Modelling the social and institutional factors influencing hooliganism among higher education students: The roles of peer influence, substance abuse, institutional control, and group rivalry

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ABSTRACT

This study models the factors that drive students' hooliganism on university campuses, focusing on perceived peer influence, substance abuse, institutional control, and group rivalry. Grounded in Social Learning Theory, this study employed a cross-sectional correlational survey design, with data collected from 500 university students selected through stratified sampling. The hypothesised relationships were subsequently tested using Partial Least Squares Structural Equation Modelling (PLS-SEM). The proposed model accounted for 46.2% of the variance in students' hooliganism. Perceived substance abuse emerged as the strongest predictor overall (importance = 0.454), whereas perceived peer influence recorded the highest performance score (54.705). Peer influence was a significant driver of both substance abuse and group rivalry, and substance abuse in turn significantly predicted group rivalry and hooliganism. Group rivalry and institutional control were also significant predictors of hooliganism, but peer influence showed no direct effect on hooliganism once these pathways were accounted for. Taken together, the results point to a web of interconnected risk factors and suggest that campuses would benefit from peer-focused programmes, substance-abuse prevention, conflict-management initiatives, and firmer institutional oversight. The study concludes that group rivalry, substance abuse, and institutional control significantly shape students' hooliganism and recommends that university authorities strengthen mediation processes to resolve inter-group rivalry, enhance substance-use prevention and positive peer engagement, and improve institutional early-warning and disciplinary mechanisms to reduce hooliganism in African universities.

Keywords: Institutional Hooliganism Control, Online hooliganism, PLS-SEM, Students' Abusive Behaviours, Substance Abuse, Students' Group Rivalry, University Campuses

I. INTRODUCTION

Student hooliganism and other forms of aggressive conduct have emerged as important concerns within higher-education research and institutional governance, given their potential to undermine campus safety, student well-being, social order, and the core teaching and learning functions of universities (Barbosa et al., 2024; Guo et al., 2024; Sibanyoni & Mbhele, 2022). Recent scholarship increasingly conceptualises aggression within university settings as a complex behavioural and social phenomenon shaped by interacting individual, interpersonal, peer, and institutional conditions, rather than as a consequence of isolated student misconduct (Barbosa et al., 2024; Guo et al., 2024).

In view of the above, higher-education institutions within the sub-Saharan African fundamentally are expected to provide safe and orderly environments where students can learn and interact without fear; however, aggression, interpersonal violence, substance-related misconduct, and other disruptive behaviours continue to pose challenges to student safety, academic engagement, and institutional order (Belihu et al., 2025; Amabile et al., 2025). Rather than

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treating hooliganism as an isolated behavioural lapse, it is more accurately understood as a multidimensional problem that emerges from the interplay of individual, peer, group, and institutional conditions within the higher education institution in most developing countries (Amabile et al., 2025). Recent evidence indicates that peer environments can influence students' engagement in risky behaviours, including problematic alcohol and drug use (Hofer et al., 2024), while substance use has also been associated with violence and other harmful behaviours among university students (Belihu et al., 2025; Leone et al., 2024). In the Ghanaian tertiary education context, for example, psychoactive substance use among students has been linked to several behavioural and psychosocial factors, further demonstrating the need to examine student misconduct within its broader social and institutional environment (Adongo et al., 2024). This view is consistent with recent work on student aggression and social influence, which situates students' conduct within the social relationships and institutional settings they inhabit (Stahel et al., 2025; Pusch, 2024).

Several intersecting forces appear to shape hooliganistic conduct on campuses: peer influence, substance abuse, group rivalry, and institutional control. Peer influence matters because students are embedded in networks through which norms, attitudes, and habits are formed and reinforced. Social Learning Theory offers a useful lens here, proposing that people pick up behaviours by watching others, imitating them, interacting with them, and being reinforced within their social surroundings (Bandura, 1977, 1986). Evidence from Ghana and Nigeria links peer influence to aggressive and deviant conduct as well as to substance use among university students (Pusch, 2024; Lasong et al., 2024; Ekekezie et al., 2024), and substance abuse itself appears to heighten vulnerability to risky and aggressive behaviour, making it a central piece of the hooliganism puzzle (Paul et al., 2024; van der Wath et al., 2024). Group rivalry contributes a further dimension: Social Identity Theory suggests that strong attachment to a student group sharpens the line between "us" and "them," fuelling competition when a group's status or interests seem under threat (Tajfel & Turner, 1979), and recent studies confirm that such rivalry and perceived threat can escalate into intergroup hostility (Belavadi & Hogg, 2024; van Zomeren et al., 2024). Finally, institutional control matters because clear rules, active monitoring, and consistently applied discipline tend to hold misconduct in check, while lax or erratic enforcement can open the door to disorder. Considering these four factors together, rather than in isolation, offers a fuller account of student hooliganism.

The theoretical grounding for this study therefore draws on more than one framework. Social Learning Theory explains how peer interaction and observation shape and sustain behaviour (Bandura, 1977, 1986), while Social Identity Theory explains how group identification, comparison, and competition breed rivalry between student factions (Tajfel & Turner, 1979). A social-control perspective supplements both by highlighting how institutional rules, surveillance, and sanctions can constrain conduct. Combining these lenses makes sense because hooliganism is unlikely to stem from any single cause: peer influence may seed substance use and group tension, group rivalry may sharpen confrontation, substance abuse may erode self-control, and institutional control may set the backdrop against which all of this plays out. This integrative stance echoes recent aggression research showing that peer dynamics, social identity, environment, and behavioural conditions jointly shape aggressive outcomes (Pusch, 2024; van Zomeren et al., 2024).

Even so, the literature on student substance use, peer influence, aggression, and intergroup conflict has largely treated these strands separately, and empirical models that weave them together are scarce, particularly in sub-Saharan African settings. Ghanaian research, for instance, has looked closely at tramadol use among students, while other work has examined peer influence or aggression on their own (Lasong et al., 2024; Ekekezie et al., 2024). Useful as these studies are, none fully captures how peer influence, substance abuse, group rivalry, and institutional control combine to produce hooliganistic behaviour. This gap matters because the pathways linking these variables are unlikely to be purely direct. Peer influence may feed into substance abuse and group rivalry, which could then raise the odds of hooliganism, a chain consistent with Social Learning Theory's account of behaviour transmission through peer interaction, and with Social Identity Theory's account of how group identification sharpens intergroup hostility. Contemporary research on deviant peer effects lends further support to the idea that peer influence works through broader social and emotional channels rather than acting alone (Pusch, 2024; Chen et al., 2026).

Accordingly, this study is motivated by the limited empirical understanding of how perceived peer influence, perceived substance abuse, perceived institutional control, and perceived group rivalry jointly account for perceived hooliganism among university students. Despite universities' continued reliance on disciplinary codes, security measures, counselling, and behavioural programmes, disruptive conduct persists, underscoring the need for a clearer, more integrated picture of how social, behavioural, group, and institutional factors interact, one that can inform sharper, evidence-based prevention efforts. Building on this rationale, the study sets out to model the determinants of students' hooliganism by examining the combined roles of perceived peer influence, substance abuse, institutional control, and group rivalry, with the aim of showing how students' social networks, substance-related conduct, group ties, and institutional environment together shape hooliganistic behaviour.

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1.1 Research Questions

i. What are the determinants of perceived students' hooliganism on university campuses?
ii. What is the relationship between perceived peer influence and perceived students' hooliganism on university campuses?
iii. What is the relationship between perceived institutional control and perceived students' hooliganism on university campuses?
iv. What variance in students' hooliganism on university campuses is explained by the hypothesised model?

II. LITERATURE REVIEW

2.1 Theoretical Review

This study rests on Social Learning Theory, which explains how people acquire and sustain behaviour through observation, interaction, and reinforcement in their social surroundings (Bandura, 1977, 1986). At its core, the theory holds that behaviour develops through a two-way relationship between individuals, their conduct, and their environment: people learn by watching those around them, especially those in their immediate circle, and tend to repeat what they observe once it appears acceptable, rewarding, or socially endorsed. Campus life gives students ample opportunity for this kind of transmission, as they mix constantly with peers and move between different social groups where behavioural patterns, attitudes, and norms circulate freely. Viewed this way, hooliganistic conduct may partly reflect behaviours students have picked up and had reinforced within their peer circles.

2.2 Empirical Review

Having laid out the theoretical grounding, this section provide empirical review by first defining the constructs that make up the study's structural model. In so doing the study draws on the Social Learning Theory, which holds that behaviour is shaped by observation, social interaction, modelling, and reinforcement (Bandura, 1977, 1986). It goes further to translate these theoretical ideas into measurable constructs capturing the social, behavioural, and institutional forces linked to campus hooliganism.

2.2.1 Relationship among Perceived Peer Influences, Perceived Substance Abuse and Perceived Group Rivalry

Perceived Peer Influence (PPI) captures how far students' attitudes, choices, and behaviour are moulded by their peers, especially within friendship circles and social groups. Peer pressure can take the form of encouragement, conformity, imitation, or a straightforward wish to fit in and preserve social ties (Watts et al., 2024; Adjei et al., 2025). It carries particular weight among university students, who navigate varied social settings where group norms and expectations bear heavily on individual choices. Evidence indicates that peer influence meaningfully shapes substance-use behaviour, with students calibrating their own conduct to what they perceive among peers (Watts et al., 2024; Ebrahim et al., 2024), and Ghanaian research similarly points to peer influence as a key driver of substance-use initiation among students (Appati et al., 2025).

Perceived substance abuse, by contrast, refers to students' sense of how common, acceptable, and consequential substance use is among peers or within their broader social environment. Such perceptions are shaped by exposure to substance-using peers, conversations within friendship networks, and how normalised substance use has become within those networks. Research shows that perceived substance-use norms track closely with students' own substance-use behaviour, suggesting peers' conduct is read as a cue for what is socially acceptable (Zhang et al., 2022; Duckworth et al., 2025). Longitudinal evidence likewise confirms that peer influence drives change in substance-use behaviour over time (Watts et al., 2024), a pattern echoed in Ghana, where peer influence has been flagged as central to substance-use initiation among young people (Appati et al., 2025).

Perceived Group Rivalry (PGR) reflects students' sense of competition, tension, hostility, or conflict between different groups on campus, arising from differences in social identity, affiliation, interests, or contests over recognition and influence. Evidence shows that group identity sharpens competitive behaviour among university students, with more pronounced rivalry surfacing when students engage with outsiders from another university or group (Konstantinidis et al., 2022). Research on intergroup conflict adds that competition between groups can spark aggression, particularly where group identities and perceived threats loom large (Klonek et al., 2023; Muñoz-Reyes et al., 2023). The link between peer pressure, perceived substance abuse, and group rivalry therefore matters: students' attitudes and conduct are shaped by the groups they belong to and the norms those groups uphold, with peer influence reinforcing group expectations and perceived rivalry feeding hostility and confrontation (Klonek et al., 2023; Snijder et al., 2024). Based on the above discussions, we hypothesised that:

- H1: There is a statistically significant relationship between perceived peer influences and perceived substance abuse among university students.

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- H2: There is a statistically significant relationship between perceived peer influences and perceived group rivalry among university students.
- H3: There is a statistically significant relationship between perceived substance abuse and perceived group rivalry among university students.

2.2.2 Relationship among Perceived Group Rivalry, Perceived Peer Influence and Perceived Students' Hooliganism

Perceived Group Rivalry among university students captures perceptions of competition, tension, hostility, or conflict between different social groups on campus, rooted in differences of social identity, affiliation, interest, belief, or contests for recognition (Konstantinidis et al., 2022; Klonek et al., 2023). This kind of rivalry tends to intensify where group identities are firmly entrenched and where intergroup contact is marked by competition or antagonism; group identity has been shown to heighten competitive behaviour among students, and intergroup competition can create the conditions for aggression between groups (Konstantinidis et al., 2022; Klonek et al., 2023).

Perceived Peer Influence, in turn, refers to students' sense of how far peers shape their attitudes, choices, and conduct within friendship and social networks, through encouragement, conformity, imitation, social expectation, or the wish to belong (Watts et al., 2024; Adjei et al., 2025). University life exposes students to a wide array of peer networks capable of shaping how they see the world and how they act. Peer behaviour has been shown to influence students' subsequent engagement in risky or self-damaging conduct during the transition to university (Hofer et al., 2024), and Ghanaian evidence again points to peer influence as a driver of substance-related behaviour among young people (Appati et al., 2025).

Perceived Students' Hooliganism (PSH) describes students' perceptions of aggressive, disruptive, disorderly, or violent conduct within the university setting, intimidation, physical confrontation, verbal aggression, and other acts that unsettle academic and social life. Aggression among college and university students has been shown to surface within peer relationships and to track students' social experiences (Christodoulou et al., 2024; Xing & Kuo, 2024). The three-way relationship among group rivalry, peer influence, and hooliganism matters because students' behavioural tendencies are shaped both by the groups they belong to and by the peers who influence them: rivalry can set the stage for confrontation, while peer influence can reinforce behaviours that a given group accepts or even encourages (Klonek et al., 2023; Xing & Kuo, 2024). Research on intergroup aggression further suggests that conflict between groups often manifests as hostility directed at perceived outsiders, making group identity and intergroup relations relevant to understanding hooliganism (Muñoz-Reyes et al., 2023). In view of the afore discussions, we hypothesised that:

- H4: There is a statistically significant relationship between perceived group rivalry and perceived peer influence among university students.
- H5: There is a statistically significant relationship between perceived group rivalry and perceived students' hooliganism among university students.
- H6: There is a statistically significant relationship between perceived peer influence and perceived students' hooliganism among university students.

2.2.3 Relationship among Perceived Institutional Control and Perceived Students' Hooliganism

Perceived Institutional Control (PIC) captures students' perceptions of the extent to which higher education institutions formulate, monitor, and consistently enforce administrative rules and disciplinary policies governing campus conduct. In higher education environments, effective institutional control serves as a foundational pillar for campus governance by establishing clear behavioral standards, enhancing individual accountability, and providing formal apparatuses to manage and mitigate student misconduct (Garcés & Ramos, 2021; UNESCO, 2021). Grounded in Deterrence Theory (Gibbs, 1975) and Social Control Theory (Hirschi, 1969), institutional authority operates through both normative mechanisms, internalizing acceptable campus norms, and coercive mechanisms, signaling that transgressions carry predictable, proportional sanctions. Empirical studies across global university contexts demonstrate that visible administrative commitment, proactive security protocols, and transparent disciplinary procedures significantly reduce campus violence and disruptive behavior (Barbosa et al., 2024; Welsh et al., 2021).

Conversely, Perceived Students' Hooliganism (PSH) reflects student perceptions regarding aggressive, disruptive, disorderly, or violent conduct perpetrated by peers within campus environments. When students perceive institutional control to be robust and fair, the anticipated costs of engaging in hooliganism increase, thereby deterring disruptive behaviors and reinforcing a safe academic climate (Byrne et al., 2023; Maphosa & Shumba, 2010). On the other hand, systemic weaknesses in institutional control,such as selective rule enforcement, administrative leniency, or inadequate surveillance, create a governance vacuum. Under such conditions, an impression of impunity takes root, signaling to students that misconduct goes unchecked, which ultimately fosters an environment conducive to student

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hooliganism and institutional instability (Adeyemi & Nwosu, 2020; Barbosa et al., 2024; Mgijima, 2014). The above discussions underlies the following hypothesis:

- H7: There is a statistically significant relationship between perceived institutional control and perceived students' hooliganism among university students.

III. METHODOLOGY

3.1 Research Design

The study adopted a quantitative, correlational cross-sectional survey design to examine the relationships among perceived peer influence, perceived substance abuse, perceived institutional control, perceived group rivalry, and perceived students' hooliganism. The correlational design was appropriate because the study sought to establish the relationships among the variables without manipulating them experimentally. Structural Equation Modelling using Partial Least Squares (PLS-SEM) was employed to empirically test the hypothesised relationships.

3.2 Study Area

The study was conducted at the participating university in Ghana. The university provided an appropriate setting for examining students' hooliganism because of its diverse student population and the presence of different student groups and institutional structures relevant to peer interactions, substance use, group rivalry, and institutional control.

3.3 Target Population

The target population comprised university students enrolled across the various academic programmes and levels of study. The population was considered appropriate because the study focused on students' perceptions of peer influence, substance abuse, institutional control, group rivalry, and hooliganism within the university environment.

3.4 Sampling and Sample Size

The study used stratified random sampling to select 500 students from the university. Students were proportionately distributed across academic levels to ensure that the sample adequately reflected the composition of the student population. A total of 500 completed questionnaires were obtained and considered usable for analysis. The adequacy of the sample size was assessed against established methodological benchmarks. Green's (1991) guideline, $n > 50 + 8m$, where m represents the number of predictors, requires a minimum of 82 respondents for a model with four predictors. The sample of 500 therefore substantially exceeded this minimum. In addition, Kline (2015) recommends a minimum of 200 cases for reasonably complex structural equation models, while Hair et al. (2016) indicate that PLS-SEM can perform effectively with relatively modest samples when the structural model is appropriately specified. The sample of 500 was therefore considered adequate for assessing both the measurement and structural models.

3.5 Data Collection Instruments and Procedures

Data were collected using a structured questionnaire comprising two sections. The first section obtained demographic information, including gender, programme of study, and level of study. The second section contained 34 measurement items covering five constructs. All items were measured using a five-point Likert-type scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The instrument comprised eight items measuring Perceived Peer Influence (PI), adapted from previous studies on peer influence and risk behaviour; eight items measuring Perceived Substance Abuse (SA), informed by research linking substance use to campus violence (Reed et al., 2009); six items measuring Perceived Institutional Control (IC), informed by research on institutional responses to misconduct; six items measuring Perceived Group Rivalry (GR), covering group conflict and rivalry; and six items measuring Perceived Students' Hooliganism (SH), adapted from literature on campus disorder (Mbhele & Sibanyoni, 2022). Before the main data collection, the questionnaire was piloted with university students who were not included in the final sample. The pilot exercise assessed the clarity, relevance, wording, and contextual appropriateness of the items. Necessary revisions were subsequently made before the final administration of the questionnaire.

3.6 Data Analysis

The completed questionnaires were screened, coded, and initially processed using SPSS version 26. The dataset was subsequently exported to CSV format and imported into SmartPLS version 4.0 for analysis. PLS-SEM was used to assess the reliability and validity of the measurement model and to test the hypothesised relationships among perceived peer influence, perceived substance abuse, perceived institutional control, perceived group rivalry, and perceived students' hooliganism. The analysis involved the assessment of the measurement model and structural model. The measurement model was evaluated to establish the reliability and validity of the constructs, while the structural model was assessed to determine the direction, strength, and statistical significance of the hypothesised relationships.

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3.7 Ethical Considerations

Ethical clearance was obtained from the Institutional Review Board of the participating university in February 2025 before the commencement of data collection. Participants were informed about the purpose of the study and participated voluntarily. They were assured that their responses would remain private, anonymous, and confidential and that the information provided would be used solely for academic and research purposes.

IV. FINDINGS & DISCUSSION

4.1 Respondents' Profile

Table 1 summarises the demographic make-up of the 500 respondents. Gender distribution was close to even, with 251 males (50.2%) and 249 females (49.8%). By academic level, Year 200 students formed the largest group (30.0%), ahead of Year 100 (28.0%) and Year 300 (17.8%); Levels 800 and 850 accounted for 13.2% and 3.0% respectively, while Levels 400 and 900 made up 6.0% and 2.0%. In terms of educational level, Bachelor's and undergraduate students dominated the sample (88.8%), with Master's students at 10.2% and doctoral students at 1.0%.

Table 1

Respondents' Bio Profile

Variable	Category	Freq.	%
Gender	Male	251	50.2
	Female	249	49.8
Academic Level	Year 100	140	28.0
	Year 200	150	30.0
	Year 300	89	17.8
	Year 400	30	6.0
	Level 800	66	13.2
	Level 850	15	3.0
	Level 900	10	2.0
Educational Level	Doctoral (PhD)	5	1.0
	Master's (MPhil/MSc)	51	10.2
	Bachelor's & Undergraduate	444	88.8

4.2 Results of the Model Evaluation

Following the two-stage approach recommended by Hair et al. (2017), the outer (measurement) model was evaluated first, followed by the inner (structural) model. The measurement-model stage checked the reliability and validity of the study constructs, indicator reliability, internal consistency, convergent validity, and discriminant validity, for the constructs capturing hooliganism and its hypothesised determinants.

4.3 Multicollinearity

Following Hair et al.'s (2017) recommendation to inspect Variance Inflation Factor (VIF) values for multicollinearity, a diagnostic check was run to establish whether the predictor constructs were too highly correlated with one another. As Table 2 shows, VIF values ranged from 1.000 to 1.779, comfortably under the conventional threshold of 3.3. This indicates that perceived group rivalry, perceived institutional control, perceived peer influence, and perceived substance abuse are sufficiently independent of one another, so multicollinearity does not compromise the model's ability to explain students' hooliganism.

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Table 2

Multicollinearity

Variable	Perceived Group Rivalry	Perceived Institutional_Control	Perceived Peer_Influence	Perceived Students_Hooliganism	Perceived Substance Abuse
Perceived Group Rivalry				1.572	
Perceived Institutional_Control				1.461	
Perceived Peer_Influence	1.447			1.670	1.000
Perceived Students_Hooliganism					
Perceived Substance Abuse	1.447			1.779	

4.4 Heterotrait-Monotrait Ratio (HTMT)

Hair et al. (2017) note that HTMT values under 0.90, or, more conservatively, under 0.85, signal that constructs are empirically distinct and that discriminant validity holds. Here, HTMT values ranged from 0.491 to 0.686 (Table 3): the lowest value sat between perceived institutional control and perceived peer influence (0.491), and the highest between perceived students' hooliganism and perceived substance abuse (0.686). Because every value falls well under the 0.85 threshold, discriminant validity is confirmed across all five constructs; perceived group rivalry, perceived institutional control, perceived peer influence, perceived students' hooliganism, and perceived substance abuse, indicating that each construct captures a distinct facet of the phenomenon under study.

Table 3

Heterotrait-monotrait ratio (HTMT) - Matrix

Variables	Perceived Group Rivalry	Perceived Institutional_Control	Perceived Peer_Influence	Perceived Students_Hooliganism	Perceived Substance Abuse
Perceived Group Rivalry					
Perceived Institutional_Control	0.524				
Perceived Peer_Influence	0.624	0.491			
Perceived Students_Hooliganism	0.624	0.562	0.497		
Perceived Substance Abuse	0.570	0.662	0.637	0.686	

4.5 Assessment of the Measurement Model (Reliability and Validity)

Table 4 sets out a detailed evaluation of the measurement model's reliability and validity, a step essential to confirming that the constructs are sound. The assessment drew on indicator loadings, Cronbach's alpha, composite reliability (rho_a and rho_c), and average variance extracted (AVE), all standard markers of construct validity. As Table 4 shows (illustrated further by the confirmatory factor analysis in Figure 2), outer loadings for every construct, group rivalry, institutional control, peer influence, students' hooliganism, and substance abuse, exceeded 0.70, ranging from a low of 0.726 (group rivalry) to a high of 0.875 (institutional control), confirming that each item reliably captures its intended construct.

All Cronbach's alpha values also cleared 0.70, from a low of 0.736 (institutional control) to a high of 0.893 (students' hooliganism). Composite reliability figures (rho_a and rho_c) told the same story, exceeding the 0.70 benchmark throughout, with students' hooliganism again topping the list (0.895 and 0.918) and institutional control at the lower end (0.762 and 0.849), evidence that the constructs hold together as stable, internally consistent measures. Figure 2 shows the indicators loading strongly onto their respective constructs, reinforcing this picture. Convergent validity was likewise confirmed: AVE values, all above the 0.50 minimum, ranged from 0.597 (group rivalry) to 0.654 (institutional control), indicating that each construct's indicators capture a substantial share of variance relative to measurement error. Overall, the measurement model demonstrates satisfactory reliability and convergent validity for examining the determinants of students' hooliganism.

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Table 4

Construct Reliability and Validity

Variables	Loadings	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Perceived Group Rivalry (GR)	GR1 = 0.761 GR2 = 0.868 GR3 = 0.726 GR4 = 0.727 GR6 = 0.774	0.845	0.831	0.881	0.597
Perceived Institutional Control (IC)	IC1 = 0.709 IC6 = 0.832 IC7 = 0.875	0.762	0.736	0.849	0.654
Perceived Peer Influence (PI)	PI1 = 0.808 PI2 = 0.807 PI3 = 0.826 PI5 = 0.819 PI6 = 0.761	0.872	0.864	0.902	0.647
Perceived Students' Hooliganism (SH)	SH1 = 0.748 SH2 = 0.812 SH3 = 0.828 SH4 = 0.809 SH5 = 0.800 SH6 = 0.844	0.893	0.895	0.918	0.652
Perceived Substance Abuse (SA)	SA1 = 0.805 SA2 = 0.777 SA3 = 0.798 SA7 = 0.809 SA8 = 0.740	0.854	0.846	0.890	0.618

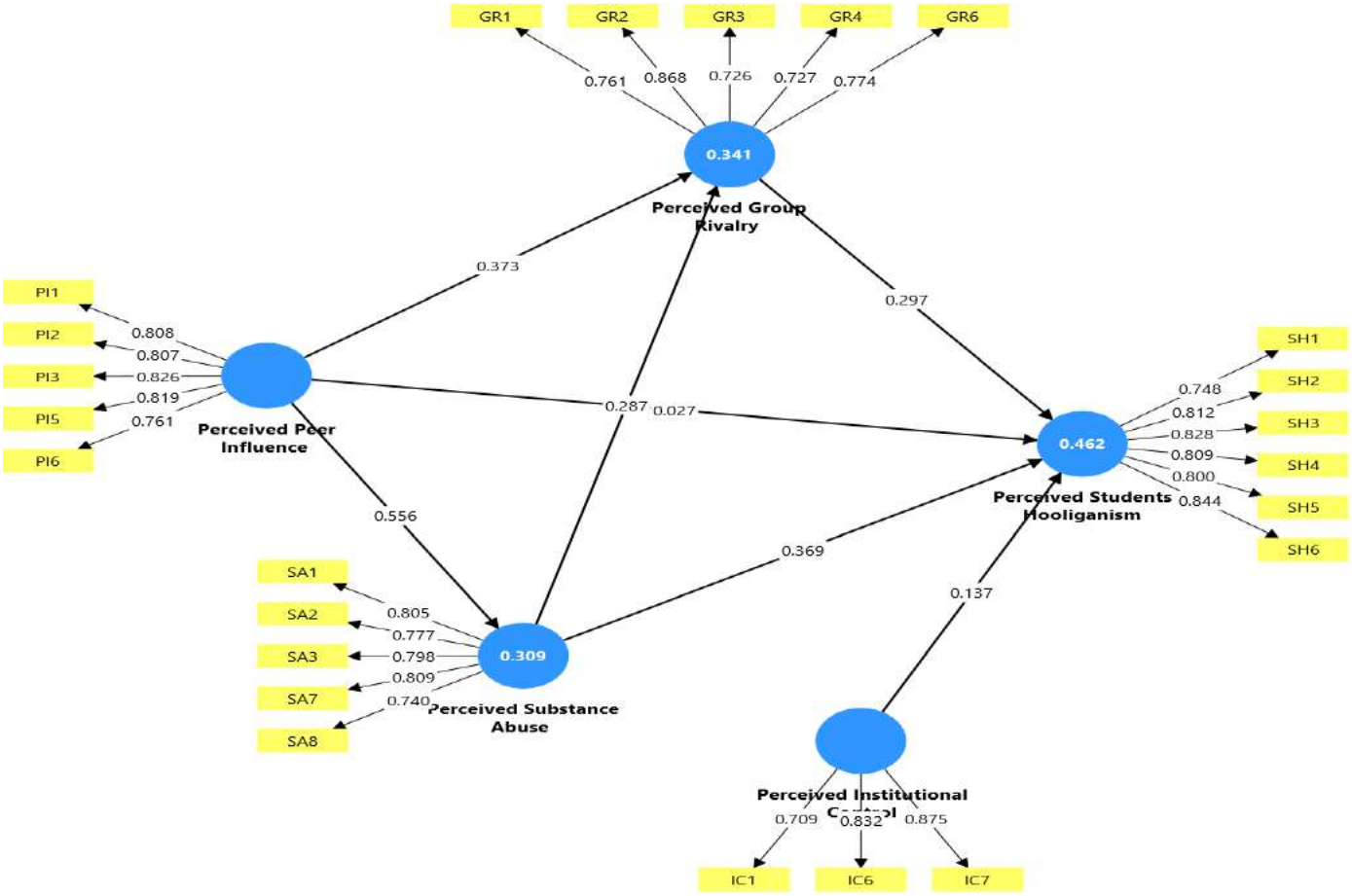


Figure 1

Confirmatory Factor Analysis (CFA) Model Showing Indicator Loadings and the Measurement Structure of the Study Constructs

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4.6 Assessment of the Structural Model

With the measurement model confirmed, attention turned to the structural model, specifically, the size and significance of the path coefficients linking group rivalry, institutional control, peer influence, and substance abuse to students' hooliganism, along with the coefficient of determination (R^2) as a gauge of the model's explanatory power. T-statistics, p-values, and confidence intervals were used to judge statistical significance, and an Importance–Performance Map Analysis (IPMA) was run, per Hair et al. (2017), to gauge the relative importance and performance of each predictor construct.

4.7 Path Analysis and Hypotheses Testing

Bootstrapping provides a robust resampling technique for hypothesis testing and for making inferences about population parameters from sample data, as noted by Rousselet et al. (2021). To address potential issues of non-normality and evaluate the significance of the proposed hypotheses, a bootstrapping procedure with 5,000 resamples was employed in line with the recommendations of Hair et al. (2022). Table 5 presents the hypothesis-testing results, and Figure 3 illustrates them. The findings indicate that six of the seven hypothesised relationships were statistically significant and supported, whereas one relationship was not supported. Specifically, Perceived Peer Influence (PPI) did not significantly predict Perceived Students Hooliganism (PSH) ($b = 0.027$, $t = 0.653$, $p = 0.514$; 95% CI [-0.055, 0.110]; $f^2 = 0.160$). Therefore, H4 was not supported.

However, the remaining hypothesised relationships were statistically significant and supported. Perceived Group Rivalry (PGR) significantly influenced PSH ($b = 0.297$, $t = 5.636$, $p < 0.001$; 95% CI [0.194, 0.399]; $f^2 = 0.447$), supporting H1. Similarly, Perceived Institutional Control (PIC) significantly and positively influenced PSH ($b = 0.137$, $t = 3.075$, $p = 0.002$; 95% CI [0.053, 0.228]; $f^2 = 0.248$), supporting H2. Furthermore, PPI significantly predicted PGR ($b = 0.373$, $t = 8.129$, $p < 0.001$; 95% CI [0.282, 0.461]; $f^2 = 0.201$) and Perceived Substance Abuse (PSA) ($b = 0.556$, $t = 14.822$, $p < 0.001$; 95% CI [0.482, 0.627]; $f^2 = 0.119$). These findings provide empirical support for H3 and H5, respectively. Additionally, PSA significantly influenced PGR ($b = 0.287$, $t = 6.260$, $p < 0.001$; 95% CI [0.196, 0.378]; $f^2 = 0.034$), supporting H6. Finally, PSA emerged as a strong and statistically significant predictor of PSH ($b = 0.369$, $t = 8.304$, $p < 0.001$; 95 % CI [0.283, 0.458]; $f^2 = 0.001$), supporting H7.

Table 5

Path significance table

Variable Relationships	Original sample (O)	Sample mean (M)	Standard deviation (STDE)	*t* statistics (|O/STDEV|)	*P values*	f^2 *Values*	Boundaries	
							LB	UB
Perceived Group Rivalry -> Perceived Students_Hooliganism	0.297	0.296	0.053	5.636	0.000	0.447	0.194	0.399
Perceived Institutional_Control -> Perceived Students_Hooliganism	0.137	0.139	0.044	3.075	0.002	0.248	0.053	0.228
Perceived Peer_Influence -> Perceived Group Rivalry	0.373	0.372	0.046	8.129	0.000	0.201	0.282	0.461
Perceived Peer_Influence -> Perceived Students_Hooliganism	0.027	0.026	0.042	0.653	0.514	0.160	-0.055	0.110
Perceived Peer_Influence -> Perceived Substance Abuse	0.556	0.558	0.037	14.822	0.000	0.119	0.482	0.627
Perceived Substance Abuse -> Perceived Group Rivalry	0.287	0.289	0.046	6.260	0.000	0.034	0.196	0.378
Perceived Substance Abuse -> Perceived Students_Hooliganism	0.369	0.370	0.044	8.304	0.000	0.001	0.283	0.458

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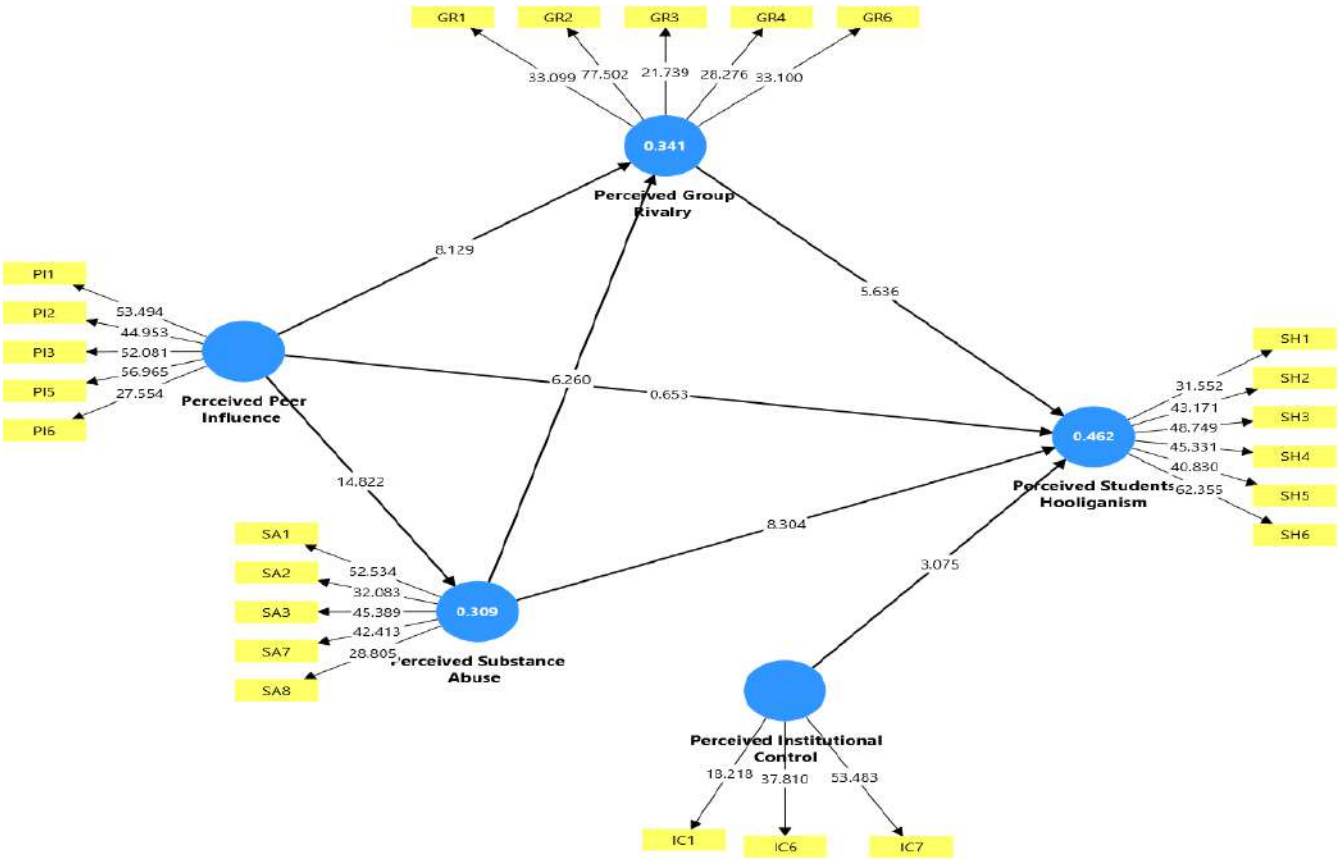


Figure 2
Bootstrapping Results for the Structural Model of Hooliganism

4.8 The Coefficient of Determination

R^2 values indicate how much of the variance in each endogenous construct the predictors explain. As Table 6 shows, the full model accounted for 46.2% of the variance in students' hooliganism, a moderate level of explanatory power. Adjusted R^2 values of 0.338 (group rivalry), 0.307 (substance abuse), and 0.458 (students' hooliganism) suggest the model holds up well even after adjusting for the number of predictors.

Table 6
Coefficient of Determination (R^2)

Construct	R-square	R-square adjusted
Perceived Group Rivalry	0.341	0.338
Perceived Students_Hooliganism	0.462	0.458
Perceived Substance Abuse	0.309	0.307

4.9 Importance-Performance Map Analysis (IPMA)

Ringle and Sarstedt (2016) describe IPMA as a useful tool for gauging the relative importance and performance of predictor constructs against a target construct. Applied here to students' hooliganism, the analysis (Table 7, Figure 4) identifies perceived substance abuse as the most important predictor, with an importance index of 0.454, while perceived peer influence posts the strongest performance score (54.705). Because substance abuse combines high importance with comparatively modest performance, it stands out as a priority area for intervention aimed at curbing students' hooliganism.

Table 7
Importance-Performance Map Analysis (IPMA)

Constructs	Importance	Performance
Perceived Group Rivalry	0.297	51.540
Perceived Institutional Control	0.137	52.267
Perceived Peer Influence	0.391	54.705
Perceived Substance Abuse	0.454	48.865

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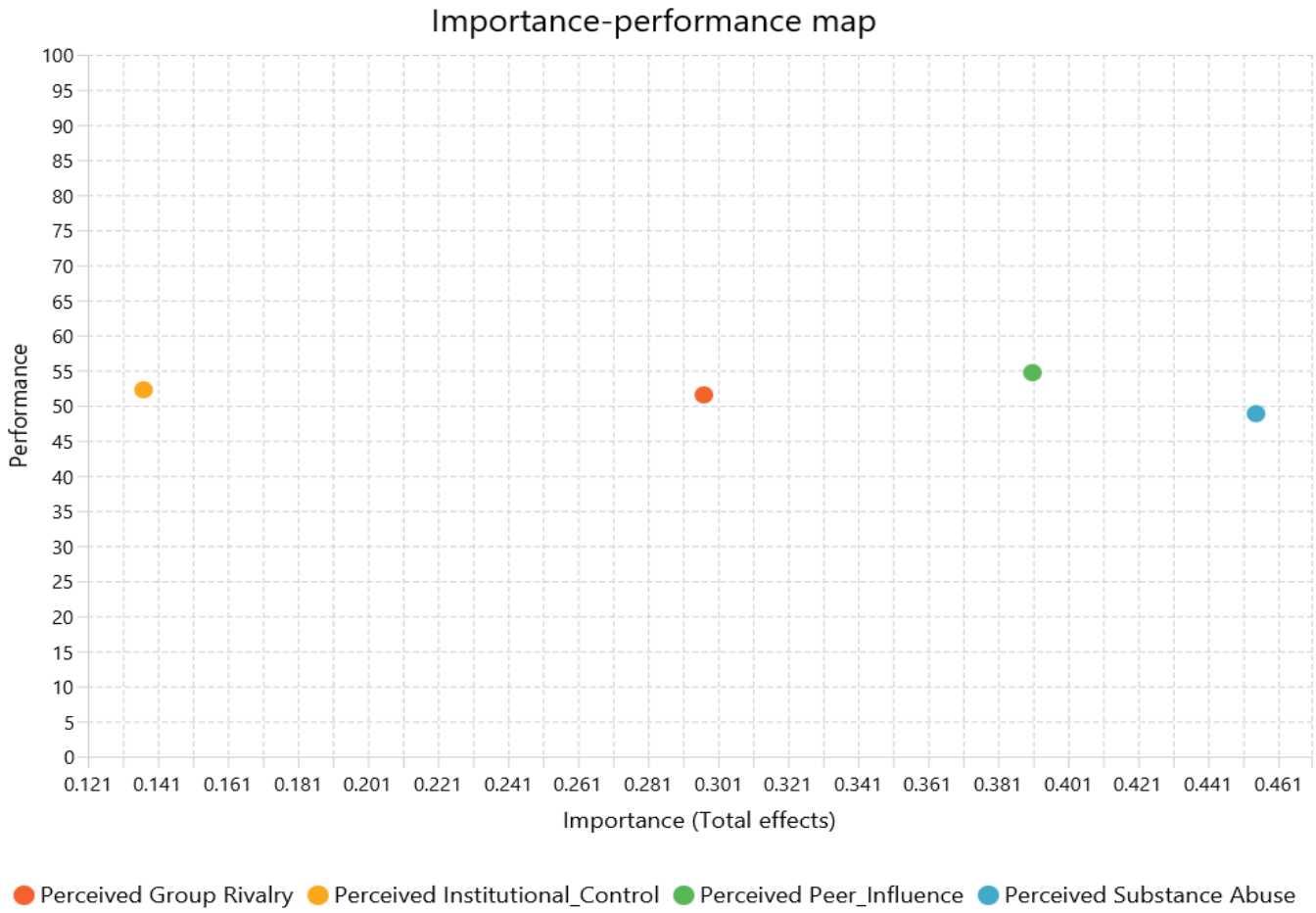


Figure 3
Importance–Performance Map Analysis (IPMA) Graph of the Determinants of Students' Hooliganism on University Campuses

4.10 Model Fit

Checking how well the estimated model fits the observed data is a key part of validating a structural model (Kline, 2015). Several fit indices were examined for this purpose, the Standardized Root Mean Square Residual (SRMR), squared Euclidean distance (d_ULS), geodesic discrepancy (d_G), Chi-square, and Normed Fit Index (NFI) (Jöreskog, 1970). As Table 8 shows, SRMR came to 0.079 for the saturated model and 0.098 for the estimated model; although the estimated model's SRMR is slightly higher, both figures sit under the conventional 0.10 cut-off, pointing to an acceptable approximate fit.

Table 8
Model fit

Tests	Saturated model	Estimated model
SRMR	0.079	0.098
d_ULS	1.882	2.853
d_G	0.821	0.868
Chi-square	2202.634	2261.273
NFI	0.705	0.697

4.11 Discussion

This study set out to examine how perceived peer influence, substance abuse, group rivalry, and institutional control relate to students' hooliganism. Most of the hypothesised paths in the PLS-SEM model were statistically significant: peer influence significantly predicted both substance abuse and group rivalry, substance abuse significantly predicted group rivalry and hooliganism, and both group rivalry and institutional control significantly predicted hooliganism. The only unsupported path was the direct relationship between peer influence and hooliganism. Overall,

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these findings suggest that students' hooliganism is shaped by an interplay of peer-related, substance-related, group-level, and institutional factors rather than by peer influence alone.

First, group rivalry significantly predicted students' hooliganism, which indicates that students who perceived stronger rivalry between campus groups also tended to perceive higher levels of hooliganistic behaviour. This finding is consistent with the social identity perspective, which suggests that identification with social groups can intensify intergroup competition and conflict (Tajfel & Turner, 1979). More recent work similarly shows that social identity can influence intergroup competition and group behaviour (Belavadi & Hogg, 2024; Khadka, 2024). In practical terms, when competition, hostility, or antagonism between student groups intensifies, the likelihood of disruptive and confrontational behaviour may also increase. This interpretation is further supported by Sibanyoni and Mbhele (2022), whose case study of student hooligan behaviour during protest action at the University of KwaZulu-Natal demonstrates the relevance of group-related dynamics to student hooliganism.

Second, institutional control significantly predicted students' hooliganism, although the relationship was more modest than that of group rivalry. This positive relationship suggests that institutional control constitutes an important factor in understanding hooliganistic behaviour within the university environment. Institutional rules, monitoring, disciplinary procedures, and enforcement mechanisms can shape the behavioural context within which students interact and respond to conflict. The finding is therefore consistent with the broader social learning perspective, which recognises that behaviour is influenced by environmental conditions and the consequences attached to particular behaviours (Bandura, 1977, 1986). Evidence from research on student hooliganism also indicates that institutional responses form an important part of understanding disruptive student behaviour. Sibanyoni and Mbhele (2022), for example, examined student hooligan behaviour in the context of university protest action, highlighting the institutional context within which such behaviour occurs.

Third, peer influence significantly predicted group rivalry, indicating that peer dynamics were an important contributor to intergroup tension. This finding suggests that students' interactions with their peers may reinforce group norms, loyalties, and behavioural expectations that can intensify competition between student groups. Such an interpretation is consistent with Social Learning Theory, which proposes that individuals acquire and reinforce behaviour through social interaction and observation (Bandura, 1977, 1986). It is also consistent with research showing that social influence and student relationships can shape problematic interpersonal behaviours (Stahel et al., 2025). In this context, peer networks may contribute to the development or reinforcement of group-based attitudes that heighten rivalry and create conditions conducive to hooliganistic behaviour.

Fourth, the direct relationship between peer influence and hooliganism was positive but not statistically significant. Although the direction of the relationship was consistent with the hypothesised effect, the evidence was insufficient to establish peer influence as a direct predictor of hooliganism in this study. This finding suggests that peer influence may operate through other behavioural and social mechanisms rather than directly producing hooliganistic conduct. The significant relationships between peer influence and both substance abuse and group rivalry provide some support for this interpretation. This is consistent with evidence that peer behaviour can influence students' engagement in risky or self-damaging behaviours during the transition to university (Hofer et al., 2024) and with meta-analytic evidence demonstrating a relationship between peer influence and substance use (Watts et al., 2024). Thus, although peer influence alone did not significantly predict hooliganism, it may contribute indirectly by shaping substance-use behaviour and group-related dynamics.

Fifth, peer influence significantly predicted substance abuse and represented the strongest relationship in the model. This finding underscores the importance of peer dynamics in understanding students' substance-use behaviour. Peer groups may establish descriptive and injunctive norms that influence how students perceive and engage in substance use. This interpretation is strongly supported by Watts et al. (2024), whose meta-analysis identified a significant relationship between peer influence and adolescent substance use. Similarly, Duckworth et al. (2025) examined perceived peer norms, personal alcohol and cannabis use, and related consequences among college students, reinforcing the relevance of social norms in understanding substance-related behaviour in higher education settings. Evidence from Ghana also indicates that substance use occurs among tertiary students and is associated with multiple individual and contextual factors (Adongo et al., 2024).

Sixth, perceived substance abuse significantly predicted perceived group rivalry. This finding suggests that substance use may extend beyond individual-level risk behaviour and become associated with broader group-level tensions. Substance use can influence interpersonal interactions and may lower behavioural restraints or contribute to confrontational situations, particularly where group identities and loyalties are already strong. Although the literature in List 8 provides stronger direct evidence for the relationships between substance use and peer influence, and between substance use and aggressive or violent behaviour, it also provides a basis for understanding the broader social consequences of substance-related behaviour. For example, van der Wath et al. (2024) identified various harms associated with alcohol use among students in higher education, while Leone et al. (2024) examined alcohol and

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cannabis use in relation to sexual and relationship aggression. These findings support the view that substance use can have consequences that extend beyond the individual to interpersonal and social interactions.

Finally, perceived substance abuse significantly predicted students' hooliganism and represented the second-strongest relationship with the outcome variable after group rivalry. This finding indicates that substance abuse was an important correlate of hooliganistic behaviour in the study setting. The result is consistent with evidence from university populations showing associations between substance use and harmful or aggressive behaviours. Belihu et al. (2025), for instance, found that exposure to violence among university students in Ethiopia was associated with alcohol and other drug consumption. Similarly, research on university students in Ghana has documented psychoactive substance use among tertiary students (Adu-Gyamfi et al., 2024), while Ebrahim et al. (2024) demonstrated the wider significance of substance use among young people in sub-Saharan Africa. Taken together, these studies strengthen the interpretation that substance abuse represents an important behavioural and social factor that may contribute to disruptive and harmful conduct among university students.

4.11.1 Policy and Practice Implications for Addressing Student Hooliganism in African Universities

Addressing student misconduct requires proactive institutional strategies that target both structural governance and interpersonal student dynamics. Because group rivalry significantly shapes hooliganism, university authorities should prioritize structured campus programs that build tolerance, intergroup dialogue, and constructive relationships to defuse tensions before they escalate (Garcés & Ramos, 2021). Furthermore, institutional control's significant influence highlights the necessity of clear, consistently enforced rules grounded in deterrence and social control principles (Welsh et al., 2021). Universities must communicate behavioral expectations plainly and apply discipline fairly (Byrne et al., 2023). However, formal enforcement alone cannot eliminate misconduct; it must be paired with preventive measures like counseling and conflict-resolution training (UNESCO, 2021).

Given that peer influence significantly amplifies group rivalry and substance abuse, institutions should invest in peer-led leadership and awareness programs (Mgijima, 2014). Although peer influence does not directly predict hooliganism, its strong indirect effect via substance abuse and group rivalry means interventions should focus on these downstream pathways rather than peer pressure in isolation (Barbosa et al., 2024). Finally, because substance abuse directly drives both group rivalry and hooliganism, institutions must strengthen prevention, early identification, and confidential counseling services within broader policy frameworks (Adeyemi & Nwosu, 2020). Ultimately, aligned with global campus governance practices, a holistic strategy integrating institutional control, peer-led programs, rivalry mitigation, and substance-abuse prevention will prove far more effective than isolated interventions (Garcés & Ramos, 2021).

4.11.2 Theoretical Implications for Understanding Student Hooliganism in African Universities

These findings add to theoretical understanding of student hooliganism by tracing the interlocking roles of peer influence, substance abuse, group rivalry, and institutional control. The significant effect of peer influence on both substance abuse and group rivalry supports Social Learning Theory's central claim that people acquire and reinforce behaviour through observation, social interaction, and modelling within their social surroundings (Bandura, 1977, 1986), in this case, suggesting that peer interaction on campus helps shape the norms and attitudes underlying both substance abuse and group-based rivalry. The significant effects of group rivalry and substance abuse on hooliganism further reinforce Social Learning Theory's relevance: rivalry may supply a social setting in which aggressive or confrontational conduct is modelled and reinforced, while substance abuse may itself be a learned behaviour that impairs judgement and encourages disruption. The significant link between peer influence and substance abuse likewise illustrates how social environments can foster the uptake and reinforcement of behaviours that ultimately feed into hooliganistic tendencies.

The significant relationship between institutional control and hooliganism further supports the application of Social Learning Theory by showing that students' behaviour is influenced not only by peer interactions but also by the institutional environment in which they operate. Institutional rules, monitoring, sanctions, and disciplinary practices communicate what behaviours are acceptable or unacceptable and can therefore shape students' behavioural choices. That this relationship was positive, however, hints that institutional control may operate more intricately than a straightforward suppression mechanism, inviting further theoretical work on how enforcement style, disciplinary approach, and students' perceptions of institutional authority interact. The non-significant direct path between peer influence and hooliganism is itself theoretically informative: it suggests peer influence does not translate straightforwardly into hooliganistic conduct but instead operates indirectly, through substance abuse and group rivalry. Future theoretical models of student hooliganism in higher education should build in these indirect pathways rather than treating peer influence as a direct driver.

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V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study concludes that students' hooliganism in the African university context is influenced by a combination of substance abuse, group rivalry, and institutional control. Group rivalry emerged as the strongest predictor of hooliganism, followed by substance abuse, while institutional control also significantly predicted hooliganistic behaviour. Peer influence did not directly predict hooliganism but significantly influenced both substance abuse and group rivalry, suggesting that its contribution to hooliganism may occur indirectly through these factors. Overall, the findings indicate that addressing hooliganism requires attention to substance use, intergroup tensions, peer-related influences, and institutional responses rather than relying on a single intervention.

5.2 Recommendations

Based on the findings, university management and Student Affairs Directorates of Universities should strengthen programmes for preventing and managing group rivalry through inter-group dialogue, mediation, joint student activities, and early identification of emerging tensions. Also, university counselling centres, Student Affairs Directorates, and the Narcotics Control Commission (NACOC) should strengthen substance-use prevention through peer-led education, counselling, early identification of students at risk, and referral services. This is particularly important because substance abuse significantly predicted both group rivalry and hooliganism. Additionally, student leaders, hall administrations, and university counselling units should promote positive peer norms through peer-education and student-led awareness programmes, given the significant influence of peer dynamics on substance abuse and group rivalry. Finally, university management, campus security units, and Student Affairs Directorates, with oversight and support from the Ghana Tertiary Education Commission (GTEC), should strengthen institutional control through clear reporting mechanisms, early-warning systems, consistent enforcement of student regulations, and coordinated responses to incidents of hooliganism. These measures should emphasise prevention and early intervention alongside appropriate disciplinary action.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A1

Section 1

Demographic Characteristics

Item	Question	Response
1	Gender	Male [ ] Female [ ]
2	Programme	_____
3	Level	_____

Instruction: Please tick (✓) the appropriate option.
Scale: 1 = Strong Disagree, 2 = Disagree, 3= Neither Agree or Disagree 4 = Agree, 5 = Strongly Agree
Section 2: Assessment Items
Perceived Peer Influence (PI)

No.	Item	1	2	3	4
4	Friends influence students' behaviour on campus				
5	Students are pressured by peers to join social groups				
6	Peer groups encourage risky behaviours among students				
7	Students imitate negative behaviours from friends				
8	Peer approval affects students' decisions				
9	Peer influence contributes to hooliganism on campus				
10	Students engage in violence to gain peer acceptance				
11	Peer groups influence students' attitudes toward authority				

Perceived Substance Abuse (SA)

No.	Item	1	2	3	4
12	Substance abuse is common among university students				
13	Alcohol consumption contributes to student violence				
14	Drug abuse increases aggressive behaviour on campus				
15	Students use substances to cope with stress				
16	Substance abuse affects students' academic performance				
17	Students involved in hooliganism often abuse substances				
18	Peer pressure contributes to substance abuse				
19	Substance abuse weakens discipline on campus				

Perceived Institutional Control (IC)

No.	Item	1	2	3	4
20	University rules help reduce hooliganism				
21	Security presence on campus is effective				
22	Disciplinary measures discourage violent behaviour				
23	University authorities respond promptly to misconduct				
24	Institutional policies promote peaceful coexistence				
25	Weak enforcement of rules contributes to hooliganism				

Perceived Stress (ST)

No.	Item	1	2	3	4
26	Academic pressure causes stress among students				
27	Financial challenges contribute to student stress				
28	Stress affects students' emotional stability				
29	Students become aggressive when stressed				
30	Stress contributes to conflicts among students				
31	Stress affects students' decision-making				

Perceived Group Rivalry (GR)

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No.	Item	1	2	3	4
32	Rival student groups exist on campus				
33	Group rivalry contributes to campus violence				
34	Students defend their groups aggressively				
35	Rivalry between groups creates tension on campus				
36	Group loyalty encourages confrontational behaviour				
37	Rival groups influence hooligan activities				

Perceived Students' Hooliganism (SH)

No.	Item	1	2	3	4
38	Hooliganism is a major problem on university campuses				
39	Student violence affects academic activities				
40	Hooliganism threatens campus security				
41	Hooliganism destroys university property				
42	Students feel unsafe during hooligan activities				
43	Hooliganism negatively affects the university image				

Perceived Institutional Peace and Stability (IPS)

No.	Item	1	2	3	4
44	Universities should strengthen measures against hooliganism				
45	Reducing hooliganism will improve campus peace				
46	Peaceful campuses improve students' academic performance				
47	Strong institutional control can reduce hooliganism				

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