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**LEADERSHIP STRUCTURES AND SECURITY MANAGEMENT IN PUBLIC
UNIVERSITIES IN NAIROBI COUNTY, KENYA**

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Abstract:

Purpose of study: This study examined the influence of leadership structure on security management in public universities in Nairobi County, Kenya. Specifically, it assessed whether authority, coordination, and commitment within university leadership structures were associated with effective physical security, cybersecurity, and emergency preparedness across selected public universities.

Methodology: A descriptive cross-sectional design was employed across six public universities in Nairobi County and the wider metropolitan

area. Data were collected from 90 respondents using structured questionnaires and stratified purposive sampling. Descriptive statistics, Pearson correlation, and simple linear regression were used to analyse relationships and test the study hypothesis.

Findings: The findings indicated that leadership structure and security management received moderately positive ratings, with mean scores of 3.50 and 3.59, respectively. Pearson correlation analysis showed a statistically significant but weak positive relationship between leadership structure and security management ($r = .211$, $p < .05$). However, regression analysis demonstrated that leadership structure did not significantly predict security management ($\beta = -.008$, $SE = .074$, $t = -.11$, $p = .910$). Consequently, the null hypothesis was not rejected. The findings suggest that leadership structure alone does not sufficiently explain variations in security management across the universities studied.

Conclusion: The study concludes that leadership structure is associated with security management but does not independently predict security outcomes. Effective security requires leadership structures to be translated into institutionalised practices, coordinated operations, adequate resources, and sustained commitment to physical security, cybersecurity, and emergency preparedness.

Keywords: *leadership structure; security management; public universities; Kenya*

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1. INTRODUCTION

Public universities occupy a distinctive position in national development because they combine large populations of students and staff, extensive physical infrastructure, and growing dependence on digital systems within a single institutional space. This combination exposes them to a wide range of security risks that extend well beyond the traditional image of a guarded gate. Contemporary university security concerns cover the physical protection of people and property, the safeguarding of information systems and data, and the capacity to anticipate and respond to emergencies that threaten academic continuity. Because these responsibilities span multiple departments, leadership becomes the organising force that determines whether security functions operate as a coherent system or as disconnected activities carried out by different units with little regard for one another.

Leadership structure, for the purposes of this study, is understood through three interrelated dimensions. Authority refers to the clarity of decision rights and the extent to which specific individuals are formally empowered to act on security matters. Coordination refers to the mechanisms through which security-related information, plans, and actions are shared and aligned across departments such as administration, security personnel, information and communication technology, and student affairs. Commitment refers to the sustained attention and resource allocation that leaders direct toward security over time, rather than treating it as a concern that only receives attention after an incident occurs. Recent scholarship on cybersecurity governance in higher education illustrates how these three elements interact in practice. Owino et al. (2025), in an assessment of cybersecurity maturity among universities in Nairobi County, found that although most institutions had adopted basic technical safeguards, only a minority had documented cybersecurity policies, and human and governance factors, rather than technology alone, were the weakest links in institutional preparedness. This finding is consistent with the view that security outcomes depend less on the availability of protective tools and more on whether leadership structures translate protective intent into consistent practice.

The vulnerability of universities to security failures is not a hypothetical concern in the Kenyan context. The 2015 attack on Garissa University College, in which large numbers of students lost their lives, remains one of the most severe security failures experienced by an institution of higher learning in East Africa, and it continues to shape how security is discussed in Kenyan universities a decade later. Subsequent research on the survivors of that attack has documented the long-term psychological toll on students and the importance of structured institutional support in recovery (Sodi et al., 2021). Beyond this singular but defining event, everyday security concerns in Kenyan universities have shifted toward digital risk. Empirical work on cyber incident management in Kenyan higher education institutions has shown that many universities respond to cyber threats reactively rather than proactively, with limited dedicated cybersecurity capacity and inconsistent incident response mechanisms (Okanda & Abass, 2025). Similarly, assessments of cybersecurity

maturity across universities in Nairobi County reveal that governance weaknesses, rather than the absence of technology, are the primary constraint on institutional resilience (Owino et al., 2025). These findings collectively point to leadership as a central, though under-examined, variable in university security outcomes.

Security responsibilities in universities are typically distributed among several actors, including top management, dedicated security personnel, information and communication technology staff, and academic and administrative leaders, each of whom may hold a partial view of the institution's overall risk exposure. Authority determines who has the standing to make binding decisions when threats are identified; coordination determines whether these actors work from a shared understanding of institutional risk; and commitment determines whether security receives consistent attention rather than episodic, incident-driven responses. Research on the institutionalisation of information security management practices in East African organisations supports this reasoning, showing that security outcomes improve where formal governance structures, clear responsibility, and sustained organisational commitment are present, and remain weak where these elements are absent (Ahimbisibwe & Nabende, 2023). It is against this backdrop that the present study investigates whether leadership structure, operationalised through authority, coordination, and commitment, meaningfully explains variation in security management among public universities in Nairobi County.

1.1 Statement of the Problem

Public universities in Nairobi County continue to experience security challenges despite institutional measures intended to protect students, staff, property and information systems. Empirical evidence from Kenyan higher learning institutions identifies theft, burglary and sexual assault among commonly reported insecurity incidents, indicating that physical security remains an institutional concern. The problem has also extended to digital environments, where Owino, Oduor, and Chege (2025), examining 25 universities in Nairobi County, found that only 32% of institutions had formal cybersecurity policies, while low staff awareness, limited training, inadequate incident-response preparedness and weaknesses in strategic planning and governance remained evident. Okanda and Abass (2025) further reported that cybersecurity response mechanisms in Kenyan universities were largely reactive, with deficiencies in real-time threat detection, technical resources and cybersecurity frameworks.

Emergency preparedness presents a further security concern, with Mwangi, Auya, and Bor (2024) reporting continued insecurity in Kenyan public universities and identifying terror attacks, cyber-attacks and student-related violence among emergency situations requiring institutional preparedness.

These persistent weaknesses raise a critical leadership problem because effective security requires clear authority for security decisions, coordination among responsible units, and sustained management commitment to security resources and preparedness. However, existing studies have mainly examined particular security measures rather than establishing whether leadership structure influences overall security management. Therefore, the extent to which authority, coordination and commitment within university leadership structures influence physical security, cybersecurity and emergency preparedness in public universities in Nairobi County remains insufficiently established. This study seeks to address this empirical gap.

1.2 Objective

To examine the influence of leadership structure on security management in public universities in Nairobi County, Kenya.

1.3 Hypothesis

H0: Leadership structure has no statistically significant influence on security management in public universities in Nairobi County, Kenya.

2. THEORETICAL REVIEW

2.1 Agency Theory

Agency theory offers a useful lens for understanding leadership structure because it addresses situations in which one party, the principal, delegates responsibility to another party, the agent, and must rely on structures of authority and oversight to ensure that delegated duties are carried out as intended. The theory originated in the analysis of the principal's problem by Ross (1973) and was further developed by Jensen and Meckling (1976), who examined how the separation of ownership and control creates the need for monitoring mechanisms and enforceable decision rights within organisations. Although these foundational contributions predate the period covered by most of the literature reviewed in this study, the underlying logic of agency theory continues to be actively applied in contemporary security and governance research, which this study draws upon more directly.

In the context of university security, agency theory is useful because it frames leadership structure as a formal mechanism for translating institutional responsibility for physical security, cybersecurity, and emergency preparedness into enforceable actions, oversight arrangements, and accountability. Recent applications of the theory to cybersecurity governance illustrate this point directly. Burch et al. (2024) apply an agency theory perspective to cybersecurity risk management governance, arguing that where the interests and understanding of those delegated with security responsibility, the agents, are not aligned with the priorities of institutional leadership, the

principals, governance gaps and unmanaged risk are likely to follow. Similarly, a broader review of agency theory in corporate governance research notes that weak monitoring and unclear decision rights are consistently associated with poorer governance outcomes across sectors (Al-Faryan, 2024). Applied to universities, this suggests that authority, the clarity of who is empowered to make security decisions, and coordination, the mechanisms through which those decisions are monitored and integrated across departments, are the practical expressions of agency-theoretic oversight in a university setting. Commitment, in turn, reflects the leadership's willingness to sustain the resources and attention needed to keep this oversight functioning over time rather than allowing it to lapse once initial policies are put in place.

2.2 Institutional Theory

Institutional theory provides a complementary perspective by focusing on the formal rules, norms, and shared expectations that shape organisational behaviour, including how security is approached. Rather than assuming that security practices are adopted purely because they are technically optimal, institutional theory suggests that organisations often adopt and sustain particular practices because doing so aligns them with prevailing governance expectations, regulatory requirements, and professional norms within their sector. This perspective helps explain why similar leadership arrangements can produce different security outcomes across institutions, depending on how deeply those arrangements are embedded in day-to-day institutional practice rather than existing only as formal policy statements.

Empirical work grounded in this reasoning is directly relevant to the present study. Ahimbisibwe and Nabende (2023), examining the institutionalisation of information security management practices in selected organisations in Uganda, found that formal governance structures alone were insufficient to guarantee strong security outcomes; rather, security improved most where such structures were reinforced by consistent organisational practice, clear responsibility, and ongoing leadership attention. In a similar vein, Cheng and Wang (2022) argue that higher education institutions require a system-wide, rather than purely technical, approach to cybersecurity governance, one in which institutional strategy, policy, and leadership commitment are integrated rather than treated as separate technical concerns delegated to information technology departments alone. Applied to this study, institutional theory suggests that the effectiveness of leadership structure in shaping security management depends not only on the existence of formal authority and coordination arrangements but also on the extent to which these arrangements are institutionalised into the routine operations, culture, and resource allocation of the university.

2.3 Securitization Theory

Securitization theory offers a third perspective, one concerned less with formal governance mechanisms and more with how issues come to be recognised and treated as security concerns in

the first place. Originating with the Copenhagen School's analysis of security as a process in which actors identify, communicate, and mobilise support around perceived threats, this perspective is useful for understanding why some risks receive sustained institutional attention while others, despite being genuinely significant, are treated as routine administrative matters. Recent applications of this framework to digital risk illustrate its continued relevance. Arisoy and Redzepi (2022), reconceptualising cybersecurity through a Copenhagen School lens, argue that the economic and organisational dimensions of cyber risk must be actively framed and communicated as security concerns before institutions mobilise the resources needed to address them, rather than being left as background technical issues.

Applied to universities, securitization theory suggests that university leaders play a decisive role in determining which risks, whether physical, cyber, or emergency-related, are elevated to the status of institutional priorities warranting sustained attention and resourcing. Authority determines who has the standing to make this designation; commitment determines whether a designated threat continues to receive resources once initial attention fades; and coordination determines how consistently this designation is communicated and acted upon across the departments responsible for implementing a response. Read together, the three theoretical perspectives adopted in this study, agency, institutional, and securitization theory, converge on a common expectation: that leadership structure, expressed through authority, coordination, and commitment, should be positively associated with the effectiveness of security management in public universities.

3. LITERATURE REVIEW

3.1 Leadership Structure

Empirical research on leadership structure in security-related contexts consistently identifies authority, coordination, and commitment as interrelated mechanisms through which leaders shape organisational outcomes, although the strength of this relationship varies considerably by sector. In the Kenyan policing context, Linturi and Muna (2021) examined the coordination of security activities among police officers in Lamu County and found a positive and statistically significant relationship between coordination and police performance, while also noting that a lack of effective leadership and uneven command knowledge limited the extent to which coordination translated into consistently improved outcomes. This finding is instructive for the present study because it demonstrates that coordination mechanisms alone, without adequately equipped leadership, may only partially deliver their intended benefits.

In the higher education sector specifically, evidence on the link between administrative leadership and security-related outcomes has begun to accumulate. Amuya and Kariuki (2024), studying enterprise security risk management adoption in Kenyan universities, found that administrative

staff commitment accounted for a substantial share of the variation in the extent to which universities adopted structured security risk management practices, and argued that elevating leadership commitment to the level of institutional policy was necessary for embedding security risk management sustainably within university operations. This finding lends direct empirical support to the proposition that commitment, one of the three dimensions of leadership structure examined in this study, has a meaningful bearing on institutional security outcomes.

Crisis and emergency-related leadership research offers a further, more cautious perspective. Pharaoh (2024), investigating crisis management competencies among executive leaders of universities of technology in South Africa, found that while formal leadership structures mattered, the effectiveness of leadership during actual crises depended heavily on tacit competencies, such as sense-making and rapid decision-making under uncertainty, that are not always captured by formal organisational charts or policy documents. Complementing this, Bengu et al. (2023), reviewing the global response of higher education leadership during the COVID-19 pandemic, found considerable variation in how prepared institutional leadership was to respond to a sudden, system-wide crisis, suggesting that formal leadership structure alone does not guarantee operational readiness when tested by an unanticipated emergency. Taken together, this body of literature suggests that while leadership structure is theoretically and empirically linked to improved security-related preparedness, the strength of this relationship is neither uniform across sectors nor guaranteed to translate into significant effects once other contextual and situational factors are taken into account, a nuance that is directly relevant to the interpretation of the present study's findings.

3.2 Security Management

Security management in universities is generally understood to encompass three interlocking domains: physical security, cybersecurity, and emergency preparedness, each of which places distinct demands on institutional leadership while remaining ultimately dependent on it for sustained effectiveness. Physical security concerns the protection of people, buildings, and assets through measures such as access control, surveillance, and protective personnel, and its effectiveness depends on leaders clearly assigning responsibility for these measures and coordinating their implementation across campus operations. Cybersecurity concerns the protection of information systems, networks, and data from unauthorised access and disruption, an area of growing concern for Kenyan universities given their increasing reliance on digital administrative and academic systems.

Recent empirical evidence from the Kenyan higher education sector illustrates the scale of this cybersecurity challenge. Owino et al. (2025) found that 57 per cent of surveyed institutions in Nairobi County had experienced a cyber-attack, with phishing, ransomware, and distributed denial-of-service attacks being the most commonly reported threats, while only 32 per cent of

institutions had formal cybersecurity policies in place. Their study further found that responsibility for cybersecurity management was frequently fragmented, with nearly a fifth of respondents uncertain which office within their institution was actually responsible for managing cybersecurity, a finding that points directly to weaknesses in the authority and coordination dimensions of leadership structure. Complementing this, Okanda and Abass (2025) found that Kenyan universities generally lack dedicated cybersecurity teams and that incident response, where it exists, tends to be reactive rather than proactive, further reinforcing the argument that cybersecurity outcomes in this sector are shaped as much by institutional governance as by the availability of technical tools. At a broader institutional level, Cheng and Wang (2022) argue that higher education institutions require cybersecurity strategies that integrate governance, policy, and human factors rather than technology alone, a view that is strongly supported by the Kenyan evidence reviewed here.

Emergency preparedness, the third domain of security management, concerns an institution's capacity to anticipate, plan for, and respond to crises that threaten the safety of the university community or the continuity of its operations. The Garissa University attack remains the most severe illustration of the consequences of inadequate emergency preparedness in the Kenyan higher education sector, and its long-term psychological impact on survivors, who required sustained institutional and counselling support well beyond the immediate aftermath of the attack, underscores the importance of preparedness that extends beyond the moment of crisis itself (Sodi et al., 2021). More broadly, research on crisis leadership in higher education indicates that effective emergency response depends on leaders who can make rapid decisions under uncertainty, maintain clear channels of communication, and coordinate across departments that do not typically work together on a daily basis (Pharaoh, 2024; Bengu et al., 2023). Authority provides the basis for such decisions to be made and acted upon without delay; coordination ensures that the response is coherent rather than fragmented; and commitment ensures that preparedness measures, such as drills and updated emergency plans, are maintained even during periods when no active crisis is underway. The literature reviewed in this section, spanning coordination and performance in policing, administrative commitment and security risk management in universities, cybersecurity maturity and incident management, and crisis leadership competencies, collectively supports the theoretical expectation that leadership structure should be positively associated with security management, while also cautioning that this relationship may be neither strong nor straightforward once it is tested empirically within a specific institutional context such as that of Nairobi County's public universities.

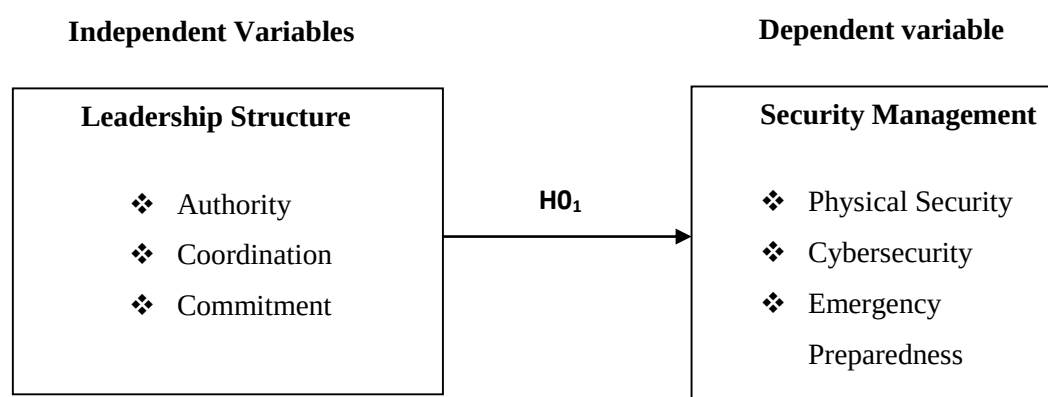
4. CONCEPTUAL FRAMEWORK

The conceptual framework guiding this study comprises two constructs. Leadership structure serves as the independent variable and is operationalised through three dimensions: authority,

coordination, and commitment. Security management serves as the dependent variable and is operationalised through three dimensions: physical security, cybersecurity, and emergency preparedness. The framework proposes that stronger leadership structure, reflected in clearer authority, more effective coordination, and sustained commitment, is associated with more effective security management across all three of its domains. This relationship is represented in Figure 1 and is examined empirically through the hypothesis stated in Section 1.4.

Figure 1

Conceptual Framework



Note. Source: Researcher (2025)

5. METHODOLOGY

This study adopted a descriptive cross-sectional design with an explanatory component, which is appropriate for examining the relationship between two variables at a single point in time without manipulating either variable. The study was conducted across six public universities located in Nairobi County and the wider Nairobi metropolitan area: The University of Nairobi, Kenyatta University, Jomo Kenyatta University of Agriculture and Technology, the Technical University of Kenya, Multimedia University of Kenya, and the Co-operative University of Kenya. These institutions were selected because they represent a range of public university types operating within a single metropolitan security environment, allowing for meaningful comparison while holding broader regional context constant.

The target population consisted of personnel with direct knowledge of leadership and security operations within their institutions, including administrators, security staff, information and communication technology personnel, student affairs officers, and academic staff. A stratified purposive sampling approach was used, treating each university as a separate stratum and selecting fifteen knowledgeable respondents from each, for a total sample of 90 respondents. This approach

was chosen to ensure that respondents had sufficient familiarity with their institution's leadership and security arrangements to provide informed responses, rather than relying on a fully random sample that might have included individuals with limited exposure to these matters.

Data were collected using a structured questionnaire in which leadership structure was measured through items addressing authority, coordination, and commitment, and security management was measured through items addressing physical security, cybersecurity, and emergency preparedness. All items were rated on a five-point scale. Prior to full data collection, a pilot study was conducted at Machakos University, a public university outside the primary study area, involving fifteen respondents selected for their relevance to the study's focus. The pilot assessed the clarity, reliability, validity, and completion time of the instrument. Reliability was evaluated using Cronbach's alpha, with coefficients ranging from .816 to .902 across the constructs measured and an overall coefficient of .873, indicating strong internal consistency and supporting the use of the instrument for the main study. Content validity was addressed by aligning questionnaire items closely with the study's objective, theoretical framework, and the reviewed literature on leadership and security, and by incorporating feedback from the pilot exercise to refine item wording.

Questionnaires were administered through a combination of personal administration, a drop-and-pick approach, and email distribution, depending on respondent availability and institutional access arrangements. Participation was voluntary, and informed consent was obtained from all respondents prior to data collection. Confidentiality and anonymity were maintained throughout the study, and respondents were not required to disclose personally identifying information, a measure intended to encourage candid responses given the sensitive nature of institutional security information. Descriptive statistics were used to summarise leadership structure and security management, while Pearson product-moment correlation was used to assess the strength and direction of the relationship between the two variables. Simple linear regression was used to test the study hypothesis, based on the model:

$$SM = \beta_0 + \beta_1 LS + \varepsilon$$

where SM represents security management, LS represents leadership structure, β_0 is the constant term, β_1 is the regression coefficient for leadership structure, and ε is the error term. A significance level of five per cent was adopted for all statistical tests. Prior to running the regression, key assumptions were tested. The Shapiro-Wilk test indicated that the residuals were consistent with a normal distribution ($W = .986$, $p = .452$). The Durbin-Watson statistic was 1.96, indicating no substantial autocorrelation among residuals. The Breusch-Pagan test produced a Lagrange multiplier statistic of 4.11 ($p = .661$), indicating no significant heteroscedasticity. These results supported the appropriateness of ordinary least squares regression for testing the study hypothesis.

Ethical clearance and research authorisation were obtained from the relevant institutional and national bodies prior to data collection, and informed consent was secured from all participants. Given the sensitive nature of information relating to institutional security, particular care was taken to protect participant confidentiality, and no respondent was asked to provide information that could compromise their institution's security posture or their own identity.

6. FINDINGS

All 90 questionnaires distributed to respondents across the six participating universities were completed and returned, yielding a response rate of 100 per cent. Respondents were drawn in roughly equal numbers from security, information and communication technology, administration, student affairs, and academic functions, reflecting the intended cross-functional composition of the sample.

6.1 Descriptive Analysis

Table 1 presents descriptive statistics for leadership structure and security management. Leadership structure recorded a mean score of 3.50 (SD = .91), and security management recorded a mean score of 3.59 (SD = .68). Both mean scores exceeded the midpoint of the five-point scale, indicating that respondents, on average, held moderately positive perceptions of both leadership structure and security management within their institutions, while the standard deviations suggest somewhat greater variability in perceptions of leadership structure than in perceptions of security management.

Table 1

Descriptive statistics for leadership structure and security management

Variable	Mean	SD
Leadership Structure	3.50	.91
Security Management	3.59	.68

Note. Source: Research findings (2026).

6.2 Correlation between Leadership Structure and Security Management

A Pearson correlation analysis was conducted to examine the association between leadership structure and security management. As shown in Table 2, the analysis produced a correlation coefficient of $r = .211$, which was statistically significant at the five per cent level ($p < .05$). This indicates a positive but weak relationship between the two variables, suggesting that universities with stronger leadership structures tend to report somewhat better security management outcomes, although the strength of this association is modest.

Table 2

Pearson correlation between leadership structure and security management

Variables	Leadership Structure	Security Management
Leadership Structure	1	.211*
Security Management	.211*	1

Note. * $p < .05$. Source: Research findings (2026).

6.3 Test of the Hypothesis

A simple linear regression analysis was conducted to test whether leadership structure significantly predicts security management, as stated in the study hypothesis. As shown in Table 3, the regression coefficient for leadership structure was $\beta = -.008$ ($SE = .074$), with a t-statistic of -1.11 and a p-value of $.910$. Because this p-value substantially exceeds the $.05$ significance threshold, the null hypothesis, that leadership structure has no statistically significant influence on security management, was not rejected. This indicates that, once leadership structure is examined through a regression model rather than a simple bivariate correlation, it does not independently and significantly predict security management among the universities sampled in this study.

Table 3

Regression results for leadership structure predicting security management

Predictor	β	SE	t	p
Leadership Structure	-.008	.074	-1.11	.910

Note. Source: Research findings (2026)

7. DISCUSSION

The finding of a statistically significant but weak positive correlation between leadership structure and security management ($r = .211$, $p < .05$) is broadly consistent with prior research linking leadership to organisational preparedness, while also echoing the caution found in that literature regarding the strength and consistency of this relationship across contexts. Linturi and Muna (2021), for instance, found a considerably stronger correlation between coordination and police performance in Lamu County, but also observed that this relationship was constrained by gaps in leadership capability, a pattern that resonates with the present study's finding that a positive association at the bivariate level did not translate into a statistically significant independent effect once tested through regression. Similarly, Amuya and Kariuki's (2024) finding that administrative commitment substantially predicted security risk management adoption in Kenyan universities suggests that commitment, considered on its own, may carry more predictive weight than leadership structure treated as a single composite construct, a possibility that the present study's aggregated measure of leadership structure was not designed to test directly.

The non-significant regression result invites careful interpretation rather than a conclusion that leadership is unimportant to university security. Institutional theory, as applied by Ahimbisibwe and Nabende (2023) in their study of information security institutionalisation in Uganda, suggests that formal leadership structures produce meaningful security outcomes only when they are embedded within routine institutional practice, organisational culture, and sustained resource allocation, rather than existing as policy statements alone. It is plausible that the leadership structures reported by respondents in this study, while perceived positively on average, have not yet been sufficiently institutionalised into the daily operational routines of physical security, cybersecurity, and emergency preparedness to produce a statistically detectable independent effect. This interpretation is reinforced by evidence from Owino et al. (2025), who found that a notable proportion of respondents in Nairobi County universities were uncertain which office was responsible for managing cybersecurity within their own institution, a clear indication that authority, one of the three dimensions of leadership structure examined here, may not be as consistently clear in practice as respondents' generally positive ratings might suggest.

The role of authority in shaping security outcomes is further illuminated by the agency-theoretic perspective applied by Burch et al. (2024) to cybersecurity governance, which holds that clearly assigned decision rights are necessary, though not sufficient, for effective risk management, since misalignment between those who bear formal authority and those who execute security tasks day to day can erode the practical effect of that authority. This helps explain why leadership structure could be positively regarded by respondents, most of whom likely have some awareness of who is formally in charge of security matters, while still failing to translate into a strong independent statistical effect on outcomes that depend on the day-to-day execution of security tasks by personnel who may not always act in close alignment with formally designated leaders.

Coordination emerges as a similarly nuanced factor. Okanda and Abass (2025) found that Kenyan universities often lack integrated incident response mechanisms, with cybersecurity responsibility scattered among information technology officers, in-house response teams, and outsourced specialists, a fragmentation that mirrors the coordination challenges long documented in policing contexts by Linturi and Muna (2021). Where coordination is fragmented in this way, even universities with clearly designated leadership authority may struggle to translate that authority into a coherent, cross-departmental security response, which would help explain why the correlation between leadership structure and security management, while positive, remained modest rather than strong in this study's findings.

Commitment, the third dimension of leadership structure, is perhaps the dimension for which the existing literature offers the clearest evidence of impact, yet it is also the dimension most vulnerable to being undermined by competing institutional priorities and resource constraints. Amuya and Kariuki (2024) demonstrate that administrative commitment can account for a

substantial share of variance in security risk management adoption when it is elevated to a formal institutional policy requirement rather than left as an informal expectation. Cheng and Wang (2022) similarly argue that cybersecurity outcomes in higher education depend on institutional leaders integrating cybersecurity into strategic planning rather than delegating it entirely to technical staff. The finding of this study that leadership structure, as a composite measure encompassing authority, coordination, and commitment together, did not significantly predict security management should therefore not be read as evidence that commitment itself is unimportant; rather, it suggests that the specific way in which commitment is currently expressed within the universities studied may not yet be strong or consistent enough to produce a detectable aggregate effect when combined with the other two dimensions of leadership structure into a single measure.

Emergency preparedness offers a final point of reflection. The enduring psychological and institutional legacy of the Garissa University attack, documented by Sodi et al. (2021) in their study of survivors' post-traumatic growth and the counselling support they required, illustrates that the consequences of inadequate preparedness can extend for years beyond the initial event, reinforcing the importance of sustained leadership commitment to emergency preparedness even during periods when no active threat is apparent. Research on crisis leadership in higher education more broadly suggests that formal structure alone does not guarantee effective crisis response; rather, effective response depends on leaders' situational judgement, communication skill, and capacity for rapid decision-making, competencies that are not always captured within static measures of leadership structure such as those used in this study (Pharaoh, 2024; Bengü et al., 2023).

Taken together, the findings and the literature reviewed in this discussion suggest that leadership structure functions as a necessary but not sufficient condition for effective security management in public universities. Its positive, though weak, bivariate association with security management indicates that leadership arrangements matter, while the non-significant regression result indicates that leadership structure alone, when measured as a general composite of authority, coordination, and commitment, does not reliably predict how well a university manages physical security, cybersecurity, and emergency preparedness once other institutional dynamics are allowed to operate. This suggests that university leaders should treat leadership structure not as an end in itself, but as a foundation that must be actively reinforced through institutionalised practice, adequately resourced coordination mechanisms, and consistent, policy-level commitment if it is to produce meaningful improvements in security outcomes.

8. CONCLUSION, RECOMMENDATIONS, LIMITATIONS, AND SUGGESTIONS FOR FURTHER RESEARCH

8.1 Conclusion

This study examined the influence of leadership structure, specifically authority, coordination, and commitment, on security management in public universities in Nairobi County. The findings showed that respondents generally perceived both leadership structure and security management positively. The analysis further established a statistically significant but weak positive relationship between leadership structure and security management. However, regression analysis indicated that leadership structure did not significantly predict security management, resulting in the failure to reject the null hypothesis. These findings suggest that although effective leadership structures may be associated with improved security management, the existence of formal leadership arrangements alone does not necessarily translate into effective security outcomes. Security management requires more than clearly established authority, coordination, and commitment. It depends on how these elements are implemented, integrated, and sustained within daily institutional operations. Therefore, public universities need to focus not only on establishing leadership structures but also on ensuring that leadership responsibilities are effectively translated into practical security measures covering physical security, cybersecurity, and emergency preparedness.

8.2 Recommendations

University management should clearly define authority and accountability for physical security, cybersecurity, and emergency preparedness. Decision-making responsibilities, reporting lines, and incident-response procedures should be clearly communicated to relevant personnel to reduce uncertainty and improve accountability during security incidents.

Universities should also strengthen coordination among security departments, information and communication technology units, and administrative offices. Regular joint security assessments, shared incident-reporting systems, and structured communication mechanisms should be established to promote an integrated approach to security management.

University leadership should further demonstrate sustained commitment to security by incorporating security priorities into strategic planning, budgeting, and institutional decision-making. Adequate resources should be allocated to physical security systems, cybersecurity measures, staff training, and emergency preparedness activities.

Emergency preparedness should also be strengthened through regular drills, updated emergency response plans, clearly defined command structures, and periodic assessments of institutional readiness. Lessons from previous security incidents should inform continuous improvement. Overall, leadership structures should be translated into consistent practices that strengthen the university's capacity to prevent, respond to, and recover from security threats.

8.3 Limitations

This study had several limitations. The cross-sectional design limited the ability to establish causal relationships between leadership structure and security management because data were collected at one point in time. The study also focused on six public universities in Nairobi County, which may limit the generalisability of the findings to universities in other regions with different institutional and security conditions. In addition, the study relied on self-reported questionnaire data. Respondents may therefore have provided socially desirable responses or rated leadership and security practices more positively than actual institutional practices. These limitations should be considered when interpreting and applying the findings.

8.4 Suggestions for Further Research

Future studies should adopt longitudinal designs to examine how changes in authority, coordination, and commitment influence security management over time. Qualitative studies involving university leaders, security officers, and ICT personnel could provide deeper understanding of how leadership structures operate during actual security incidents. Comparative studies across universities in different regions could also identify institutional factors that shape security management outcomes. Further research should examine authority, coordination, and commitment separately to determine their individual contributions to security management. Mixed-method studies could additionally investigate factors such as resource availability, organisational culture, institutional policies, and implementation practices that may explain the relationship between leadership structure and security management.

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