efficiency (Mata-Codesal, 2020; Martínez et al., 2024; Wang et al., 2024).

According to Singh et al. (2011), motivation is the process of maintaining the drive going and the desire to reach predetermined goals and aims. The achievement motivation theory, as stated by McClelland et al. (1953), is an effort to account for the factors that influence the direction, size, and persistence of behaviors that are crucial areas of human activity. Whenever a person is aware that his or her performance will be assessed by others in line with a certain standard or criteria of excellence, he or she becomes motivated. This gives rise to the idea known as achievement-oriented performance since the results of the actions will either be favorable or unfavorable evaluations (success and failure) (Lee & Paliliunas, 2024). Failure and success are the two opposing forces that govern the achievement motivation theory. Therefore, the likelihood of completing an activity depends on the drive that motivates one to do so (Sivrikaya, 2019). This indicates that people are driven by the desire to be evaluated by others, to meet high standards of excellence, and to experience the rewards of success and avoid the consequences of failure. In understanding the complex relationship between students' academic performance and antisocial behaviors, it requires a comprehensive approach that considers various psychological and social factors. By using these theories, it is evident that there is an interplay between these variables and educators, policymakers, and practitioners can develop effective interventions and support plans that promote positive change and improve student's overall well-being.

Antisocial Behavior and Academic Performance

In recent years, there has been an increasing trend of students' participation in demonstrations, uprisings, and other rebellious behavior in Nigerian schools. This has led to social tension and may have fueled the growth of antisocial behavior, which has resulted in a decline in academic performance. However, it is important to note that this decline may not directly be tied to the deterioration of Nigeria's national ideals (Sunday et al., 2022). To achieve the goal of a holistically developed persona, it is crucial to address the link between academic performance and antisocial behavior. Studies on the prevalence of antisocial behavior among students in classrooms make it necessary to minimize and eliminate risky antisocial behavior in schools (Olivier et al., 2020). This emphasizes the importance of creating a safe, respectful, and engaging environment for students.

Academic performance is regarded as an integral aspect of student success and refers to the extent to which a student, teacher, or institution has achieved their short or long-term educational objectives (Halabi et al., 2024; Lee & Paliliunas, 2024). One rising variable that profoundly shapes academic performance is student antisocial behavior (González et al., 2021). While this phenomenon is observed in various countries,

the specific manifestations of behavior, their prevalence, and severity fluctuate based on social, cultural, political, and economic contexts (Bakar et al., 2023). To enhance students' academic performance and foster their development into productive members of society, effective management of their behavior is essential. Numerous studies have established a significant correlation between antisocial behavior and an increased likelihood of academic failure, considering factors such as gender, socioeconomic status, associations with troubled peers, and self-esteem (Bird et al., 2019; Hwang et al., 2021; Olivier et al., 2020). Antisocial behavior is consistently associated with poor verbal skills and low academic achievement; however, interventions aimed at improving academic performance have shown to substantially reduce antisocial behavior (Otto et al., 2021).

Previous studies demonstrate that some students move tables and chairs to disrupt others, listen to music or watch one program or another, growing bored or even irritated during the class. These are behaviors that require a skilled and experienced instructor to identify (Allen et al., 2021; Sunday et al., 2022). Similarly, within the campus, behavior includes littering around, indecent dressing, harassing opposite and same gender, use of abusive language, forming cliques, use of negative sign language, refusal to accept faults, refusal to offer apology, criticizing lecturers, and refusal to obey simple gate rules (Hwang et al., 2021). Research has also shown that students' attitudes and behavior form a central focus for teachers and policy makers, and several questions why such attitudes and behavior are displayed on a regular basis have been raised (Sunday et al., 2022). Both male and female are consistently found to be lacking in prosocial behavior even in classrooms where lecturers are present (Aslan & Yukay-Yuksel, 2018), study indicated a significant negative association between aggression and academic performance. The following study hypothesis was developed considering the earlier empirical research:

H1a: Physical aggression negatively affects academic performance of undergraduate students.

H1b: Social aggression negatively affects academic performance of an undergraduate student.

H1c: Rule breaking negatively affects academic performance of an undergraduate student.

Social Support and Academic Performance

Social support refers to the emotional, informational, and practical assistance that individuals receive from people in their social network. This support can come from family members, friends, significant others, peers, or even institutions. It plays a vital role in helping people cope with stress, build resilience, and maintain psychological well-being, which can ultimately affect other life domains such as academic performance. Students' basic needs for acceptance, belonging, and love are met by social support. Some of the ways to meet these needs is through financial stability, emotional and social support (Lee & Paliliunas, 2024; Martínez et al., 2024). Parental support is described as the sense that family supports the student's attempts to do well in university (Suud et al., 2024). Dependability, persistence, and a work ethic are traits that parents can encourage in students. Parents can accomplish this by working together with individuals who share their aspirations for the students which are the teachers. Because the student starts to assume more responsibility for his social life at college, parental support becomes more indirect.

It has been demonstrated that separating from family is the first step in helping college students learn to function independently without constant assurance or approval. Boonk et al. (2022) demonstrates how family involvement has an indirect impact on student success. It has also been argued conversely that upbringing in a safe, encouraging home tends to promote high levels of self-efficacy, which in turn facilitates a variety of helpfully adaptive behaviors. The findings discovered in a study by Otto et al. (2021) showed that higher self-efficacy and a poorer domestic environment were both associated with higher antisocial behavior. Additionally, the study found that worse baseline family climate, a deteriorating family environment over time and lower levels of social support were all linked to an increase in antisocial behavior over time and poor performance. The study also discovered a moderating role for family climate. Based on this argument, the following hypothesis is proposed:

H2: Social Support positively affects the academic performance of undergraduate students

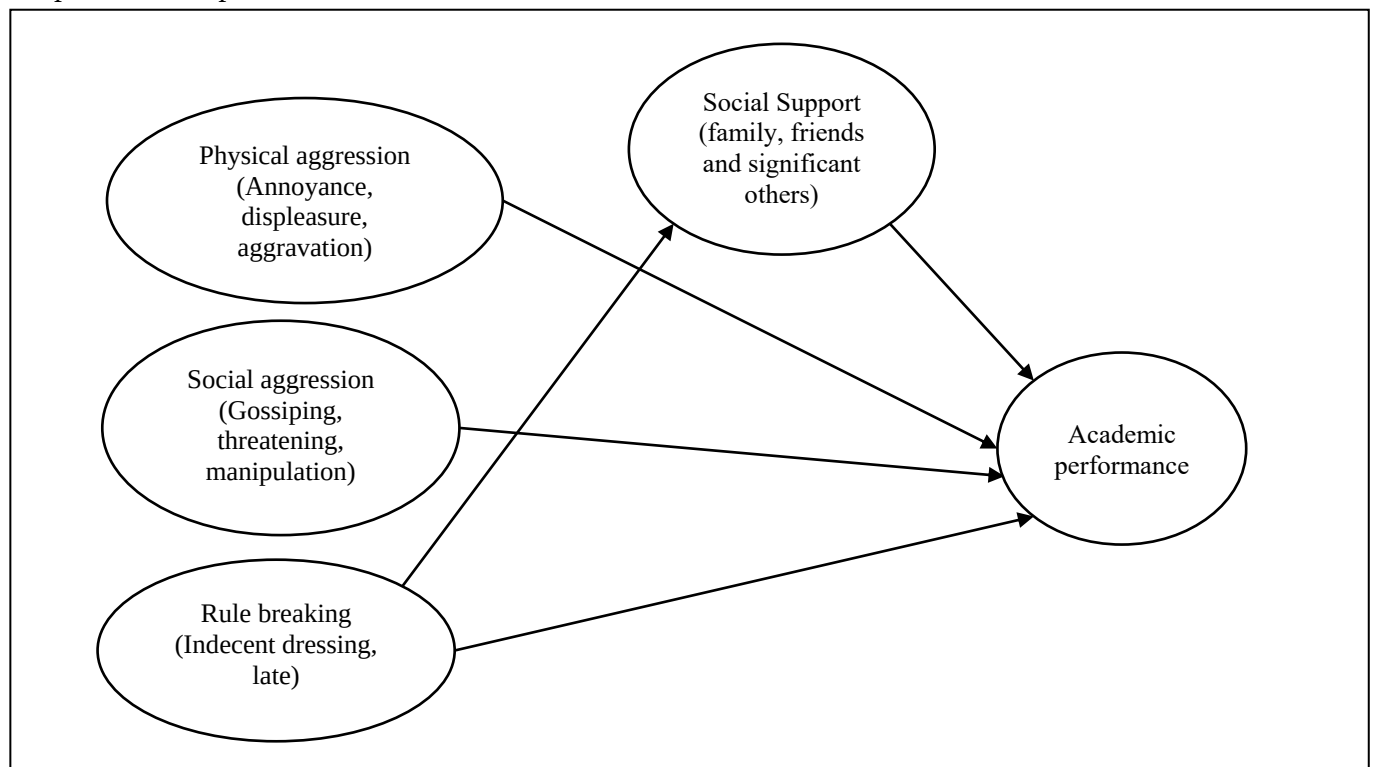
Mediation of Support Service with Antisocial Behavior and Academic Performance

Most of the literature on social support and involvement at the university places a strong focus on the importance of financial and emotional assistance (Lee & Paliliunas, 2024; Suud et al., 2024; Wang et al., 2024). These forms of assistance provide stability, which allows students to concentrate on their schoolwork and get through university life. However, some students might experience familial issues, which could have a detrimental effect on their ability to perform. Cheng et al. (2012) argued that there is a lack of consistency in studies on how social support influences a student's academic performance in higher education. However, conducting a comprehensive study that considers these variables can better elucidate the true impact of social support on academic performance in the university settings. It has been established that high levels of conduct problems were associated with higher levels of antisocial behavior and low academic performance. The extant literature had repeatedly discovered a strong link between emotional detachment and poor academic performance, even when achievement was measured using various statistical techniques and procedures (Bird et al., 2019; Horan et al., 2016; Mann et al., 2018). Students with high levels of antisocial behavior traits exhibit lower levels of academic motivation, less need for families, community and instructor acceptance, and less responsiveness to punishment, all of which are significant criteria for fostering participation, collaboration and performance in classroom activities (Hwang et al., 2021; Olivier et al., 2020). The following study hypothesis was developed considering the above empirical research:

- H3a.** Social Support mediates the relationship between physical aggression and academic performance.
- H3b.** Social Support mediates the relationship between social aggression and academic performance.
- H3c.** Social Support mediates the relationship between rule breaking and academic performance.

In conclusion, prior studies show that antisocial behaviors can negatively affect academic performance, while social support plays a protective role. Guided by the social learning theory, the cognitive behavioral theory, and the achievement motivation theory, this study proposes a framework where social support mediates the relationship between antisocial behavior and academic outcomes. Figure 1 shows the conceptual framework of the study:

Figure 1
Proposed Conceptual Framework



Method

Research Design

To achieve the objectives of the current study, a positivist research paradigm was combined with quantitative research method (Hair et al., 2017). The population of the study consist of all undergraduate students across a selected public university in Nigeria. The student population is characterized by the following features: gender, socioeconomic status, and diverse race, cultural, and religious backgrounds. The study selected Bayero University, Kano in Nigeria, with 30,126 total students across twelve faculties that offer undergraduate program. Kano State is recognized for its significance as an urban center in Nigeria and West Africa, characterized by predominantly *Hausa Fulani* (tribe) population and its esteemed role as a hub for social change, and political reform (Paden, 2023). This context determined the choice of the research place, and as Bayero University Kano is the only federal university in the state, it was readily apparent.

The researchers conducted a survey utilizing a questionnaire directed at the identified respondents. The questionnaire comprised close-ended questions designed to classify behavioral differences based on their relevance using a five-point scale. A multi-stage sampling method was employed to select the participants. Initially, convenience sampling was utilized to determine the study contexts. The estimated sample size was approximately 379 participants. To ensure optimal results, the researchers distributed the questionnaire according to this sample size. The distribution occurred from May 2024 to July 2024, targeting the identified respondents. Ultimately, 379 students were selected in alignment with the sample size criteria established by Krejcie and Morgan (1970). Of these, 257 completed and returned questionnaires were included in the analysis. Furthermore, the study employed structural equation modeling (SEM) using AMOS 24 to examine the proposed hypotheses, along with Hayes mediation analysis (Hayes, 2009).

The proposed model and structural linkages were validated in the current study using the SEM in AMOS 24 version. According to Hair et al. (2017), SEM is a potent statistical estimate method that can carry out factor analysis and structural relationships at the same time. The measurement model was evaluated using confirmatory factor analysis (CFA), and once the model was accepted, the study measured the structural correlations between the constructs. Additionally, using the SPSS 27 version, exploratory factor analysis (EFA) was performed to evaluate the validity and suitability of the data set for evaluating the suggested model.

Measures

The current research seeks to analyze university students' perceptions of academic performance and to consider its association with antisocial behavior. The study uses two self-report instruments which were all in English and were used in previous studies, the first one is the *subtypes of antisocial behavior questionnaire* (STAB) which was developed by Burt and Donnellan (2009). The instrument measure physical aggression, social aggression, and rule breaking (e.g., 'felt like hitting people' 'broke into a store, mall, or warehouse'). There are a total number of 32 items on 5-point Likert scale ranging from 5 (nearly all the time) to 1 (never). The STAB has a stable factor structure, reliable scales, and initial evidence of construct validity (Burt & Donnellan, 2009). The *multidimensional scale of perceived social support* (MSPSS) is a psychometric tool that assesses an individual's perceived level of social support. It consists of a 12-item survey that measures respondents' perceptions of the adequacy of social support on a 5-point Likert scale from strongly agree to strongly disagree (e.g., 'There is a special person who is around when I am in need' 'My family really tries to help me'). The MSPSS was created in 1988 by Zimet, Dahlem, Zimet, and Farley and the scale demonstrated a good internal, test-retest reliability as well as moderate construct validity and reliable across many cultural backgrounds (Pushkarev et al., 2020). Lastly academic performance was measured based on students' final semester average grade received at the end of the year, which is recorded on a scale from 1 (lowest achievement) to 5 (highest achievement), was used to evaluate the academic performance of the students. Other recent previous studies suggested that GPA alone may

capture the multifaceted nature of student abilities and achievements (Del-Valle et al., 2024; Kouneli et al., 2023).

A pilot study was carried out to determine the reliability of the research instrument. The sample size for the pilot study consisted of 50 students randomly selected and the questionnaire was administered to them. Thus, using SPSS version 27, Cronbach's alpha was utilized to assess the internal consistency of the scales. Cronbach's alpha values were above .60 and within the range of .72 to .88. Table 2 presents a summary of the reliability result.

Common Method Bias

The study examined the sample for possible outliers, missing values, and multicollinearity issues (value of VIF > 1 and < 10 and tolerance level < 1) before proceeding with primary analysis (Hair et al., 2013). The results showed that the data set does not have such a problem. Following that, the current study compared early ($n = 55$), and late ($n = 55$) questionnaires collected to examine the possible issue of non-response bias using the methodology of Rogelberg and Stanton (2007). The study confirmed this bias using a t-test, which led to an insignificant correlation between early and late responses ($p = .05$). These findings demonstrate that non-response bias was not a problem in the present study. Additionally, the current study used three ways to examine if a common method variance (CMV) existed in the study. In accordance with Podsakoff et al. (2003), the study initially employed the suggested formula for Harman's single factor test, a widely used method to confirm such biases. According to this approach, each construct's components should be put into a single EFA factor, and this factor ought not to be responsible for more than 50% of the variation. CMV was not present in this study, as evidenced by the EFA constrained-single-factor results, which only explained 35% of the variance, which is below the Harman's criterion level.

Results

Demographic Description of the Respondents

The study involved 257 participants, most were male ($n = 216$; 84%) and within the age brackets of 21 to 25 years ($n = 105$; 41%).

Table 1

Demographic Characteristics of the Respondents

Category	Frequency	Percentage (%)
Gender		
Male	216	84.1
Female	41	16.2
Total	257	100.0
Age of Respondents		
16–20 years old	89	35.3
21–25 years old	105	41.1
26–30 years old	45	17.0
31 years and above	18	7.0
Total	257	100.0

Descriptive Results

With a total of 257 valid responses, the mean scores across the study ranged from 3.33 to 4.18, while the standard deviations ranged from .40 to .86. Notably, the mean and standard deviation for academic performance (AP) were the highest, followed by social aggression in terms of mean, with the lowest standard deviation observed in the latter. The results indicated that all item values fell within the acceptable

skewness range of +1 to −1, and the kurtosis and univariate normality were within a more lenient range of +3 to −3 (Sekaran & Bougie, 2013). Consequently, the empirical measurements of skewness and kurtosis for all constructs derived from the questionnaires suggest that there are no concerns regarding multivariate non-normality, thereby satisfying the normality assumptions recently recommended for SEM path analysis.

Table 2

Descriptive Statistics of the Latent Variables (n = 257)

Constructs	Items	Cronbach's Alpha	Means	Std deviation	Skewness	Kurtosis
Physical aggression	6	.72	3.33	.67	.02	−.03
Social aggression	6	.82	4.17	.40	−.90	.75
Rule breaking	6	.73	3.12	.41	.04	.07
Social support	8	.88	3.04	.86	−.06	.12
Academic performance	7	.72	4.19	.87	.98	−.85

Measurement of Model

Exploratory factor analysis (EFA), confirmatory factor analysis (CFA), reliability analysis, and average variance extracted (AVE) were used to establish the reliability, convergent, and discriminant validity of the instrument employed in this study to verify its internal consistency and reliability. To determine the scalability and adequacy of the sample for carrying out the additional analysis, the current study ran EFA in SPSS 27.0 utilizing the principal component method for extraction and varimax for rotation. The Kaiser–Meyer–Olkin (KMO) value of the EFA output was .82, indicating that the data set is appropriate for factor analysis. The Bartlett's test of sphericity value was 5052.25 with $p = .00$, indicating that there is a significant rotational linkage among loadings and that it offers an orderly structure. All constructs' factor loading values were higher than .50, meeting Hair et al. (2013) recommended threshold for factor loadings and establishing the scales convergent validity (CV). Four factors were extracted using the Eigen 1 threshold value; these factors account for 75.25% of the overall variation, and all factor loadings showed a significant model, which also established the discriminant validity (DV).

As recommended by Fornell and Larcker (1981) and Hair et al. (2017), CV was determined by CFA using the values of loadings, alpha, composite alpha, and AVE. According to the CFA results, all factor-loading values ranged between .58 and .94, meeting the threshold requirements. Likewise, alpha and composite alpha values were above .70, the values ranged from .88 to .95. Additionally, the AVE values were greater than .50 and ranged between .65 and .82, consistent with the cut-off criterion established by Fornell and Larcker (1981). Furthermore, the correlation values of each construct were compared to the square root AVE values of each construct to determine DV. The square root of AVE for each construct should be greater than the value of each construct association, according to Fornell and Larcker (1981). It shows that each value of the square root of AVE is greater than each correlation value, meeting the DV threshold requirements.

Accordingly, the outcomes show that all measures are valid. AMOS 24 was used to evaluate the measurement model's fitness through CFA. Each construct's components (academic performance, social support, physical aggression, social aggression and rule breaking) were inserted into its corresponding construct, and the constructs were connected in a multidimensional way to validate the models' fitness. The model fitness indices must satisfy the requirements of Hair et al. (2017), and factor loadings for each item must be more than .50. The results of CFA confirmed that the model is acceptable, well-fitting, and met the model fitness index threshold requirements proposed by Hair et al. (2017). Highly recommended to the data is shown by the following findings: χ^2 (CMIN/DF) (331.18/134) = 2.56, $p = .00$, GFI = .90, AGFI = .88,

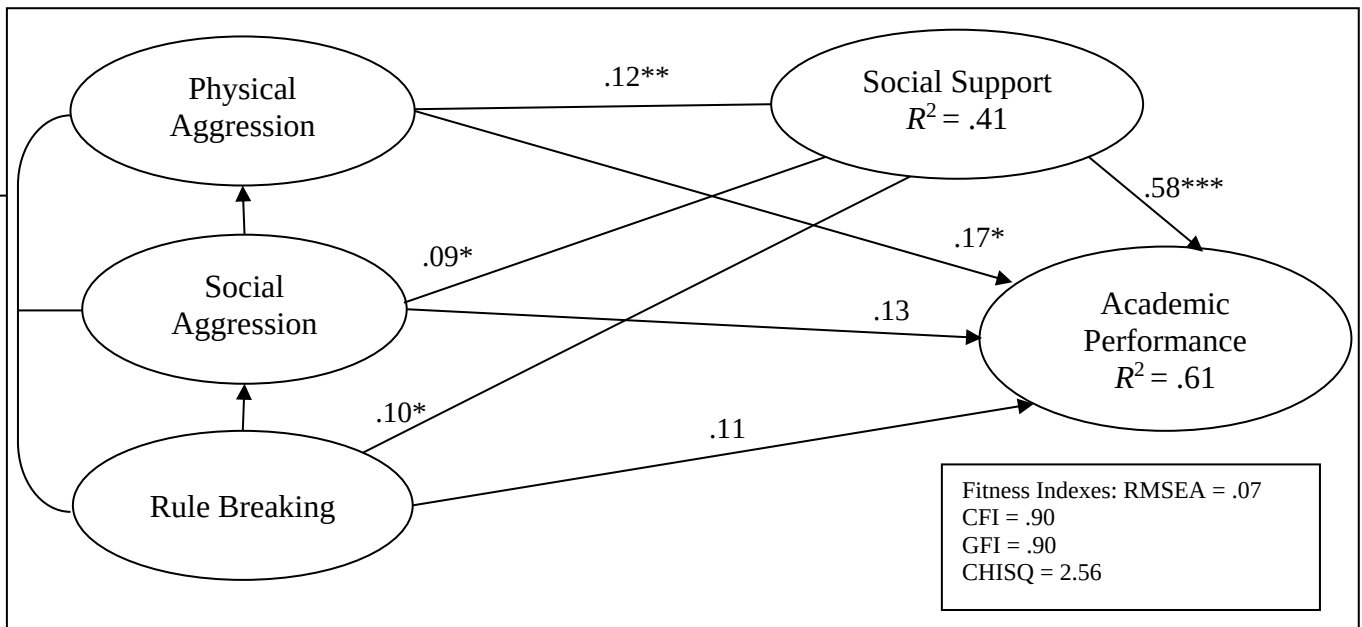
NFI = .91, TLI = .94, CFI = .90, and RMSEA = .07. Thus, the analysis proceeded to the estimation of path coefficients following the model's measurement's acceptance.

The Structural Equation Model Analysis

The present study used the maximum likelihood method to perform path analysis in AMOS to validate the assumptions that were put forth. By using arrows, the study converted the measurement model into the structural model. The results of the structural model, as anticipated, showed that the model fits the data well and met the fitness indices recommended by Hair et al. (2017). The study determined the path for the coefficients of the suggested structural model effect following the measurement model's validation (Figure 2). The outcomes of testing the measurement model reveal that physical aggression (PHY), social aggression (SOC) and rule breaking (RBK) account for 41.2% ($R^2 = .41$) of the variance of academic performance (AP). Additionally, 61.3% ($R^2 = .61$) of the variance of social support (SS) is explained by PHY, SOC and RBK. Thus, the present study robustly explained the phenomenon.

Figure 2

The Structural Equation Model Analysis



Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

The current study employed the maximum likelihood method to conduct path analysis in AMOS, aiming to validate the proposed assumptions. The measurement model was transformed into a structural model using directional arrows. It has been shown that the results of the structural model demonstrated a good fit with the data, meeting the fitness indices established by Hair et al. (2017). The study determined the path for the coefficients of the suggested structural model relationships following the measurement model's validation (Figure 2). The models' direct influences on the constructs demonstrate an inverse relationship between students' antisocial behavior and their academic performance as physical aggression ($\beta = -.17$, $CR = -2.85$, $p = .03$), social aggression ($\beta = .13$, $CR = 1.07$, $p = .20$), and rule breaking ($\beta = -.11$, $CR = 1.00$, $p = .24$) respectively. However, a statistically significant relationship was found between social support and academic performance ($\beta = .58$, $CR = 8.01$, $p = .00$). The current study employed the bias-corrected bootstrapping (1000 times) technique of 95% confidence interval in AMOS version, as described by Hayes (2009), to evaluate the mediation hypotheses. The findings indicate the indirection effect of social support in the relationship between physical aggression, social aggression, rule breaking and academic performance. The indirect relationship between antisocial behavior and academic performance through social support was significant. Additionally, as suggested by Cruz (2007 as cited in Salmerón et al, 2018), the variance inflation factor (VIF) values specifically range from 1.00 to 1.05, which all fall below 10. The

results of the present study demonstrate that VIF is not a problem using all the applicable thresholds of 3.3, 5 and 10.

Table 3

The Results of Direct and Indirect Structural Model

Effects	Paths	Estimate	Standard error	CR	p-values	Decision
Direct	PHY → AP	−.17	.05	−2.85	.03	Supported
	SOC → AP	.13	.04	1.07	.20	Supported
	RBK → AP	.11	.05	1.00	.24	Supported
	SS → AP	.58	.07	8.01	.00	Supported
<i>Bootstrapping</i>						
Indirect	PHY → SS → AP	.12	.02	4.77	.00	Supported
	SOC → SS → AP	.09	.03	2.09	.04	Supported
	RBK → SS → AP	.10	.04	1.97	.04	Supported

Note. * $p = .05$; ** $p = .01$; *** $p = .001$. PHY = physical aggression; SOC = social aggression; RBK = rule breaking; SS = social support; AP = academic performance.

Discussion and Conclusion

Discussion of Main Results

This study aimed to examine the role of social support as a mediator in the relationship between antisocial behaviors and academic performance among undergraduate students, while investigating the effect of antisocial behaviors and academic performance. The findings of the study revealed a significant negative influence between physical aggression and academic performance. In addition, the findings indicate that social aggression and rule breaking shows no significant relation to students' academic performance. However, the findings support the link between social support and academic performance. Additionally, it signifies that social support partially mediates the link between academic performance and antisocial behavior.

The findings of the current study suggested that antisocial behaviors (physical aggression, social aggression and rule breaking) have an insignificant inverse influence with academic performance. An insignificant influence between antisocial behaviors and academic performance among university undergraduates shows that the presence of antisocial behaviors does not have a strong or consistent impact on students' academic outcomes. This means that a student might engage in antisocial acts (e.g., rule-breaking, social or physical aggression) outside the classroom or in their social life but still maintain good academic performance. Therefore, antisocial behavior does not directly interfere with their academic tasks. The findings are in line with previous empirical studies (Allen et al., 2021; Bakar et al., 2023; Halabi et al., 2024; Sunday et al., 2022). Research has established a correlation between high levels of conduct problems and low academic performance. Drawing on social learning and cognitive theory, the purpose of this paper was to empirically test the influence of antisocial behavior on academic performance in the study context. Furthermore, existing literature consistently demonstrates a strong association between antisocial behavior and poor academic outcomes, regardless of the statistical methods and procedures employed to measure achievement (Bird et al., 2019; Mann et al., 2018).

The findings, however, confirmed a significant positive influence between social support and academic performance. Based on the findings, it can be established that the academic performance of undergraduate students has a positive relationship with the socially supportive attitudes of their parents, friends and significant others. In comparison to students whose parents showed no interest, students from communities where parents and friends were more supportive of their education do better academically. One of the most powerful and enduring factors influencing student's interest and, in turn, their attitudes toward doing better in school is their home environment and parents' views toward education and school-related activities. The findings are consistent with previous studies (Boonk et al., 2022; Lee & Paliliunas 2024; Martínez et al., 2024; Shaheb et al., 2023; Suud et al., 2024; Wang et al., 2024; Xu, 2024). The

findings of these studies confirmed and support the current study finding that there is significant positive relationship between social support and academic performance. The finding is also in line with other studies that described parental support as the sense that the family values and supports the student's attempts to do well in university (Amalia & Latifah, 2019). This shows that students' basic needs for acceptance, belonging, and love are met by social support.

Given that social support has a significant effect on academic performance, the research findings also confirmed that social support partially mediates the relationship between antisocial behavior and academic performance. This finding established that when students exhibiting antisocial behavior have access to strong social support, especially from teachers and peers, the negative impact on their academic performance is significantly reduced. Additionally, the positive peer relationships help students feel accepted, reducing the need to assert themselves through aggression or rule-breaking. Supportive relationships with teachers promote a sense of belonging and academic motivation, even among students prone to behavioral issues. Moreover, emotional and instrumental support from parents or guardians (e.g., help with homework, monitoring behavior) helps reduce the likelihood of antisocial behavior escalating to academic disengagement (Booth & Shaw, 2023; Martínez et al., 2024).

Implications for Behavioral Science

This study has several implications. This study develops to test a causal model explaining the role of antisocial behavior and social support on academic performance of undergraduate students. Academics are keenly interested in exploring different ways by which antisocial behavior and social support can affect students' academic performance. The current research offers a framework on how antisocial behavior (physical aggression, social aggression, rule breaking) and jointly influence academic performance through social support mechanisms. The first is that antisocial behavior leads to low student performance. Students should be encouraged to take into consideration the effects of their actions. By promoting emotional regulation and good behaviors, they are likely to be viewed favorably by their peers and will make them more likeable to friends who share their optimistic viewpoints and actions. The study contributes to academic performance literature by demonstrating how antisocial behavior differs from academic performance. Secondly, as a methodological contribution, this study deals with two second order constructs with one first order constructs. This study addresses and clarifies academic performance and social support as second order constructs. Thirdly, this paper explores the constructs from their respective theoretical perspectives. Fourthly, this study has applied multigroup analysis and found the mediation effects of social support. The study introduces and examines how social support mediates the outcomes of antisocial behavior and academic performance of students. The interaction effects show the significance of such paths which contribute to the knowledge body.

Suggestions for Future Research

The current study has some limitations, presenting several potentials for further research. This study had a sample size restriction. The sample for this study is confined to Nigerian public university students. Even though academic performance is a crucial study construct, there are extremely important dependent variables dimension that can be employed. However, other forms of antisocial behavior may be included as well as demographic elements, including race and educational background as a moderating or mediating variable in other studies. The findings establish a foundation for further research that should examine various universities and investigate how the different forms of antisocial behavior can be addressed through social support initiatives, thereby enhancing teaching and learning outcomes. Finally, as data were only gathered from one Nigerian public university, the findings may not be generalizable to other universities. Therefore, further studies may be conducted to replicate and broaden this study to include other private universities in Nigeria.

Conclusion

The findings of this study indicate that there is no statistically significant relationship between antisocial behavior and the academic performance of university students. However, the results suggest that

social support plays a significant role in enhancing students' academic performance. A higher prevalence of antisocial behavior is associated with lower academic achievement, whereas a lower prevalence is linked to higher academic success. Furthermore, the study illustrates that social support significantly influences academic performance and mediates the relationship between academic performance and antisocial behavior. This suggests that social support not only helps to diminish antisocial behavior among students but also contributes positively to their academic outcomes. Therefore, it is recommended that university administration provide awareness to students on the benefits of engaging in prosocial behavior and clearly outline the consequences of antisocial behavior. Additionally, to mitigate issues related to antisocial behavior, it is advisable for the university and student unions to organize events, seminars and workshops that promote student interaction.

Declarations

Conflicts of Interest: The authors declare no conflicts of interest.

Ethical Approval Statement: Ethical approval was obtained from the ethics committee of Sultan Hassanali Bolkiah Institute of Education, Universiti Brunei Darussalam with reference number (300/SHBIE/UBD/10) on the 13th of March 2024. And Bayero University Kano, Nigeria with reference number (BUK/DRIP/REF/076) on 26th of April 2024. This approval ensures strong assurance that informed consent, voluntary participation, anonymity, and confidentiality were upheld.

References

- Allen, J. L., Shou, Y., Wang, M. C., & Bird, E. (2021). Assessing the measurement invariance of the Inventory of Callous-Unemotional traits in school students in China and the United Kingdom. *Child Psychiatry and Human Development*, 52, 343–354. <https://doi.org/10.1007/s10578-020-01018-0>
- Amalia, R., & Latifah, M. (2019). Parental support, academic emotion, learning strategy, and academic achievement on first-year student. *Journal of Family Sciences*, 4(1), 41–53. <https://doi.org/10.29244/jfs.4.1.41-53>
- Aslan, S., & Yukay-Yuksel, M. (2018). An investigation of the relationship between social behaviour characteristics and self-perceptions of gifted children in primary school. *Journal for the Education of Gifted Young Scientists*, 6(1), 17–42. <https://scispace.com/pdf/an-investigation-of-the-relationship-between-social-behavior-3rcdiqah32.pdf>
- Bakar, N. A., Yusop, H., Ali, N. M., & Bakar, N. F. A. (2023). Determinants of students' academic performance in higher learning institutions in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 13(2), 1496–1508. <http://dx.doi.org/10.6007/IJARBS/v13-i2/16250>
- Bandura, A., & Walters, R. H. (1977). *Social learning theory* (Vol. 1, pp. 141–154). Prentice Hall.
- Bird, E., Chhoa, C. Y., Midouhas, E., & Allen, J. L. (2019). Callous unemotional traits and academic performance in secondary school students: Examining the moderating effect of gender. *Journal of Abnormal Child Psychology*, 47, 1639–1650. <https://doi.org/10.1007/s10802-019-00545-2>
- Boonk, L. M., Gijssels, H. J., Ritzen, H., & Brand-Gruwel, S. (2022). Student-perceived parental involvement as a predictor for academic motivation in vocational education and training (VET). *Journal of Vocational Education & Training*, 74(2), 187–209. <https://doi.org/10.1080/13636820.2020.1745260>
- Booth, J. M., & Shaw, D. S. (2023). Examining parental monitoring, neighborhood peer antisocial behavior, and neighborhood social cohesion and control as a pathway to adolescent substance use. *Journal of Child and Family Studies*, 32(2), 626–639. <https://doi.org/10.1007/s10826-022-02514-8>
- Burt, S. A., & Donnellan, M. B. (2009). Development and validation of the subtypes of antisocial behavior questionnaire. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 35(5), 376–398. <https://doi.org/10.1002/ab.20314>
- Cheng, W., Ickes, W., & Verhofstadt, L. (2012). How is social support related to students' GPA scores? A longitudinal study. *Higher Education*, 64, 399–420. <http://doi.org/10.1007/s10734-011-9501-4>

- Del-Valle, M. V., Canet-Juric, L., Zamora, E. V., Andrés, M. L., & Urquijo, S. (2024). Executive functions and their relation to academic performance in university students. *Psicología Educativa. Revista de los Psicólogos de la Educación*, 30(1), 47–55. <https://doi.org/10.5093/psed2024a2>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Hair, F., Hult, G. T. M., Ringle, C. M., Sarstedt, M. & Thiele, K. O. (2017). Mirror, mirror on the wall: A comparative evaluation of composite-based structural equation modelling methods. *Journal of the Academy of Marketing Science*, 45(5), 616–632. <https://doi.org/10.1007/s11747-017-0517-x>
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Planning*, 46(1–2), 1–12. <https://doi.org/10.1016/j.lrp.2013.01.001>
- Halabi, K. A., Shahrill, M., Roslan, R., & Adnan, M. (2024). The influence of impulsivity and antisocial behavior on academic performance of university undergraduate students in Nigeria. *Jurnal Al-Sirat*, 24(1), 201–211. <https://ejournal.unipsas.edu.my/index.php/alsirat/article/view/338>
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication monographs*, 76(4), 408–420. <https://doi.org/10.1080/03637750903310360>
- Horan, J. M., Brown, J. L., Jones, S. M., & Aber, J. L. (2016). The influence of conduct problems and callous-unemotional traits on academic development among youth. *Journal of Youth and Adolescence*, 45(6), 1245–1260. <https://doi.org/10.1007/s10964-015-0349-2>
- Hwang, S., Allen, J. L., Kokosi, T., & Bird, E. (2021). To what extent does punishment insensitivity explain the relationship between callous-unemotional traits and academic performance in secondary school students? *British Journal of Educational Psychology*, 91(3), 811–826. <https://doi.org/10.1111/bjep.12394>
- Khan, I. A., Zeb, A., Ahmad, S., & Ullah, R. (2019). Relationship between university student’s time management skills and their academic performance. *Review of Economics and Development Studies*, 5(4), 853–858. <https://reads.spcrd.org/index.php/reads/article/view/173>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
- Lee, B., & Paliliunas, D. (2024). Exploring the relationship between social support, academic performance, and measures of well-being of LGBTQIA2S+ College students at a midwestern university. *Behavior and Social Issues*, 33, 787–813. <https://doi.org/10.1007/s42822-024-00176-3>
- Mann, F., L. Paul, S., Tackett, J., Tucker-Drob, E., & Harden, K. (2018). Personality risk for antisocial behavior: Testing the intersections between callous–unemotional traits, sensation seeking, and impulse control in adolescence. *Development and Psychopathology*, 30(1), 267–282. <https://doi.org/10.1017/S095457941700061X>
- Martínez, B. M. T., del Carmen Pérez-Fuentes, M., & Jurado, M. D. M. M. (2024). The influence of perceived social support on academic engagement among adolescents: the mediating role of self-efficacy. *Anales de Psicología/Annals of Psychology*, 40(3), 409–420. <https://doi.org/10.6018/analesps.587991>
- Marzilli, E., Cerniglia, L., & Cimino, S. (2021). Antisocial personality problems in emerging adulthood: The role of family functioning, impulsivity, and empathy. *Brain Sciences*, 11(6), 687. <https://doi.org/10.3390/brainsci11060687>
- Mata-Codesal, D. (2020). Antisocial behavior in the square. Differentiation mechanisms among non-native groups in a peripheral neighborhood of Barcelona. *Ethnic and Racial Studies*, 43(4), 768–786. <https://doi.org/10.1080/01419870.2019.1599131>
- McClelland, D. C., Atkinson, J. W., Clark, R. A., & Lowell, E. L. (1953). *The achievement motive*. Appleton-Century-Crofts.
- Olivier, E., Morin, A. J., Langlois, J., Tardif-Grenier, K., & Archambault, I. (2020). Internalizing and externalizing behavior problems and student engagement in elementary and secondary school

- students. *Journal of Youth and Adolescence*, 49, 2327–2346. <https://doi.org/10.1007/s10964-020-01295-x>
- Otto, C., Kaman, A., Erhart, M., Barkmann, C., Klasen, F., Schlack, R., & Ravens-Sieberer, U. (2021). Risk and resource factors of antisocial behavior in children and adolescents: Results of the longitudinal BELLA study. *Child and Adolescent Psychiatry and Mental Health*, 15, 61. <https://doi.org/10.1186/s13034-021-00412-3>
- Paden, J. N. (2023). *Religion and political culture in Kano*. University of California Press.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Pushkarev, G. S., Zimet, G. D., Kuznetsov, V. A., & Yaroslavskaya, E. I. (2020). The multidimensional scale of perceived social support (MSPSS): Reliability and validity of Russian version. *Clinical Gerontologist*, 43(3), 331–339. <https://doi.org/10.1080/07317115.2018.1558325>
- Rashid, A., Sharif, I., Khan, S., & Malik, F. (2020). Relationship between time management behavior and academic performance of university students. *Journal of Business and Social Review in Emerging Economies*, 6(4), 1497–1504. <https://doi.org/10.26710/jbsee.v6i4.1481>
- Rogelberg, S. G., & Stanton, J. M. (2007). Introduction: Understanding and dealing with organizational survey nonresponse. *Organizational Research Methods*, 10(2), 195–209. <https://doi.org/10.1177/1094428106294693>
- Salmerón, R., García, C. B., & García, J. (2018). Variance inflation factor and condition number in multiple linear regression. *Journal of Statistical Computation and Simulation*, 88(12), 2365–2384. <https://doi.org/10.1080/00949655.2018.1463376>
- Sekaran, U., & Bougie, R. (2013). *Research methods for business: A skill building approach* (6th ed.). John Wiley & Sons.
- Shaheb, E., Dehghanpouri, H., & Mokaberian, M. (2023). The effect of perceived social support on students' academic motivation with the mediating role of emotional intelligence. *International Journal of Motor Control and Learning*, 5(1), 36–44. <https://doi.org/10.52547/ijmcl.5.1.36>
- Sivrikaya, A. H. (2019). The relationship between academic motivation and academic achievement of the students. *Asian Journal of Education and Training*, 5(2), 309–315. <https://doi.org/10.20448/journal.522.2019.52.309.315>
- Sunday, M. O., Ogbeche, M. M., & Adie, R. U. (2022). Classroom management strategies and disruptive behavior among pupils in Calabar Municipal, Cross River State, Nigeria. *Global Journal of Educational Research*, 21(1), 77–85. <https://dx.doi.org/10.4314/gjedr.v21i1.10>
- Suud, F. M., Agilkaya-Sahin, Z., Na'Imah, T., Azhar, M., & Kibtiyah, M. (2024). The impact of family social support on academic resilience in Indonesian and Turkish students: the mediating role of self-regulated learning. *International Journal of Adolescence and Youth*, 29(1), 2361725. <https://doi.org/10.1080/02673843.2024.2361725>
- Wang, Y., Wang, L., Yang, L., & Wang, W. (2024). Influence of perceived social support and academic self-efficacy on teacher-student relationships and learning engagement for enhanced didactical outcomes. *Scientific Reports*, 14, 28396. <https://doi.org/10.1038/s41598-024-78402-6>
- Xu, B. (2024). Mediating role of academic self-efficacy and academic emotions in the relationship between teacher support and academic achievement. *Scientific Reports*, 14, 24705. <https://doi.org/10.1038/s41598-024-75768-5>
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional scale of perceived social support. *Journal of Personality Assessment*, 52(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2