

## **Exploring the Influence of Behavioral Nudging on Adaptive Leadership Perceptions Among Doctoral Students in High-Pressure Academic Environment**

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### **Abstract**

In the rapidly evolving landscape of higher education, the need for effective leadership among doctoral students has become increasingly critical. This research study explores the perceptions of adaptive leadership and the impact of behavioural nudging strategies among postgraduate students in educational management at two private universities in Nigeria. Employing a mixed-methods research design, the study addressed three key research questions and involved 58 participants. The findings revealed that participants acknowledged the importance of adaptive leadership, scoring an average of 4.12 in relevance, yet expressed moderate confidence in their adaptive leadership abilities (mean score of 3.60). Regarding behavioural nudging, participants reported a favourable view of its effectiveness (mean score of 3.45). Still, they stressed the necessity for integrating these strategies with robust support systems, such as mentorship and institutional resources. Key challenges identified included limited resources, inadequate mentorship, and time management issues, which hindered their leadership development. In conclusion, while there is a strong recognition of the significance of adaptive leadership and nudging strategies, systemic barriers remain. The study recommends implementing comprehensive leadership development programs, enhancing mentorship opportunities, integrating nudging strategies into academic support, fostering collaborative learning environments and conducting ongoing research to evaluate the effectiveness of these initiatives. By addressing these recommendations, educational institutions can better equip doctoral students with the adaptive leadership skills necessary to navigate the complexities of their academic and professional journeys.

**Keywords:** *Adaptive Leadership, Behavioral Nudging, Doctoral Education, Leadership Development, Educational Management*

## INTRODUCTION

In today's rapidly evolving global landscape, effective leadership has emerged as a critical factor for success across various domains, including education, business, and governance. Particularly in nations like Nigeria, which are characterised by socio-economic challenges and a complex cultural tapestry, the ability to lead adaptively is crucial. This research study focuses on adaptive leadership and behavioural nudging, exploring their relevance among doctoral students navigating the rigours of higher education in Nigeria. By examining how behavioural nudging can enhance adaptive leadership capabilities, this study contributes to developing resilient leaders equipped to meet the challenges of a dynamic academic environment. Nigeria, the most populous country in Africa, is home to over 200 million people and boasts a rich diversity of cultures, languages and traditions (Campbell & Page, 2018). This diversity presents opportunities for cultural richness, social cohesion, and national unity challenges. Economically, Nigeria is classified as a lower-middle-income country despite its vast natural resources, including oil and gas. The nation has experienced significant economic growth in recent years but grapples with high poverty levels, unemployment, and inequality (Dauda, 2017). The political landscape in Nigeria is marked by instability, with frequent changes in leadership and governance challenges that affect various sectors, including education (Afegbua & Adejuwon, 2012). Corruption impedes national development, undermining efforts to improve public services and infrastructure (Osakede et al., 2015). As such, the Nigerian context is one of complexity and contradiction, requiring leaders who can adapt and thrive amidst uncertainty.

The Nigerian educational system is characterised by its complexity and challenges. While efforts to reform the sector have been made, issues such as inadequate funding, poor infrastructure and a lack of qualified educators persist. Higher education, in particular, faces scrutiny regarding its quality and relevance to the job market. Doctoral students, expected to contribute to knowledge production and societal development, often navigate a system that does not fully support their academic and professional aspirations. The Nigerian educational system has undergone numerous reforms to address persistent challenges, including inadequate funding, poor infrastructure, and a lack of qualified personnel (Jacob et al., 2020). The National Policy on Education outlines the vision for a comprehensive education system, yet implementing these policies often falls short (Conrads et al., 2017). Higher education, in particular, faces scrutiny regarding its quality and relevance to the labour market, with many graduates struggling to find employment in their fields (Hentschke et al., 2023). Doctoral education in Nigeria is designed to produce highly skilled researchers and academics who can contribute to knowledge generation and societal development. However, postgraduate students often encounter unique challenges, including limited access to research funding, mentorship, and academic resources (Akuru, 2019; Desmennu & Owoaje, 2018; Igiri et al., 2021; Salihu Shinkafi, 2020). These factors hinder their academic progress and affect their perceptions of leadership and their ability to navigate the complexities of their educational journey.

## Theoretical Framework

Adaptive leadership, as conceptualised by Heifetz and Laurie, emphasises the need for leaders who can respond effectively to changing environments and guide their followers through periods of uncertainty (Gallagher, 2023). This leadership style is particularly relevant

when challenges are multifaceted, and solutions are not immediately apparent. In Nigeria's academic environment, where students must navigate political, social and economic difficulties, adaptive leadership becomes essential for fostering resilience and innovation. Adaptive leadership involves several key elements: diagnosing the situation, managing conflict, mobilising people, and fostering a culture of collaboration and learning (Nelson & Squires, 2017). For doctoral students, embracing these principles can enhance their ability to lead within their academic communities and contribute positively to their fields of study.

Behavioural nudging, rooted in behavioural economics, refers to strategies that subtly influence decision-making and behaviour without restricting choices (Wang & Davis, 2023). Nudges can take various forms, including reminders, feedback mechanisms and the structuring of environments to promote desired behaviours. In educational contexts, nudging can be particularly effective in encouraging students to engage proactively with their studies and develop positive habits (Graham et al., 2017). For doctoral students in Nigeria, behavioural nudging can play a significant role in enhancing adaptive leadership skills. By implementing nudging strategies, educational institutions can create environments that support the development of resilience, collaboration and adaptive thinking—qualities essential for success in a complex academic landscape.

This study is significant for several reasons. First, it addresses the pressing need for effective leadership within Nigeria's educational sector, particularly among doctoral students poised to become future leaders and innovators. By exploring the relationship between behavioural nudging and adaptive leadership, this research can inform the development of targeted leadership programs that equip students with the necessary skills to navigate their academic and professional journeys. Second, the findings of this study contribute to the broader discourse on leadership in developing countries. Leadership theories and practices often emerge from Western contexts, which may not fully account for the unique challenges faced by leaders in Nigeria. By situating the research within the Nigerian context, this study provides insights that are culturally relevant and applicable to similar contexts across Africa. Despite the recognised importance of leadership in navigating the complexities of the Nigerian educational landscape, there is a paucity of research specifically examining the interplay between adaptive leadership and behavioural nudging in this context. Previous studies have highlighted doctoral students' challenges in Nigeria, but few have addressed how behavioural nudging can support their leadership development. This study fills this gap by investigating how nudging can enhance the adaptive leadership capabilities of doctoral students, thereby fostering a more resilient and innovative academic community. The primary objectives of this study are as follows:

1. To examine the perceptions of adaptive leadership among doctoral students in Nigeria.
2. To analyse the impact of behavioural nudging interventions on these perceptions.
3. To identify doctoral students' challenges in developing adaptive leadership skills.

### **Research Questions**

The formulated research questions guiding this study are as follows:

1. What are the perceptions of adaptive leadership among doctoral students in Nigeria?
2. How do behavioural nudging strategies influence these perceptions?
3. What challenges do doctoral students face in developing adaptive leadership capabilities?

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In summary, this study holds the potential to contribute significantly to the body of knowledge on leadership in Nigeria. Exploring the relationship between behavioural nudging and adaptive leadership informs effective practices that enhance leadership development in academic settings. This research is timely and essential for fostering a new generation of leaders equipped to tackle the challenges of the Nigerian context.

### **Literature Review**

The literature review explores the concepts of adaptive leadership and behavioural nudging, their relevance in academic settings and the intersection of these two frameworks. By synthesising existing research, this review provides a comprehensive understanding of how adaptive leadership and nudging strategies can enhance leadership development among doctoral students.

### ***Adaptive Leadership***

Adaptive leadership is a model that emphasises the ability to respond effectively to changing environments and challenges. Developed by Heifetz and Laurie, this framework posits that adaptive leaders must be able to distinguish between technical problems, which can be solved with existing knowledge and adaptive challenges, which require a shift in beliefs, values or behaviours. This distinction is crucial, as effective leaders must engage their teams in addressing complex issues that do not have straightforward solutions. The theoretical framework of adaptive leadership highlights several key components: the ability to diagnose the situation, mobilise people to tackle adaptive challenges and foster an environment that encourages experimentation and learning (Özen & Yavuz, 2024). This approach focuses on individual leaders and the collective capacity of teams to adapt and thrive in dynamic contexts. In academic settings, adaptive leadership is increasingly recognised as essential for navigating the complexities of higher education. Rapid technological changes, student demographics, and educational policies require leaders who can adjust their strategies and approaches (Gayle et al., 2011). Adaptive leadership fosters a culture of resilience and innovation, enabling educational leaders to effectively guide their institutions through challenges. Sarid (2024) highlights that adaptive leadership is critical in higher education, where faculty and administrators must collaborate to address multifaceted problems. By promoting engagement and collaborative problem-solving, adaptive leadership can significantly enhance the learning environment for students.

### ***Behavioral Nudging***

Behavioural nudging refers to subtle interventions that encourage individuals to make decisions that are in their long-term interest without restricting their freedom of choice (Petel, 2020). This concept is rooted in behavioural economics, particularly the work of Thaler and Sunstein in their book "Nudge," which outlines how small changes in the way choices are presented can significantly influence behaviour (Hansen, 2019). In educational settings, nudging can take various forms, such as reminders, structured feedback, and changes in the environment that promote positive behaviours (Lehner et al., 2016). For example, providing students with timely reminders about deadlines can enhance their time management skills (Sharma et al., 2024). Nudging strategies are designed to help individuals overcome cognitive

biases and make better decisions, thereby improving outcomes in educational contexts. Nudging strategies have been applied in leadership development to enhance self-regulation and decision-making skills among emerging leaders. Decrinis (2024) demonstrates that nudging can effectively support leadership development by guiding individuals toward behaviours that promote effective leadership practices.

In doctoral education, nudging strategies can help students stay focused on their academic goals, manage their time effectively, and engage in reflective practices that enhance their leadership capabilities (Rodrigues, 2023). Educational institutions can create supportive environments that foster adaptive leadership skills by integrating nudging techniques into leadership training programs. The intersection of adaptive leadership and behavioural nudging presents a unique opportunity for enhancing leadership development in educational settings. Both frameworks emphasise the importance of flexibility, responsiveness, and the capacity to influence behaviour positively. Adaptive leadership encourages leaders to engage their followers in addressing complex challenges, while nudging offers practical strategies to facilitate this engagement. For instance, an adaptive leader might employ nudging techniques to encourage team members to adopt new practices or shift their perspectives, fostering adaptability and innovation (Reisch et al., 2020). Research suggests that when combined, these approaches can enhance leadership effectiveness. For example, leaders who use nudging strategies to support adaptive decision-making can create environments where individuals feel empowered to experiment and learn from their experiences (Friedland et al., 2023). This synergy is particularly relevant in doctoral education, where students must develop technical expertise and adaptive leadership skills.

Existing research highlights several key findings regarding adaptive leadership and behavioural nudging. Studies indicate that adaptive leadership is essential for navigating the complexities of higher education and promoting collaboration and resilience among faculty and students (Andrin et al., 2023; Dunn, 2020; Nelson & Squires, 2017; Sarid, 2024). Research demonstrates that nudging can influence behaviour and decision-making effectively, leading to improved academic performance and leadership development outcomes (Damgaard & Nielsen, 2018; Haunstrup & Jensen, 2024; O'Meara et al., 2022). The intersection of adaptive leadership and behavioural nudging can enhance leadership development by fostering an environment that promotes experimentation, learning, and engagement (Cassell, 2022; Friedland et al., 2023; Reisch et al., 2020). The literature underscores the importance of integrating nudging strategies with mentorship and institutional support to maximise their effectiveness in developing adaptive leadership skills among students (Friesen & Brown, 2024; Meriwether, 2024; Sipahioğlu, 2025). By exploring these concepts and their intersection, this review highlights the potential for enhancing leadership development among doctoral students through intentional and strategic interventions. The findings suggest that educational institutions must prioritise adaptive leadership training and incorporate nudging strategies to better equip students for the challenges they will face in their academic and professional journeys.

## **RESEARCH METHOD**

### **Research Design**

A mixed-methods research design was utilised, integrating both quantitative and qualitative approaches. This design allowed for a comprehensive examination of the research questions. The quantitative component involved structured surveys to collect measurable data

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on participants' perceptions. In contrast, the qualitative component included semi-structured interviews and focus group discussions to gain deeper insights into the experiences of doctoral students. This combination provided a nuanced understanding of adaptive leadership and behavioural nudging in the academic environment.

### **Participants**

Participants were selected based on specific criteria to ensure the study accurately represented the target population of doctoral students in educational management. The selection criteria included:

**Enrollment Status:** Participants had to be enrolled as doctoral students in educational management at Al-Hikmah University or Lead City University.

**Focus on Educational Leadership:** The study specifically targeted students in educational management programs, as these programs are designed to cultivate leadership expertise crucial for navigating the complexities of academic environments. Focusing only on two private universities in Kwara State and Oyo State was intentional, as these institutions are among the few in Nigeria that offer PhD programs in educational management. This specificity allows for a concentrated examination of leadership development within a defined context, providing insights relevant to academic leadership.

### **Sample Size**

A total of 58 participants were included in the study. This sample size was sufficient to allow for meaningful analysis while being manageable for qualitative data collection. The diversity in the sample—comprising both male and female students from different academic years—enhanced the robustness of the findings, providing a comprehensive view of the perceptions of adaptive leadership and behavioural nudging strategies in educational management.

### **Data Collection Methods**

Surveys were a primary data collection tool designed to gather quantitative data on participants' perceptions of adaptive leadership and behavioural nudging. The survey comprised multiple-choice, Likert-scale, and open-ended questions covering key themes identified in the literature. This structured format facilitated the efficient collection of data, which could be analysed statistically to identify trends and correlations. Semi-structured interviews were conducted to complement the survey data and provide qualitative insights. This method allowed participants to express their thoughts and experiences in their own words, offering depth and context to the quantitative findings. The flexibility of semi-structured interviews facilitated rich discussions, enabling participants to elaborate on their responses and share specific examples from their academic journeys.

### **Data Analysis Techniques**

**Quantitative Analysis:** Survey data were analysed using descriptive statistics, including means and standard deviations, to summarise participants' perceptions. This statistical analysis overviews how doctoral students view adaptive leadership and nudging strategies.

**Qualitative Analysis:** Thematic analysis was employed to extract the qualitative data from interviews and focus group discussions. This involved coding the data to identify recurring themes and patterns. Key themes were derived from participants' responses regarding their understanding of adaptive leadership, experiences with nudging, and the challenges they faced. This approach allowed for a comprehensive understanding of the qualitative dimensions of the research questions.

### **Ethical Considerations**

Ethical considerations were an integral part of the research design. Key ethical principles included:

**Informed Consent:** Participants were provided detailed information about the study's purpose, methods, and potential impacts. Informed consent was obtained before participation, ensuring students knew of their rights and could opt out without repercussions.

**Confidentiality:** All data collected were kept confidential and anonymised to protect participants' identities. This was crucial in fostering an environment where participants felt safe to share their experiences openly.

**Fair Treatment:** The study adhered to principles of fairness and respect, ensuring that all participants were treated equally and with dignity throughout the research process.

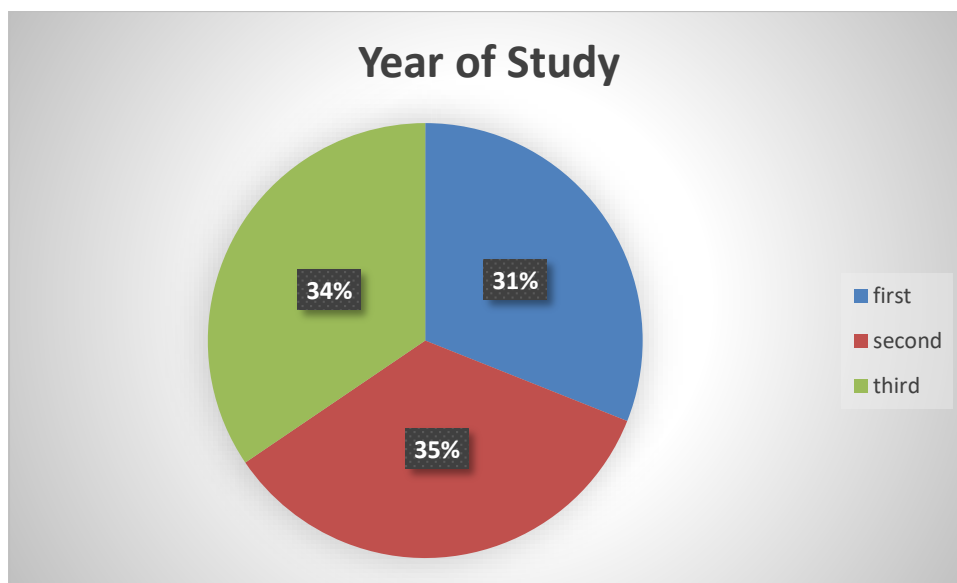
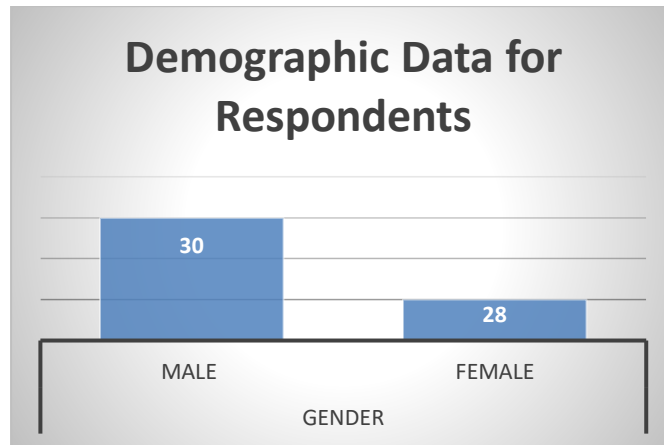
### **Data Analysis Methods**

This data analysis utilised quantitative and qualitative techniques to comprehensively address the research questions on adaptive leadership and behavioural nudging among doctoral students.

**Quantitative Analysis:** The quantitative data collected from the surveys were analysed using descriptive statistics. Means and standard deviations were calculated for each survey item to summarise participants' perceptions of adaptive leadership and nudging strategies. This statistical approach provided an overview of central tendencies and variability within the data, helping to identify trends and patterns in participants' responses. The frequency of responses for categorical items was analysed to understand how many participants endorsed specific perceptions or experiences regarding adaptive leadership and nudging.

**Qualitative Analysis:** The qualitative data obtained from semi-structured interviews and focus group discussions were analysed using thematic analysis. Initial coding was performed on the interview and focus group transcripts to identify significant statements and responses related to the research themes. This process involved labelling and categorising data segments for a more profound analysis. Codes were grouped into broader themes reflecting the participants' understanding and experiences of adaptive leadership, effectiveness of nudging strategies, and challenges. This step involved identifying recurring patterns and insights across different participants. The identified themes were interpreted in the context of the research questions, allowing for a rich, narrative explanation of participants' experiences and perspectives. This interpretative analysis provided depth to the quantitative findings and helped contextualise the results within the broader landscape of educational leadership.

**RESULTS AND DISCUSSION**



**Figure 1. Demographic Overview**

**Presentations of Results**

**Research question one:** What are the perceptions of adaptive leadership among doctoral students in Nigeria?

**Table 1.**

**Presentation of the mean scores and standard deviations (SD) on perceptions of adaptive leadership among doctoral students in their academic environment.**

S/N	Items	Mean	SD
1	Importance of Adaptive Leadership	4.12	0.92
2	Frequency of Observing Adaptive Leadership in Peers	3.85	0.92
3	Confidence in Adaptive Leadership Abilities	3.60	1.05
4	Effectiveness of Adaptive Leadership	3.70	1.02

5	Demonstrating Leadership	Adaptive	3.65	0.88
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Table 1 indicates a strong positive perception of adaptive leadership among doctoral students in Nigeria. The mean score of 4.12 indicates a strong perception of adaptive leadership among participants, suggesting that they recognise it as a crucial component of their academic journey. The frequency of observing adaptive leadership qualities in peers (mean = 3.85, SD = 0.92) suggests a positive educational environment where adaptive leadership behaviours are visible and potentially encouraged. Confidence in adaptive leadership abilities (mean = 3.60, SD = 1.05) revealed moderate confidence among students regarding their adaptive leadership abilities, but the higher standard deviation implies a broader range of responses. The effectiveness of adaptive leadership in addressing academic challenges is acknowledged, and students report actively demonstrating these leadership qualities. The consistency in the reactions suggests a shared understanding of adaptive leadership as a vital component of their academic experience, highlighting the need for continued emphasis on developing these skills within higher education contexts.

**Research question Two:** How do behavioural nudging strategies influence these perceptions?

**Table 2.**

**The mean scores and standard deviations (SD) on the influence of behavioural nudging strategies on doctoral students' perceptions of adaptive leadership on their leadership skills.**

S/N	Items	Mean	SD
1	Experience with Nudging Strategies	2.90	1.03
2	Impact of Nudging on Leadership Skills	3.45	1.10

Table 2 illustrates that behavioural nudging strategies have a moderate presence and perceived influence among doctoral students in Nigeria. The mean score of 2.90 indicates that students have had moderate exposure to these strategies, which may not be uniform across different academic settings or experiences. The mean score of 3.45 suggests that students believe that nudging strategies positively impact their leadership skills. However, they may not view it as a primary factor influencing their development as adaptive leaders. The higher standard deviation of 1.10 indicates a broader range of perceptions regarding the effectiveness of nudging strategies. Some respondents may feel that nudging has significantly enhanced their leadership skills, while others may perceive minimal impact. In conclusion, behavioural nudging strategies have a moderate presence and perceived influence among doctoral students in Nigeria. While students report a moderate level of experience with these strategies, they acknowledge a greater recognition of their impact on enhancing leadership skills. The response variability suggests the need for more consistent and targeted implementation of these strategies to maximise their positive influence on adaptive leadership development.

**Research question three:** What challenges do doctoral students face in developing adaptive leadership capabilities?

**Table 3.**

**The mean scores and standard deviations (SD) on challenges doctoral students face in developing their adaptive leadership capabilities.**

S/N	Items	Mean	SD
1	Lack of resources	3.40	1.01
2	Poor mentorship	3.25	0.95
3	Inadequate institutional support	3.55	1.08
4	Time management issues	3.70	0.97
5	Others	3.30	1.00

Table 3 illustrates doctoral students' significant challenges in Nigeria as they seek to develop their adaptive leadership capabilities. The mean score of 3.40 indicates a moderate challenge related to the lack of resources, suggesting that students often lack adequate materials, funding and access to facilities. Poor mentorship is perceived as a mild challenge, with a low standard deviation indicating a more consistent agreement among participants. Inadequate institutional support is viewed as a significant challenge, with students feeling that their academic institutions do not provide enough resources or programs to foster adaptive leadership skills. Time management issues are among the most significant challenges students face as they struggle to balance academic responsibilities, research commitments and personal life, which can detract from their ability to focus on leadership skills. The mean score of 3.30 for "Others" indicates that students encounter additional challenges that may not have been explicitly listed in the survey, with some variability suggesting that while common challenges are identified, students may have unique and varied experiences contributing to their difficulties in developing adaptive leadership capabilities.

### **Comprehensive Descriptive Analysis of Qualitative Data**

The qualitative data gathered through semi-structured interviews revealed three key themes: definitions of adaptive leadership, experiences with nudging strategies, and challenges faced in leadership development. Adaptive leadership is the ability to adjust one's leadership style according to a situation's context and specific needs. Key aspects of this definition include contextual responsiveness, flexibility, and resilience. This indicates a nuanced perception of leadership among doctoral students, recognising that effective leadership is not a one-size-fits-all approach but a dynamic and context-sensitive practice. Most participants reported positive experiences with behavioural nudging strategies implemented in their academic environments. They described various nudging techniques, such as reminders for assignments, deadlines and meetings, which helped them stay organised and focused. Structured feedback sessions provided clarity and direction, allowing them to adjust their work and leadership practices. These strategies were viewed as beneficial tools that facilitated better time management and enhanced their ability to engage in adaptive leadership. However, participants identified several significant challenges in their development as adaptive leaders: the lack of mentorship, insufficient institutional support and a desire for structured guidance. Many students strongly

desired more structured mentoring programs that could pair them with experienced leaders in their fields. Institutions often failed to provide adequate resources and programs to develop leadership skills, which was seen as a barrier to their growth as adaptive leaders. The findings highlight the multifaceted challenges that doctoral students encounter in developing adaptive leadership capabilities. Addressing these challenges through enhanced mentorship programs and institutional investments in leadership training is essential for fostering adaptive leadership capabilities among doctoral students in Nigeria. The findings highlight the importance of creating supportive academic environments that promote effective leadership development and student resilience.

### **Comprehensive Descriptive Analysis of Focus Group Discussions**

The focus group discussions provided a platform for doctoral students to explore their perceptions of adaptive leadership, the effectiveness of behavioural nudging strategies, and the challenges they faced during their studies. Three key themes emerged: understanding of adaptive leadership, the effectiveness of nudging, and collective challenges. Adaptive leadership is crucial for managing the complexities of doctoral studies, as it requires flexibility and responsiveness to changing circumstances. It also requires understanding the specific context in which they operate, collaboration, and team dynamics. This collective understanding strongly acknowledges adaptive leadership's vital role in academic success and professional development. The effectiveness of nudging strategies was generally positive among participants, but they also highlighted the need for robust support systems. Key points included the positive impact of nudging strategies, such as deadline reminders and structured feedback, which helped maintain focus and manage time effectively. However, many emphasised the need for integration with support systems, such as mentorship and training programs, to enhance the effectiveness of nudging. Collective challenges faced by doctoral students included resource limitations related to funding, research materials, and facilities, which hinder their ability to engage fully in leadership development opportunities and conduct their research effectively. Additionally, there was a need for improved mentorship programs, as there was a lack of structured mentorship that could provide guidance, support, and networking opportunities essential for their leadership growth. Balancing academic responsibilities with personal commitments often leaves little time for leadership development activities, which students view as necessary for their growth. These collective challenges indicate a need for systemic changes within academic institutions to better support doctoral students in their leadership development efforts. The focus group discussions revealed critical insights into the perceptions of adaptive leadership, the effectiveness of nudging strategies, and the challenges doctoral students face. Addressing these challenges through targeted interventions and support initiatives will be essential for fostering adaptive leadership capabilities among postgraduate students, ultimately contributing to their academic success and beyond.

### **Discussion of Findings**

The findings from this research study provide valuable insights into the perceptions of adaptive leadership and the influence of behavioural nudging strategies among doctoral students in Nigeria. The results in Table 1 illustrate that doctoral students perceive adaptive leadership as highly important, with a mean score of 4.12, indicating strong recognition of its relevance in their academic and professional lives. This aligns with the findings of Nelson and

Squires (2017), who emphasise the significance of adaptive leadership in navigating complex and changing environments. The students' acknowledgement of the effectiveness and importance of adaptive leadership reflects a broader trend in educational leadership research that highlights the necessity for flexibility and responsiveness in leadership styles (Nebiyu & Kassahun, 2021). However, the moderate confidence in their adaptive leadership abilities (mean score of 3.60) suggests a disparity between recognising the importance of these skills and feeling equipped to demonstrate them. This finding mirrors the work of Obolensky (2017), who found that while leaders may understand the theoretical aspects of adaptive leadership, they often struggle with practical application. Thus, there is a critical need for targeted training and development programs that can bridge this gap.

Table 2 reveals that participants reported a moderate level of experience with nudging strategies (mean score of 2.90) and recognised their positive impact on leadership skills (mean score of 3.45). These findings echo the research of Weijers et al. (2021), who noted that nudging can effectively guide individuals toward better decision-making and behaviour changes in academic settings. While participants found nudging strategies beneficial, they emphasised the need for them to be complemented by robust support systems, suggesting that nudging alone is insufficient for fostering leadership skills. The qualitative data further supports this, as participants articulated the need for integrated approaches that combine nudging with mentorship and institutional support. This aligns with the findings of Hertwig and Grüne-Yanoff (2017), who argue that while nudging can enhance motivation and engagement, it should be part of a comprehensive strategy that includes mentoring and resource allocation. Table 3 highlights several challenges faced by doctoral students, including lack of resources (mean score of 3.40), poor mentorship (mean score of 3.25), and inadequate institutional support (mean score of 3.55). These challenges resonate with previous studies indicating that doctoral students often encounter systemic barriers that hinder their leadership development (Choi et al., 2021). The finding that time management issues (mean score of 3.70) are a significant challenge further underscores the high demands placed on doctoral students, echoing the sentiments expressed by Sverdlik et al. (2018) regarding the pressures faced during postgraduate studies. The qualitative insights from focus group discussions reinforced these challenges, with participants expressing a desire for structured mentorship programs and better resource allocation. This need for improved mentorship is consistent with the conclusions of Coers et al. (2021) and McDonald et al. (2022), who found that effective mentorship positively influences students' leadership development and academic success. Participants' lack of institutional support aligns with the broader literature, suggesting that universities must invest in leadership development initiatives to support doctoral students better (Sverdlik et al., 2018). While postgraduate students in Nigeria recognise the importance of adaptive leadership and the potential benefits of nudging strategies, they face significant challenges regarding resource availability, mentorship, and institutional support. These challenges mirror previous studies, highlighting the need for comprehensive frameworks integrating leadership training, mentorship, and institutional commitment.

## CONCLUSION

This research study explored the perceptions of adaptive leadership and the influence of behavioural nudging strategies among doctoral students in Nigeria, particularly within the

context of educational management. Participants recognised adaptive leadership as a crucial competency for navigating the complexities of postgraduate studies—however, they had moderate confidence in their adaptive leadership abilities, highlighting a gap between recognition and practical application. The study found that nudging strategies were perceived positively with experience in leadership skills. Participants valued these strategies but emphasised that they should be integrated with robust support systems such as mentorship and institutional resources. Participants expressed that integrating nudging techniques into adaptive leadership training could foster a supportive environment conducive to experimentation and learning. The study highlights the need for educational institutions to implement comprehensive leadership development programs incorporating adaptive leadership training and nudging strategies. This dual approach can help students navigate their academic journeys more effectively, enhancing their leadership capabilities. Further studies could explore the effectiveness of specific nudging interventions and their impact on leadership development across different disciplines and cultural contexts. In conclusion, this research underscores the critical role of adaptive leadership and behavioural nudging in developing doctoral students, particularly in educational management. While students recognise the importance of adaptive leadership, they face significant challenges that hinder their growth. By integrating nudging strategies with robust support systems, educational institutions can create environments that foster resilience, adaptability, and practical leadership skills. As higher education continues to evolve in response to global changes, institutions must prioritise the development of adaptive leaders who can navigate complexities and drive positive change.

Based on the findings of this research study, the following robust recommendations are proposed to enhance the development of adaptive leadership and the effectiveness of behavioural nudging strategies among doctoral students in educational management.

1. Educational institutions should design and implement comprehensive leadership development programs targeting adaptive leadership skills. These programs should incorporate elements of experiential learning, such as workshops and simulations, to provide students with practical opportunities to practice and refine their leadership abilities.
2. Institutions should establish structured mentorship programs that connect doctoral students with experienced faculty and industry professionals. These mentorships should focus on developing adaptive leadership skills, providing guidance on navigating academic challenges, and facilitating networking opportunities.
3. Universities should adopt behavioural nudging strategies as part of their academic support services. This could include implementing timely reminders for deadlines, providing structured feedback on academic progress and creating systems that encourage positive study habits. By framing these nudges within a supportive context, institutions can help students manage their time more effectively and stay focused on their academic goals.
4. Institutions should promote group projects and interdisciplinary collaborations to help students develop adaptive leadership skills in diverse settings. Encouraging open discussions and feedback among peers can also enhance students' ability to adapt their leadership styles to different team dynamics.
5. Educational institutions should commit to ongoing research and evaluation of leadership development initiatives and nudging strategies. Regular assessments can help identify best practices, measure the effectiveness of implemented programs, and gather feedback from students. This data-driven approach will enable institutions to refine their methodologies,

ensuring that leadership training remains relevant and impactful in an ever-changing academic landscape.

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