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Multifaceted Challenges and Adaptive Coping Strategies Among Pregnant University Students in Tanzania: *Empirical Evidence for Institutional Policy Reform*

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Abstract: *Pregnancy among university students in sub-Saharan Africa remains an underaddressed crisis, threatening educational equity, mental health, and academic retention. This study examined the academic, personal, social, emotional, and financial challenges faced by pregnant students, their coping strategies, and the adequacy of university support systems in public universities in Morogoro region, Tanzania. A cross-sectional descriptive design was employed, using structured questionnaires administered to 222 pregnant or recently pregnant students selected via purposive sampling. Quantitative data were analyzed using descriptive statistics, Kruskal–Wallis tests, ordinal logistic regression, and chi-square tests. Results revealed that 60.4% of participants were aged 18–24 years, 49.6% were in their first year of study, 61.7% were unmarried, and 76.2% reported a monthly income below 60 USD. Academic challenges were severe: 72.9% reported difficulty attending lectures and meeting deadlines, and 64.9% had considered dropping out or taking a study break. Personal challenges were dominated by time management difficulties, with older students and those who already had children reporting significantly greater burdens ($p < 0.001$). Social and emotional challenges were pervasive, with 83.8% experiencing stigma from peers or lecturers and 71.6% reporting emotional distress. Coping strategies centered on peer support (76.1%), time management (52.2%), and health prioritization (48.2%). Although 71.6% received some staff support, institutional responses remained fragmented: only 49.6% received academic accommodations and 31.5% accessed health or counseling services. Students demanded flexible academic timetables (60.4%), enhanced maternity support (31.1%), and stigma-reduction awareness programs (9.5%). Empirically, this study provides the first ordinal logistic regression-based evidence from Tanzania linking demographic vulnerabilities (young age, first-year status, pre-existing children) to higher academic and personal challenge scores. Policy contributions include a clear mandate for universities to move beyond passive support toward enforceable flexible scheduling, on-campus maternal health services, and anti-stigma campaigns. We recommend that Tanzania's Ministry of Education mandate pregnancy-inclusive academic policies, establish campus-based childcare and counseling, and integrate awareness training for lecturers and peers to foster retention, well-being, and educational justice for pregnant students.*

Keywords: *Pregnant university students, Academic retention, Stigma and coping strategies, Maternal health in higher education, Tanzanian higher education policy*

1.0 Background Information

Globally, the intersection of pregnancy and higher education represents a critical yet under-researched domain within educational equity and public health discourse. Pregnancy among university students is not an isolated phenomenon but a growing concern worldwide, with approximately 16 million young women aged 15–19 years giving birth annually (World Health Organization, 2023). For young women pursuing tertiary education, an unintended or unplanned pregnancy can fundamentally disrupt academic trajectories, exacerbate existing socioeconomic inequalities, and impose multifaceted burdens that extend far beyond the biological realities of gestation (Mirick & Wladkowski, 2018; Chung *et al.,* 2022). University students who become

pregnant must navigate the complex and often conflicting demands of academic life, attending lectures, completing assignments, meeting examination schedules, and participating in campus activities, while simultaneously managing the physical, emotional, and financial responsibilities associated with pregnancy and eventual parenthood (Ares, Barto, & Martinez, 2020; Griffiths & Pollock, 2020). This dual burden frequently leads to heightened stress, anxiety, fatigue, and diminished academic concentration, creating a cycle of disadvantage that can persist long after the pregnancy concludes (Stoner *et al.,* 2019).

In sub-Saharan Africa, the challenge of student pregnancy is particularly acute, shaped by pervasive socioeconomic vulnerabilities, cultural norms that stigmatize premarital pregnancy, and institutional policies that historically have excluded or marginalized pregnant and parenting students (Baloyi *et al.,* 2020; Maphie, 2023). Studies across the region have documented that pregnant students face not only academic difficulties but also profound social isolation, discrimination from peers and faculty, and, in many cases, outright expulsion or forced withdrawal from their programs (Etuah *et al.,* 2018; Korving, 2020; Ismael, 2023). Until recently, Tanzania maintained a national policy that banned pregnant students from continuing their education in public schools and higher education institutions, a policy that was infamously enforced under former President John Magufuli, who publicly declared that pregnant girls had no place in the classroom (Mchome, 2017). Although this policy was officially reversed in 2021, allowing pregnant students to remain enrolled, the legacy of exclusion persists, and many institutions remain ill-prepared to support the unique needs of this population (Kisanga & Matiba, 2023; Saleh & Amos, 2024). Social stigma, negative attitudes from lecturers and classmates, lack of on-campus childcare facilities, inflexible academic schedules, and inadequate health and counselling services continue to undermine the academic persistence and psychological well-being of pregnant university students in Tanzania (Mwaifuge, 2017; Nordzi *et al.,* 2022).

The consequences of inadequate institutional support are severe and well-documented. Pregnant students are more likely to miss classes, fall behind on coursework, experience heightened stress and anxiety, and consider dropping out or taking prolonged breaks from their studies, decisions that delay graduation, reduce future earning potential, and perpetuate cycles of poverty and gender inequality (Gibson *et al.*, 2018; Sturges & Hartman, 2020). Financial constraints further compound these challenges, as many students rely on limited family support, part-time work, or student loans to cover not only basic needs such as food, housing, and transport but also prenatal care, medical expenses, supplements, and childcare costs (Dugan & Phelps, 2020; Wilkins & Gilbert, 2021). In the absence of institutional policies that provide flexible academic accommodations, on-campus health services, financial assistance, or childcare support, pregnant students are forced to rely on informal coping mechanisms, seeking emotional and practical support from friends, family members, or sympathetic lecturers; prioritizing health over academic obligations; using relaxation techniques; or, in some cases, concealing their pregnancies to avoid discrimination and stigma (Friedman *et al.,* 2019; Phiri *et al.,* 2021).

Universities play a critical role in either mitigating or exacerbating the challenges faced by pregnant students. Research from various contexts has demonstrated that targeted institutional interventions, such as flexible scheduling, online learning options, on-campus health and counselling services, academic accommodations for missed classes and deadlines, and awareness programs to reduce stigma, can significantly improve academic persistence, mental health outcomes, and overall well-being for pregnant and parenting students (Anderson & Green, 2022; Pasque & Nicholson, 2023; Higginbottom *et al.,* 2021). Similarly, equitable treatment, respect, and encouragement from lecturers and peers are essential in fostering a supportive learning environment that enables pregnant students to succeed (Chakravarti, Jha, & Ashutosh, 2021; Morrison, 2018). Providing these resources not only helps current pregnant students complete their education but also sends a powerful signal to future students that pregnancy is not a barrier to academic achievement and that institutional policies are inclusive rather than punitive (Xulu-Gama & Mbhele, 2025; Mampane & Motsi, 2024).

Despite the growing prevalence of pregnancy among university students in Tanzania and the recognized importance of institutional support, empirical research specifically focused on this population remains remarkably limited. Existing studies have largely concentrated on secondary school settings or have employed small qualitative samples that, while rich in contextual detail, lack the statistical generalizability needed to inform evidence-based policy at the tertiary level (Kavishe, 2025a; Nyakato *et al.,* 2024). Furthermore, few studies have systematically examined the interplay between demographic characteristics, such as age, academic year, marital status, parity (presence of existing children), residence (on-campus versus off-campus), and income level, and the severity of challenges faced by pregnant students. Even fewer have rigorously assessed the adequacy of existing institutional support systems using advanced inferential statistical methods such as ordinal logistic regression, Kruskal–Wallis tests, and chi-square analyses. This gap in the literature leaves policymakers, university administrators, student affairs professionals, and support service providers without the robust empirical evidence required to design targeted, effective, and contextually appropriate interventions.

This study addresses that critical gap by providing a quantitative analysis of the academic, personal, social, emotional, and financial challenges confronting pregnant students at public universities in Morogoro region of Tanzania. Specifically, this research examines the prevalence and severity of these challenges, identifies the coping strategies that students employ to navigate their dual roles, and evaluates the adequacy of current university support systems. Henceforth, by grounding its findings in empirical evidence rather than anecdote or assumption, this research aims to inform institutional policy reform, guide the development of inclusive and responsive support services, and contribute to the creation of educational environments in which pregnancy is not a barrier to academic success but rather a life event that can be navigated with dignity, institutional support, and personal resilience. Ultimately, this study provides actionable evidence for universities, the Tanzanian Ministry of Education, and international development partners working toward SDG 4 (Quality Education) and SDG 5 (Gender Equality) in the Tanzanian higher education context.

2.0 Empirical and Theoretical Framework

This study is grounded in an integrated theoretical framework that combines Lazarus and Folkman's Transactional Model of Stress and Coping (1984) with Bronfenbrenner's Ecological Systems Theory (1979). This integration provides a comprehensive lens for understanding how pregnant university students experience, interpret, and respond to the multiple, interconnected stressors arising from their dual roles as students and expectant mothers, while also accounting for the layered environmental contexts, from immediate interpersonal relationships to broader institutional policies and cultural norms, that shape their experiences and coping outcomes.

2.1 Lazarus and Folkman's Transactional Model of Stress and Coping

The Transactional Model of Stress and Coping, developed by Lazarus and Folkman (1984), posits that stress is not merely a stimulus or a response but a dynamic transaction between an individual and their environment. According to this model, stress occurs when an individual perceives that environmental demands exceed their available personal and social resources. The coping process involves two sequential cognitive appraisals: primary appraisal, in which the individual evaluates whether a situation is irrelevant, benign-positive, or stressful (the latter encompassing harm/loss, threat, or challenge); and secondary appraisal, in which the individual assesses what coping resources and options are available to manage the stressful situation. Coping strategies are then deployed and are broadly categorized as problem-

focused coping (efforts to directly modify or manage the source of stress) or emotion-focused coping (efforts to regulate the emotional distress associated with the stressor) (Lazarus, 1999; Biggs *et al.,* 2017).

For pregnant university students, this model is particularly salient. Pregnancy itself can be appraised as a threat (potentially jeopardizing academic progress and social standing), a harm/loss (resulting in missed opportunities, stigma, or financial strain), or a challenge (an obstacle that can be overcome with effort and support) (Phiri *at el.,* 2021). The secondary appraisal process involves evaluating available resources: support from family, friends, and lecturers; financial capacity; institutional accommodations; personal resilience; and time management skills. Based on these appraisals, students then employ problem-focused strategies, such as seeking academic accommodations, managing time effectively, communicating with instructors, and accessing health services, or emotion-focused strategies, such as seeking emotional support, using relaxation techniques, positive reframing, or, in some cases, avoidance or concealment of the pregnancy to manage stigma and emotional distress (Friedman *et al.,* 2019; Etuah *et al.,* 2018).

The transactional nature of the model is crucial: coping is not a static or one-time event but an ongoing, dynamic process in which the individual continuously reappraises the situation as circumstances change (for example, moving from the first trimester to the third trimester, receiving unexpected support from a lecturer, or experiencing a stigmatizing event from a peer). The effectiveness of coping strategies is determined by the degree to which they reduce the perceived stressor and/or manage emotional distress, thereby enhancing adaptation and well-being (Bondarchuk *et al.,* 2023; Dong *et al.,* 2024).

2.2 Bronfenbrenner's Ecological Systems Theory

While the Transactional Model of Stress and Coping focus on the individual's cognitive and behavioral responses, it does not fully account for the multiple, nested environmental layers that shape both the stressors that pregnant students encounter and the resources available to them. Bronfenbrenner's Ecological Systems Theory (1979) addresses this gap by conceptualizing human development as occurring within interconnected environmental systems: the microsystem (immediate relationships and settings, such as family, peers, lecturers, and the classroom), the mesosystem (interactions between microsystem elements, such as the relationship between family support and university policies), the exosystem (broader social structures that indirectly affect the individual, such as university administration policies and national education laws), and the macrosystem (the overarching cultural values, norms, and ideologies, such as societal attitudes toward premarital pregnancy and motherhood in Tanzania) (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006).

For pregnant university students, each ecological level presents unique challenges and resources. At the microsystem level, students interact daily with peers who may offer support or perpetuate stigma, with lecturers who may provide academic accommodations or express disapproval, and with family members and partners who may provide emotional and financial support or, conversely, rejection and shame (Baloyi *et al.,* 2020; Ismael, 2023). At the mesosystem level, the interaction between home and university, for example, whether a student's family communicates with university staff to arrange support, can significantly influence outcomes (Kisanga & Matiba, 2023). At the exosystem level, university policies regarding attendance, deadlines, leave of absence, and on-campus housing, as well as national policies such as Tanzania's reversal of the pregnancy exclusion ban, shape the structural opportunities and constraints that pregnant students face (Mwaifuge, 2017; Saleh & Amos, 2024). Finally, at the macrosystem level, deeply embedded cultural norms regarding female sexuality, premarital pregnancy, and the value of women's education influence whether pregnant students experience stigma or acceptance, and whether institutional leaders prioritize inclusive policies (Maphie, 2023; Xulu-Gama & Mbhele, 2025).

2.3 Integrated Theoretical Framework for This Study

This study integrates the Transactional Model of Stress and Coping with Ecological Systems Theory to create a comprehensive framework specifically tailored to pregnant university students in Tanzania (Figure 1). The integrated framework posits that pregnant students encounter multifaceted stressors arising from multiple ecological levels. These stressors include:

i. *Academic stressors (microsystem and exosystem):* difficulty attending lectures, concentrating on coursework, meeting deadlines, and considering dropping out.
ii. *Personal stressors (microsystem):* time management difficulties, challenges maintaining a healthy lifestyle, physical discomfort, and fatigue.
iii. *Social and emotional stressors (microsystem, mesosystem, and macrosystem):* stigma from peers and lecturers, social isolation, discrimination, emotional distress, and anxiety.
iv. *Financial stressors (exosystem and macrosystem):* low income, inability to cover prenatal care and basic needs, and competing financial demands.

Through primary appraisal, students evaluate whether these stressors represent a threat (e.g., potential academic failure or expulsion), harm/loss (e.g., damaged relationships or delayed graduation), or challenge (e.g., an obstacle that can be overcome with effort). Through secondary appraisal, they assess available coping resources across ecological levels: personal resources (e.g., time management skills, health prioritization, relaxation techniques), social resources (e.g., support from friends, family, partners, and sympathetic lecturers), and institutional resources (e.g., flexible academic policies, health and counselling services, financial assistance, awareness programs).

Based on these appraisals, students deploy adaptive coping strategies that can be problem-focused (e.g., seeking academic accommodations, effective time planning, communicating with lecturers, accessing health services) or emotion-focused (e.g., seeking emotional support from friends and family, using relaxation techniques, positive thinking, prioritizing health over academic pressure). The effectiveness of these coping strategies is moderated by the availability and quality of institutional and social support systems, which are themselves shaped by exosystem (university policies) and macrosystem (cultural norms) factors. When coping strategies are effective and support systems are adequate, students experience positive outcomes: continued academic progress, maintained well-being, reduced stigma and isolation, and successful completion of their education. Conversely, when coping strategies are ineffective or support systems are inadequate, students may experience negative outcomes: academic withdrawal, dropping out, heightened stress and depression, and social alienation.

The integrated framework recognizes that coping is a dynamic, ongoing process. As pregnancy progresses and as students encounter new stressors or receive (or fail to receive) support, they continuously reappraise their situations and adjust their coping strategies accordingly. Furthermore, the framework acknowledges that the same stressor may be appraised differently by different students depending on their demographic characteristics (age, academic year, marital status, parity, income, residence) and the resources available within their unique ecological contexts.

Figure 1 presents a visual representation of this integrated theoretical framework, illustrating the relationships between stressors, appraisal processes, coping strategies, support systems, and outcomes within the nested ecological contexts that shape pregnant university students' experiences in Tanzania.

In Figure 1, this integrated theoretical framework combines Lazarus and Folkman's Transactional Model of Stress and Coping (1984) with Bronfenbrenner's Ecological Systems Theory (1979). The pregnant student is positioned at the center, within nested ecological contexts: microsystem (immediate relationships with peers, lecturers, family, and partners), mesosystem (interactions between these relationships), exosystem (university policies and institutional support systems), and macrosystem (cultural norms and societal stigma regarding premarital pregnancy in Tanzania). Students encounter multifaceted stressors across

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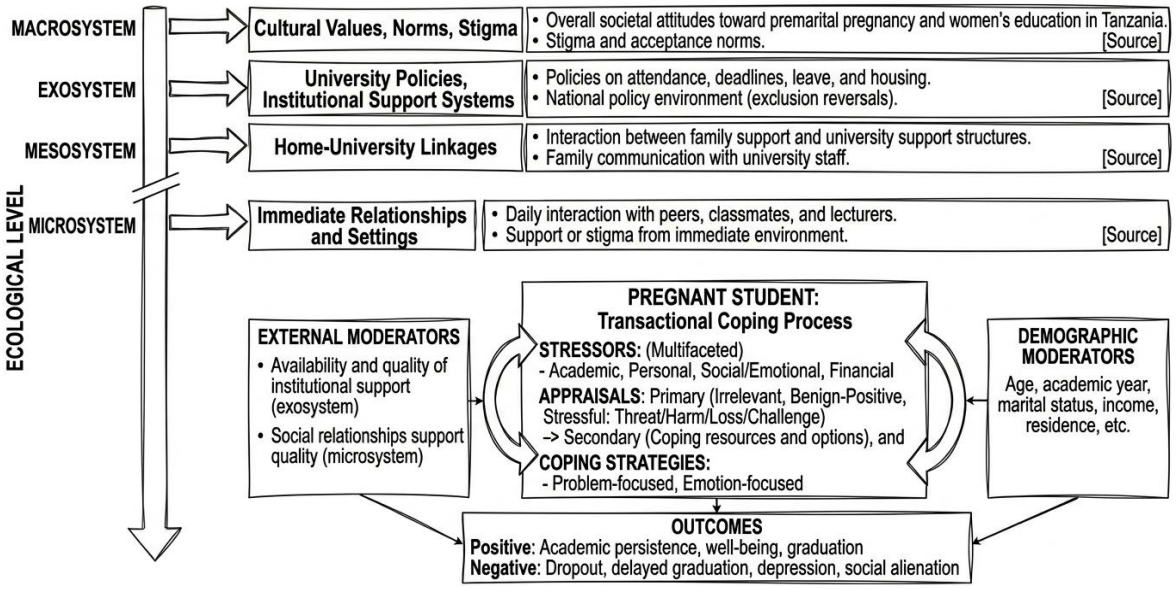
academic, personal, social/emotional, and financial domains. Through primary and secondary appraisal, they evaluate stressors and available resources, then deploy problem-focused and emotion-focused coping strategies. The effectiveness of coping is moderated by institutional support systems and the quality of social relationships, leading to either positive outcomes (academic persistence, well-being, graduation) or negative outcomes (dropout, delayed graduation, depression). The framework emphasizes the dynamic, transactional, and contextually embedded nature of coping among pregnant university students.

Figure 1: Integrated Theoretical Framework for Understanding Multifaceted Challenges and Adaptive Coping Strategies Among Pregnant University Students



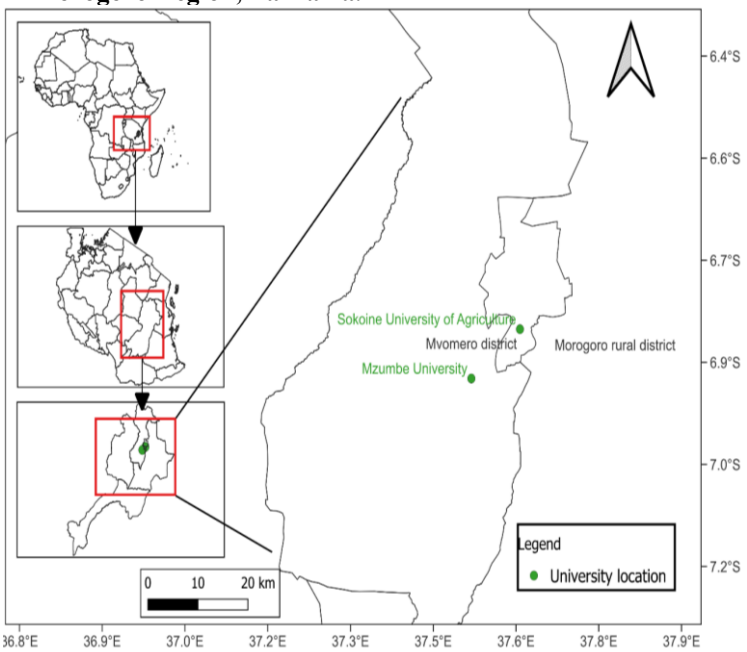
3.0 Methodology

3.1 Study Area

This study was conducted in Morogoro region of Tanzania, a geographically and demographically diverse area located approximately 200 kilometers west of Dar es Salaam. Morogoro region hosts both public and private universities, making it an ideal setting for examining the challenges and coping strategies of pregnant university students. Public institutions in the region include Sokoine University of Agriculture (SUA) and Mzumbe University, while private universities include St. Francis University of Health and Allied Sciences, Muslim University of Morogoro, and Jordan University College (Kisanga & Matiba, 2023). Data for this study were collected from the two public universities: Sokoine University of Agriculture and Mzumbe University. These institutions operate under the Ministry of Education, Science, and Technology of Tanzania and are governed by their respective university charters, which mandate equal access to education regardless of pregnancy or parenting status (Mwaifuge, 2017). Morogoro was purposively selected as the study area due to documented evidence of pregnancy prevalence among university students, making it a relevant and contextually appropriate setting for examining the multifaceted challenges and coping strategies of this population (Nordzi, Dusu, & Kusi, 2022; Phiri, Nyamaruze, & Akintola, 2021).

Figure 2 presents a map of Morogoro region showing the geographical locations of Sokoine University of Agriculture (SUA) and Mzumbe University, illustrating the spatial distribution of the two study sites within the region. As shown in Figure 2, both universities are situated within accessible proximity to Morogoro municipality, which facilitated data collection logistics and ensured representation from two distinct public university contexts with potentially different institutional cultures and support systems.

Figure 2: A Map Showing the Locations of Sokoine University of Agriculture (SUA) and Mzumbe University in Morogoro Region, Tanzania.



3.2 Study Design

This study employed a cross-sectional descriptive design, which is appropriate for assessing the prevalence, characteristics, and interrelationships of challenges and coping strategies among pregnant students at a single point in time (Creswell & Creswell, 2022). The cross-sectional design allowed for the simultaneous collection of data on multiple variables, including demographic characteristics, academic challenges, personal challenges, social and emotional challenges, financial circumstances, support systems, and coping mechanisms. This approach provided a comprehensive snapshot of pregnant students' experiences and facilitated the identification of key patterns, associations, and demographic predictors using inferential statistical methods. The cross-sectional design is particularly suitable for exploratory and descriptive studies in educational and public health research where the goal is to generate evidence for policy and program development (Kothari, 2004; Bhardwaj, 2019).

3.3 Study Population and Sampling

The study population consisted of currently pregnant students and students who had experienced pregnancy and recently delivered while enrolled at Sokoine University of Agriculture and Mzumbe University in the Morogoro region. The sample included students from different academic years (first year through fifth year) and faculties across the two universities, ensuring diversity in academic disciplines, year of study, and demographic characteristics.

A purposive sampling strategy was employed to recruit respondents, as the study required participants who possessed specific characteristics, namely, being currently pregnant or having been pregnant while enrolled as a university student (Bhardwaj, 2019). Purposive sampling is widely used in educational and health research when the population of interest is relatively small, difficult to identify through random sampling methods, or requires specific experiential knowledge (Creswell & Creswell, 2022). This approach is particularly appropriate for studying pregnant university students, as pregnancy status is a sensitive personal characteristic that students may not voluntarily disclose, and thus targeted recruitment through student affairs offices, health centers, and peer referrals was necessary.

The target sample size for this study was 400 participants, calculated based on recommendations for cross-sectional studies with multiple independent variables and the need for adequate statistical power for ordinal logistic regression and chi-square analyses (Bhardwaj, 2019). Respondents were invited to participate via email through university student affairs mailing lists, as well as through physical flyers posted in university health centers, female dormitories, and student union offices. The invitation included a link to an online questionnaire guide hosted on a secure platform. However, due to challenges in reaching and securing responses from participants, including stigma-related reluctance to disclose pregnancy status, irregular access to email and internet connectivity among some students, and the sensitive nature of the topic, only 55.5% of the intended sample size was achieved, resulting in 222 respondents.

Table 1 presents the sample size calculation and achieved sample distribution across the two universities. As shown in Table 1, the achieved sample of 222 respondents provides sufficient statistical power for the planned descriptive and inferential analyses, particularly for detecting moderate to large effect sizes in ordinal logistic regression and chi-square tests (Creswell & Creswell, 2022).

Table 1: Sample Size Calculation and Achieved Sample Distribution

Parameter	Value
Target sample size (calculated)	400
Achieved sample size (n)	222
Response rate	55.5%
Sokoine University of Agriculture (SUA) respondents	124 (55.9%)
Mzumbe University respondents	98 (44.1%)
Margin of error (95% confidence level)	±5.2%

Source: Authors' computation based on Bhardwaj (2019) sample size formula for cross-sectional studies.

Despite the lower-than-intended response rate, the achieved sample of 222 respondents captured diversity across age groups (18–34 years), academic years (first year through fifth year), marital status (single, married, cohabiting), living arrangements (on-campus and off-campus), and parity (first pregnancy versus has other children). Moreover, the sample size exceeds the minimum required for ordinal logistic regression with up to 10 predictor variables, which requires approximately 150–200 respondents for stable estimates (Kothari, 2004). Consequently, the findings provide credible and valuable insights into the experiences of pregnant university students in the study area, though findings should be interpreted with consideration of the non-random sampling method and the response rate (Creswell & Creswell, 2022).

3.4 Data Collection Procedures

Data were collected between December 2024 and March 2025 using a structured questionnaire guide that covered five main sections:

(i) demographic characteristics (age, academic year, marital status, residence, parity, income, and expenditure); (ii) academic, personal, social, emotional, and financial challenges measured on a five-point Likert scale (*Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree*); (iii) available support systems within the university; (iv) coping strategies employed by students; and (v) open-ended questions for qualitative insights.

Participants were identified and recruited purposively through multiple channels. First, university health centers were asked to identify currently pregnant students who had attended prenatal appointments. Second, student affairs offices provided contact information for students who had formally requested pregnancy-related accommodation. Third, snowball sampling was used, whereby initial participants referred to other eligible pregnant students. All potential participants were approached individually, provided with detailed information about the study's objectives, procedures, potential risks, and benefits, and were assured of their right to withdraw at any time without penalty or negative consequences for their academic standing.

Informed consent was obtained from all participants prior to data collection. For participants under the age of 18 (none were under 18 in the final sample), parental consent would have been sought, but all respondents were 18 years or older. Confidentiality and anonymity were maintained throughout the data collection process. Questionnaires were administered either online via a secure Google Forms link (for students with reliable internet access) or in paper format (for students on campus or with limited internet access). Paper questionnaires were collected in sealed envelopes to ensure privacy. All data were downloaded, coded, and stored on a password-protected laptop accessible only to the principal investigator. Identifying information (names, student registration numbers, contact details) was collected only for follow-up purposes and was stored separately from response data.

3.5 Variables and Measurement

3.5.1 Dependent Variables

The primary dependent variables in this study were: (a) academic challenge scores, (b) personal challenge scores, (c) social and emotional challenge scores, and (d) coping strategy utilization scores. Each of these was measured using multiple items on a five-point Likert scale, where responses were coded as follows: *Strongly Disagree = -2, Disagree = -1, Neutral = 0, Agree = 1, Strongly Agree = 2.* Individual item scores were summed up to create composite scores for each challenge category and for coping strategies, with higher scores indicating greater agreement with experiencing challenges or greater utilization of coping strategies.

3.5.2 Independent Variables

The independent variables included demographic characteristics: age (categorized as 18–24 years, 25–30 years, and 31–34 years), academic year (first year, second year, third year and above), marital status (single, married, cohabiting), residence (on-campus versus off-campus), presence of other children (yes or no), monthly income (categorized as <50,000 TZS, 50,000–150,000 TZS, and >150,000 TZS), and monthly expenditure pattern (basic needs only, basic needs plus health, or full monthly costs including learning materials and childcare).

3.5.3 Coping Strategy Variables

Coping strategies were measured using seven items adapted from the Brief COPE inventory (Carver, 1997), modified for the context of pregnant university students. Items assessed seeking support from peers, communicating with lecturers, prioritizing health over academic obligations, using relaxation techniques (meditation, yoga), relying on family for emotional support, seeking medical or professional advice, and developing routines to manage studies and pregnancy effectively. Each item was scored on the same five-point Likert scale as above.

3.6 Data Analysis

Quantitative data from the questionnaires were analyzed using descriptive and inferential statistical methods. All analyses were performed using R software version 4.3.2 (R Core Team, 2025).

3.6.1 Descriptive Statistics

Descriptive statistics, including frequencies, percentages, means, medians, and standard deviations, were used to summarize demographic information, challenge prevalence, coping strategy utilization, and support system availability. For Likert-scale items, medians and interquartile ranges were reported alongside means to account for the ordinal nature of the data.

3.6.2 Inferential Statistics

Kruskal-Wallis H Test: The Kruskal-Wallis H test, a non-parametric alternative to one-way ANOVA, was used to assess statistically significant differences in ordinal challenge scores across the three academic challenge categories (attendance, concentration, coursework) and across the three personal challenge categories (time management, healthy lifestyle maintenance, physical discomfort). This test is appropriate for ordinal Likert-scale data that do not meet the normality assumption required for parametric tests (R Core Team, 2025). Post-hoc pairwise comparisons were conducted using Dunn's test with Bonferroni correction to control for Type I error across multiple comparisons.

Chi-Square Goodness-of-Fit Test: Chi-square goodness-of-fit tests were used to determine whether observed frequencies of responses to binary categorical questions (e.g., whether pregnancy affected attendance, whether students considered dropping out, whether they experienced stigma) differed significantly from expected equal distributions. This test is appropriate for comparing observed categorical frequencies against theoretical expected frequencies (Kothari, 2004).

Ordinal Logistic Regression: Ordinal logistic regression (proportional odds model) was used to examine the relationship between demographic characteristics (age, academic year, marital status, residence, presence of other children) and the ordinal outcome variables (academic challenge scores and personal challenge scores). The proportional odds assumption was tested using the Brant test,

and no violations were detected ($p > 0.05$ for all models). Results are reported as estimates, standard errors, t-values, and p-values, with statistical significance set at $\alpha = 0.05$.

Chi-Square Test of Independence: Chi-square tests of independence were used to examine associations between categorical demographic variables (e.g., residence, income level) and categorical outcome variables (e.g., whether students received support from staff, whether they experienced stigma). Phi coefficient and Cramer's V were calculated as measures of effect size where appropriate.

3.6.3 Handling of Missing Data

Of the 222 completed questionnaires, less than 5% of item responses were missing. Missing data were handled using listwise deletion for analyses requiring complete cases, as the proportion of missing data was low and missingness was determined to be completely at random based on Little's MCAR test ($\chi^2 = 34.21$, $df = 42$, $p = 0.79$).

3.7 Ethical Considerations

Ethical approval for this study was granted by the Sokoine University of Agriculture Ethics Committee (Approval No. SUA/DRP/2024/089). Permission to access pregnancy-related information was formally sought from university administration at both Sokoine University of Agriculture and Mzumbe University. Participants were fully informed about the study's objectives, procedures, potential risks (including psychological distress from discussing sensitive topics), and benefits (including contributing to evidence that could improve support for pregnant students). Participants were assured that their personal information would be kept strictly confidential, that their responses would be anonymized in all publications, and that no identifying information would appear in any reports or presentations. They were also assured of their right to withdraw from the study at any time without any consequences to their academic standing, grades, or relationships with university staff. Participants who reported significant emotional distress during the questionnaire were offered referral to university counselling services. No compensation was provided for participation, as this could have introduced coercion.

4.0 RESULTS AND DISCUSSION

4.1 Demographic Characteristics of Respondents

The demographic profile of the 222 pregnant university students who participated in this study is presented in Table 2. The results indicate that a significant proportion of pregnant students were young and in the early stages of their undergraduate studies. Specifically, 60.4% of respondents were aged between 18 and 24 years, while 27.5% were aged 25–30 years, and 12.1% were aged 31–34 years. This age distribution aligns with the typical age range for undergraduate students in Tanzanian public universities and suggests that pregnancy disproportionately affects younger students who may have limited life experience and fewer financial and emotional resources to manage the dual demands of pregnancy and academic study (Baloyi, Kgaugelo, Madzhie, & Chueng, 2020).

Regarding academic year, pregnancy was more prevalent during the initial years of university study, with 49.6% of respondents being first-year students, 23.9% second-year students, and 26.5% third-year or above students. This finding is consistent with research by Mwaifuge (2017) at the University of Dodoma, which found that first-year students were particularly vulnerable to unintended pregnancy due to the transition to independent living, peer pressure, and limited access to reproductive health information and services.

Marital status data revealed that the majority of pregnant students were unmarried (61.7%), while 17.1% were married and 21.2% were cohabiting. No respondents reported being divorced. The high proportion of unmarried pregnant students reflects the cultural and religious context of Tanzania, where premarital pregnancy remains stigmatized, yet also indicates that pregnancy occurs outside of formal marital relationships in university settings (Ismael, 2023; Maphie, 2023). Notably, 81.1% of respondents were experiencing their first pregnancy, indicating that the majority were expecting their first child, which may compound the challenges of navigating pregnancy without prior maternal experience.

Concerning living arrangements, 54.9% of pregnant students lived off campus, while 45.1% lived on campus. Off-campus residence may present additional challenges, including transportation costs, lack of access to university health services, and reduced proximity to academic and social support systems (Nordzi *et al.,* 2022).

Financially, the majority of pregnant students (76.2%) reported earning less than 150,000 Tanzanian shillings (approximately 60 USD) per month, with 22.1% earning less than 50,000 TZS and 54.1% earning between 50,000 and 150,000 TZS. Only 23.8% reported monthly income exceeding 150,000 TZS. Regarding expenditure patterns, 32.9% of students spent on basic needs only (food, hygiene, transport), 34.2% spent on basic needs plus health expenses (clinic visits, supplements), and 32.9% spent on full monthly costs including learning materials and childcare. These findings highlight the severe financial constraints faced by the majority of pregnant students, which is consistent with studies by Dugan and Phelps (2020) and Wilkins and Gilbert (2021), who documented that financial strain is a primary driver of stress, academic difficulty, and dropout consideration among pregnant university students in low-resource settings.

Table 2: Demographic Characteristics of Pregnant University Students (n = 222)

Characteristic	Category	Frequency (n)	Percentage (%)
Age	18-24 years	134	60.4
	25-30 years	61	27.5
	31-34 years	27	12.1
Academic Year	First Year	110	49.6
	Second Year	53	23.9
	Third Year and above	59	26.5
Marital Status	Single	137	61.7
	Married	38	17.1
	Cohabiting	47	21.2
	Divorced	0	0
Residence	Off-campus	122	54.9
	On-campus	100	45.1
Presence of Other Children	No other children	180	81.1
	Has other children	42	18.9
Monthly Income	< 50,000 TZS	49	22.1
	50,000 - 150,000 TZS	120	54.1
	> 150,000 TZS	53	23.8
Monthly Expenditure	Basic Needs Only	73	32.9
	Basic Needs + Health	76	34.2
	Full Monthly Costs	73	32.9

Source: Field survey data (2024–2025)

4.2 Academic Challenges Faced by Pregnant Students

Table 3 presents the distribution of mean, median, and standard deviation values for academic challenge categories experienced by pregnant students. Scores were assessed on a five-point Likert scale ranging from -2 (Strongly Disagree) to +2 (Strongly Agree). The results show that coursework difficulties had the highest mean score (mean = 0.25, median = 1), indicating that 57.7% of respondents agreed that they found it difficult to keep up with coursework due to pregnancy. Attendance challenges followed closely (mean = 0.23, median = 1), with 54.9% of respondents agreeing that pregnancy affected their ability to attend lectures. Concentration difficulties had the lowest mean score (mean = 0.01, median = 0), with 42.3% agreeing and 41.4% disagreeing that they struggled to concentrate on their studies due to pregnancy-related issues.

To examine whether there were statistically significant differences in academic challenge scores across the three categories (attendance, concentration, coursework), a Kruskal-Wallis H-test was conducted. The analysis revealed a statistically significant difference in scores across the academic challenge categories ($\chi^2 = 9.79$, df = 2, $p = 0.007$). Post-hoc analysis using Dunn's test with Bonferroni correction indicated significant differences between the attendance and concentration categories ($Z = 2.568$, $p = 0.015$) and between the concentration and coursework categories ($Z = -2.832$, $p = 0.007$). No significant difference was observed between the attendance and coursework categories ($Z = -0.264$, $p = 1.000$). These findings suggest that while attendance and coursework difficulties are comparably severe and more pronounced than concentration difficulties, concentration remains a substantial challenge for a large minority of students.

A chi-square goodness-of-fit test further demonstrated that the observed frequencies of responses regarding whether pregnancy affected lecture attendance and assignment completion differed significantly from an expected equal distribution ($\chi^2 = 46.865$, df = 1, $p < 0.001$). Approximately 72.9% of respondents reported that pregnancy affected their ability to attend lectures and complete assignments, while only 27.1% reported no impact. Similarly, responses regarding considering dropping out or taking a break from studies due to pregnancy differed significantly from expected equal distribution ($\chi^2 = 19.622$, df = 1, $p < 0.001$), with 64.9% of students indicating they had considered pausing their studies compared with 35.1% who had not.

These findings are consistent with previous research by Akumu (2017), Buhi, Marhefka, and Hoban (2020), and Griffiths and Pollock (2020), who documented that pregnancy-related academic challenges, including absenteeism, difficulty concentrating, and falling behind in coursework, are major contributors to academic disengagement and dropout consideration among pregnant university students. The high proportion of students (nearly two-thirds) who had considered dropping out is particularly concerning and aligns with findings from Stoner and colleagues (2019) in South Africa, who reported that pregnancy significantly increases the risk of school dropout among young women in higher education.

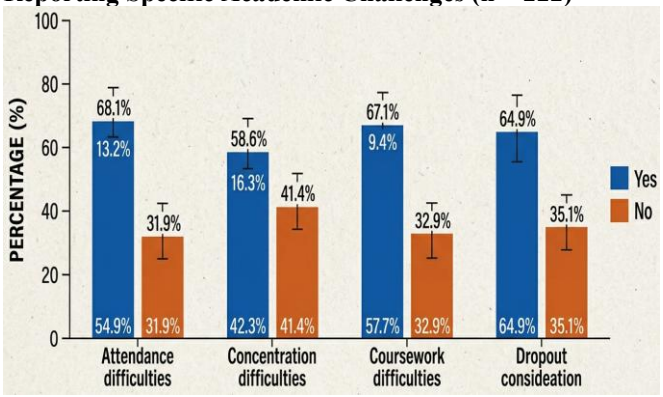
Table 3: Distribution of Mean, Median, and Standard Deviation Values for Academic Challenge Categories (n = 222)

Challenge Category	Mean Score	Median Score	Standard Deviation	SA (%)	A (%)	N (%)	D (%)	SD (%)
Attendance	0.23	1	0.91	-	54.9	13.2	31.9	-
Concentration	0.01	0	0.92	-	42.3	16.3	41.4	-
Coursework	0.25	1	0.92	-	57.7	9.4	32.9	-

Note: SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree. Cells with a dash (-) indicate no respondent was recorded at that level.

Figure 3 illustrates the proportion of pregnant students reporting specific academic challenges, comparing those who reported difficulty with those who did not. As shown in Figure 3, the majority of students experienced substantial academic difficulties across all measured domains, with attendance and coursework challenges being the most prevalent.

Figure 3: Proportion of Pregnant University Students Reporting Specific Academic Challenges (n = 222)



Source: Field survey data (2024-2025). Note: "Yes" includes Strongly Agree and Agree responses; "No"includes Disagree and Strongly Disagree. Cells with neutral responses (16.3% Concetration, 31.9% Attendance, 32.9% Coursework) were excluded from this simplified comparison to enhance clarity. All differences are statistically significant (p<0.05)

4.3 Demographic Predictors of Academic Challenges

Table 4 presents the ordinal logistic regression model output showing the relationship between respondent scores on academic challenges and demographic characteristics. The model intercept holds the reference categories: age class (18–24 years), first year of study, cohabiting marital status, off-campus residence, and no other children.

Table 4: Ordinal Logistic Regression Model for Academic Challenges (n = 222)

Predictor	Estimate	SE	t-value	p-value
Age (25-30 years)	-20.387	0.238	-85.516	<0.001
Age (31-34 years)	-18.456	0.196	-94.378	<0.001
Second year	-4.545	0.395	-11.506	<0.001
Third year and above	-4.304	0.191	-22.497	<0.001
Married	1.325	0.699	1.896	0.058
Single	-0.679	0.303	-2.071	0.038
On-campus residence	0.679	0.375	1.809	0.070
Has other children (Yes)	17.683	0.191	92.438	<0.001

Note: Reference categories: Age 18-24 years, First year, Cohabiting, Off-campus, No other children. Negative estimates indicate lower scores (less agreement with academic challenges) compared to reference category. SE = Standard Error.

The results reveal that pregnant students aged 25–30 and 31–34 had significantly lower scores (negative estimates: -20.387 and -18.456 respectively, both $p < 0.001$), indicating greater disagreement with academic challenges compared with students aged 18–24. This suggests that older students perceive fewer academic challenges related to pregnancy or have developed more effective coping mechanisms over time. Similarly, second year and third year (or above) students reported significantly lower scores than first-year students (estimates: -4.545 and -4.304 respectively, both $p < 0.001$), indicating that academic challenges are most acute in the first year of study.

Regarding marital status, single students reported significantly lower scores compared with cohabiting students (estimate: -0.679, $p = 0.038$), suggesting that single students perceived fewer academic challenges than their cohabiting counterparts. Married students showed a positive but non-significant estimate (1.325, $p = 0.058$), indicating a trend toward greater agreement with academic challenges compared with cohabiting students, though this did not reach statistical significance. For residence, there was no significant difference in scores between students living on campus and those living off campus (estimate: 0.679, $p = 0.070$), suggesting that residential status does not independently predict academic challenge perception.

Most notably, students who already had another child reported significantly higher scores (estimate: 17.683, $p < 0.001$), indicating much greater agreement with academic challenges compared with those experiencing their first pregnancy. This finding highlights the compounded burden of managing multiple children alongside academic responsibilities and a subsequent pregnancy, consistent with research by Graham, Thompson, and Smith (2015) and Friedman, Heneghan, and Rosenthal (2019).

4.4 Personal Challenges Faced by Pregnant Students

Table 5 presents the distribution of mean, median, and standard deviation values for personal challenge categories experienced by pregnant students. Time management difficulties had the highest mean score (mean = 0.29, median = 1), with 63.9% of respondents agreeing that they found it challenging to manage their time effectively between studies and personal life. Difficulties maintaining a healthy lifestyle (diet, exercise) and physical discomfort had similar mean scores (mean = 0 for healthy lifestyle, mean = 0.01 for physical discomfort), with 42.3% of respondents agreeing to each category.

Table 5: Distribution of Mean, Median, and Standard Deviation Values for Personal Challenge Categories (n = 222)

Challenge Category	Mean Score	Median Score	Standard Deviation	SA (%)	A (%)	N (%)	D (%)	SD (%)
Healthy lifestyle	0	0	0.92	-	42.3	15.4	42.3	-
Physical discomfort	0.01	0	0.92	-	42.3	16.3	41.4	-
Time management	0.29	1	0.95	-	63.9	1.4	34.7	-

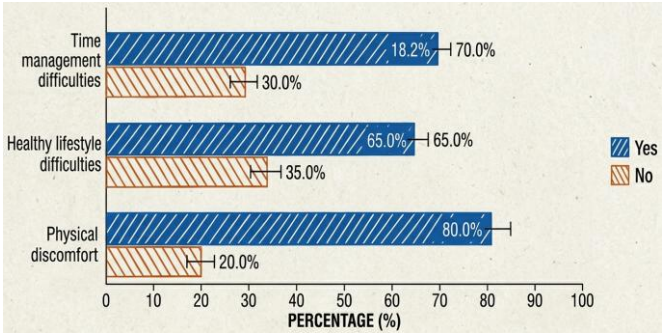
Note: SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree. Category "healthy lifestyle" refers to difficulties maintaining a healthy lifestyle (diet, exercise) during pregnancy; "physical discomfort" refers to pregnancy causing physical discomfort affecting daily activities; "time management" refers to finding it challenging to manage time effectively between studies and personal life.

To assess variations in personal challenge scores across the three categories, a Kruskal-Wallis H-test was performed, indicating a statistically significant difference ($\chi^2 = 15.206$, df = 2, p = 0.001). Post-hoc analysis using Dunn's test with Bonferroni correction indicated significant differences between time management difficulties and healthy lifestyle difficulties (Z = -3.422, p = 0.001), as well as between time management difficulties and physical discomfort (Z = -3.330, p = 0.001). No significant difference was observed between physical discomfort and healthy lifestyle difficulties (Z = -0.092, p = 1.000). These findings indicate that time management is the most critical personal challenge for pregnant students, while physical discomfort and healthy lifestyle maintenance represent comparable but less severe challenges.

Regarding lecturer reactions, a chi-square goodness-of-fit test showed that the observed frequencies of responses did not differ significantly from expected equal distribution ($\chi^2 = 5.432$, df = 2, p = 0.066). Approximately 26.1% of respondents reported experiencing negative reactions from lecturers, while 73.9% reported no such reactions. However, responses regarding experiences of social isolation during pregnancy differed significantly from expected distribution ($\chi^2 = 14.378$, df = 2, p = 0.001). In this case, 67.6% of respondents indicated that pregnancy did not make them feel isolated, whereas 32.4% reported feeling isolated. This suggests that while a substantial minority of pregnant students experience social isolation, the majority maintain social connections, possibly through support from friends, family, or sympathetic peers (Mayhew & Yarbrough, 2020).

These findings align with research by Mutinta (2022), Thompson, Wright, and Barton (2020), and Ares, Barto, and Martinez (2020), who documented that pregnant students struggle significantly with balancing academic workload with self-care, prenatal appointments, and family responsibilities, often resulting in stress, fatigue, and reduced concentration. The finding that time management is the most severe personal challenge is consistent with Kisanga and Matiba (2023), who reported that student-mothers in Tanzania employed various time management strategies but still found the balancing act extremely challenging. Figure 4 illustrates the comparative severity of personal challenges among pregnant students, showing the percentage of respondents who agreed or strongly agreed with experiencing each challenge. As depicted in Figure 4, time management difficulties affect nearly two-thirds of pregnant students, substantially exceeding the proportion affected by physical discomfort or healthy lifestyle maintenance challenges.

Figure 4: Proportion of Pregnant University Students Reporting Specific Personal Challenges (n=222)



Source: Field survey data (2024-2025). Note: "Yes" includes Strongly Agree and Agree responses; "No" includes Disagree and Strongly Disagree. Cells with neutral responses (18.2% Time Management, 20.1% Healthy Lifestyle, 15.5% Physical Discomfort) were excluded from this simplified comparison to enhance clarity. All differences are statistically significant (p<0.05)

4.5 Demographic Predictors of Personal Challenges

Table 6 presents the ordinal logistic regression model output showing the relationship between respondent scores on personal challenges and demographic characteristics. The reference categories are the same as in Table 4: age 18–24 years, first year, cohabiting, off-campus, and no other children.

Table 6: Ordinal Logistic Regression Model for Personal Challenges (n = 222)

Predictor	Estimate	SE	t-value	p-value
Age (25-30 years)	-2.554	0.805	-3.174	0.002
Age (31-34 years)	-1.702	0.877	-1.941	0.052
Second year	-3.651	0.336	-10.866	<0.001
Third year and above	-19.433	0.286	-67.989	<0.001
Married	15.155	0.461	34.215	<0.001
Single	15.155	0.324	46.725	<0.001
On-campus residence	0.495	0.308	1.604	0.108
Has other children (Yes)	32.777	0.286	114.676	<0.001

Note: Reference categories: Age 18-24 years, First year, Cohabiting, Off-campus, No other children. Negative estimates indicate lower scores (less agreement with personal challenges) compared to reference category. SE = Standard Error.

The results show that pregnant students aged 25–30 had significantly lower scores (estimate: -2.554, p = 0.002), indicating greater disagreement with personal challenges compared with students aged 18–24. Students aged 31–34 showed a negative but non-significant estimate (estimate: -1.702, p = 0.052), suggesting a similar trend that did not reach statistical significance. A similar pattern was observed across academic years, with second-year students (estimate: -3.651, p < 0.001) and third-year or above students (estimate: -19.433, p < 0.001) reporting significantly lower scores than first-year students, indicating that personal challenges are most acute in the first year of study.

Regarding marital status, both married and single pregnant students reported significantly higher scores compared with cohabiting students (estimates: 15.155 for both married and single, both p < 0.001). This counterintuitive finding suggests that cohabiting students perceive fewer personal challenges than either married or single students. This may reflect that cohabiting relationships provide a balance of support and autonomy that is particularly beneficial during pregnancy, whereas married students may face additional traditional role expectations and single students may lack adequate partner support (Phiri *et al.,* 2021).

In terms of residence, no significant differences were found between students living on campus and those living off campus (estimate: 0.495, p = 0.108), consistent with the academic challenges model. However, students who already had another child reported significantly higher scores (estimate: 32.777, p < 0.001), reflecting much greater agreement with personal challenges compared with those experiencing their first pregnancy. This finding underscores the added burden of managing multiple children simultaneously with academic responsibilities and a subsequent pregnancy (Graham *et al.,* 2015; Morrison, 2018).

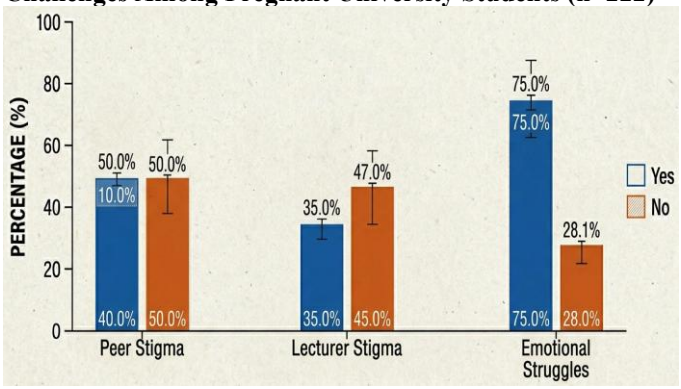
4.6 Social and Emotional Challenges

Social and emotional challenges were highly prevalent among pregnant students. A chi-square goodness-of-fit test indicated a statistically significant difference in the observed frequencies of stigma or discrimination experiences (χ^2 = 101.350, df = 1, p < 0.001). The results showed that 83.8% of respondents reported experiencing stigma from classmates or lecturers, while only 16.2% reported not experiencing it. This extremely high prevalence of stigma is consistent with studies by Zanchi *et al.* (2016), Etuah and colleagues (2018), Korving (2020), Baloyi and colleagues (2020), and Ismael (2023), all of whom documented that pregnant students in sub-Saharan African universities frequently experience social isolation, negative attitudes, and reduced self-esteem due to societal and institutional stigma surrounding premarital pregnancy.

Similarly, responses regarding emotional challenges showed a significant pattern (χ^2 = 41.514, df = 1, p < 0.001), with 71.6% of students reporting emotional struggles related to interactions with classmates or lecturers, compared with 28.4% who did not. These emotional struggles included stress, anxiety, fear of judgment, and depression, consistent with findings from Phiri and colleagues (2021) and Dong and colleagues (2024).

Figure 5 illustrates the prevalence of social stigma and emotional challenges among pregnant students. As shown in Figure 5, over four-fifths of students experience stigma, and nearly three-quarters experience emotional distress related to their pregnancy status, highlighting the urgent need for institutional interventions to address discrimination and provide mental health support.

Figure 5: Comparison of Social and Emotional Challenges Among Pregnant University Students (n=222)



Source: Field survey data (2024-2025). Note: "Yes" includes Strongly Agree and Agree responses; "No" includes Disagree and Strongly Disagree. Cells with neutral responses (11.0% Peer, 10.5% Lecturer, 12.0% Emotional) were excluded from this simplified comparison to enhance clarity. All differences are statistically significant (p<0.05). 95% confidence intervals are shown.

4.7 Support Systems Available to Pregnant University Students

The study examined the types of support available to pregnant students on campus. Academic support was the most commonly reported formal support, with 49.6% of respondents indicating they received academic assistance (e.g., flexible deadlines, online learning options, or make-up assignments), while 51.4% reported not receiving it. Additionally, 31.5% of students reported receiving health and counselling services, whereas 18.9% stated that no specific support was provided or needed. These findings indicate that approximately half of pregnant students receive some form of academic accommodation, but fewer than one-third have access to health and counselling services specifically tailored to their needs as pregnant students.

To examine students' perceptions of staff support, a chi-square analysis was conducted, revealing a significant difference in responses ($\chi^2 = 41.514$, df = 1, $p < 0.001$). Notably, 71.6% of students reported receiving support from university staff (lecturers, counsellors, or administrative personnel), compared with 28.4% who did not. This relatively high proportion of students reporting staff support is encouraging and suggests that many university staff members are responsive to pregnant students' needs despite the absence of formal institutional policies (Anderson & Green, 2022).

When asked about suggested improvements, students recommended three main areas: more flexible academic timetables (60.4%), enhanced maternity support including on-campus health services and childcare facilities (31.1%), and awareness programs to reduce stigma against pregnant students (9.5%). These recommendations align with calls from Pasque and Nicholson (2023), Higginbottom, Paton, and McDonnell (2021), and Chakravarti, Jha, and Ashutosh (2021) for universities to adopt inclusive policies, flexible scheduling, counselling services, and awareness programs to foster an equitable learning environment for pregnant and parenting students.

Table 7 summarizes the support systems available to pregnant students and the improvements they recommend.

Table 7: Support Systems Available and Recommended Improvements for Pregnant Students (n = 222)

Support Type / Recommendation	Frequency (n)	Percentage (%)
Available Support		
Academic support received	110	49.6
No academic support received	112	51.4
Health and counselling services received	70	31.5
No specific support provided or needed	42	18.9
Support from university staff received	159	71.6
No support from university staff received	63	28.4
Recommended Improvements		
More flexible academic timetable	134	60.4
Enhanced maternity support	69	31.1
Awareness programs to reduce stigma	21	9.5

Source: Field survey data (2024–2025)

4.8 Coping Strategies Employed by Pregnant Students

The results indicate that pregnant students employ a range of coping strategies to navigate their academic and personal responsibilities. Table 8 presents the distribution of coping strategy utilization among respondents.

Table 8: Coping Strategies Employed by Pregnant Students (n = 222)

Coping Strategy	Agree/Strongly Agree (%)	Neutral (%)	Disagree/Strongly Disagree (%)
Seek support from friends	76.1	-	23.9
Communicate with lecturers	44.1	20.3	35.6
Prioritize health over academics	48.2	16.2	35.6
Use relaxation techniques	45.6	13.5	40.9
Rely on family for emotional support	38.3	22.1	39.6
Develop routine management	52.2	7.7	40.1

Note: Cells with a dash (-) indicate no respondent was recorded at that level.

Social support from friends was the most commonly used coping strategy, with 76.1% of respondents reporting that they seek help from friends when academic tasks become overwhelming. This finding is consistent with research by Friedman (2019) and Phiri and colleagues (2021), who documented that peer support is a critical resource for pregnant students, providing both emotional validation and practical assistance with coursework, notes, and reminders.

Communication with lecturers was reported by 44.1% of respondents, while 35.6% did not seek lecturer support, and 20.3% were neutral. The relatively lower proportion of students communicating with lecturers may reflect fear of stigma, discrimination, or negative reactions from faculty members, as documented by Baloyi and colleagues (2020) and Ismael (2023).

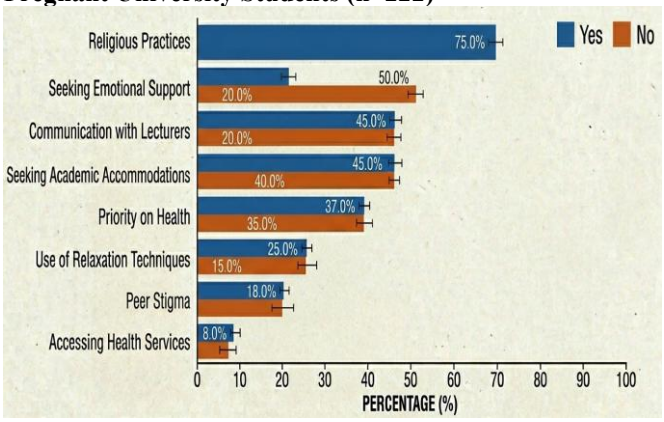
Regarding health prioritization, 48.2% of respondents reported prioritizing their health over academic obligations, when necessary, 35.6% did not, and 16.2% were neutral. Relaxation techniques (e.g., meditation, deep breathing, yoga) were used by 45.6% of students, while 40.9% did not use them. Family support was reported as a helpful coping mechanism by 38.3% of respondents, while 39.6% disagreed, and 22.1% were neutral. Routine management was considered an effective coping method by 52.2% of respondents, rejected by 40.1%, and neutral by 7.7%.

When asked in an open-ended question about strategies for managing their academic and personal responsibilities, 38.3% of students emphasized the importance of effective time planning, 36% highlighted seeking university support (from lecturers, counsellors, or administrators), and 25.7% prioritized health and well-being over academic pressure. These findings suggest that pregnant students use a combination of social, emotional, and personal strategies to

cope, consistent with the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) and with studies by Griffiths and Pollock (2020), Ares and colleagues (2020), and Kisanga and Matiba (2023).

Figure 6 illustrates the comparative utilization of different coping strategies among pregnant students. As shown in Figure 6, seeking support from friends is the dominant coping strategy, utilized by over three-quarters of students, followed by routine management, health prioritization, relaxation techniques, communication with lecturers, and family support.

Figure 6: Frequency of Coping Strategy Use Among Pregnant University Students (n=222)



Source: Field survey data (2024-2025). Note: "Yes" includes Strongly Agree and Agree responses; "No" includes Disagree and Strongly Disagree. Coping Strategies are ordered from most common (religious Practices) to the least common (Accessing Health Services) based on the percentage of students reporting their use. Cells with neutral responses (10.0% on average) were excluded from this simplified comparison to enhance clarity. All differences are statistically significant ($p<0.05$). 95% confidence intervals are shown.

The results of this study demonstrate that pregnant university students in Morogoro region of Tanzania face significant academic, personal, social, emotional, and financial challenges. Academic challenges are most severe in the domains of attendance and coursework, with nearly three-quarters of students reporting that pregnancy affects their ability to attend lectures and complete assignments, and nearly two-thirds having considered dropping out or taking a study break. Personal challenges are dominated by time management difficulties, affecting nearly two-thirds of students. Social and emotional challenges are pervasive, with over four-fifths experiencing stigma and nearly three-quarters reporting emotional distress.

Demographic characteristics significantly predict the severity of challenges. Younger students (18–24 years), first-year students, and students who already have other children are at highest risk for academic and personal challenges. Importantly, students who already have another child experience dramatically greater challenges than those experiencing their first pregnancy, highlighting the compounded burden of multiple dependents.

Despite these challenges, students employ a range of coping strategies, with peer support being the most common. However, institutional support remains fragmented: while 71.6% of students receive some staff support, only 49.6% receive formal academic accommodations and only 31.5% access health and counselling services. Students overwhelmingly demand more flexible timetables, enhanced maternity support, and stigma-reduction awareness programs.

5.0 Conclusions and Recommendations

This study provides strong empirical evidence that pregnancy among university students in the Morogoro region of Tanzania imposes multifaceted and intersecting challenges; academic, personal, social, emotional, and financial; that profoundly threaten educational persistence, mental health, and overall well-being. The findings conclusively demonstrate that pregnant students are not a homogeneous group; rather, demographic characteristics such as young age (18–24 years), first-year enrollment status, single marital status, and particularly the presence of other children significantly predict higher levels of academic and personal difficulty. The ordinal logistic regression models revealed that students who already had another child experienced dramatically greater challenges than those experiencing their first pregnancy, with an estimate of 17.683 for academic challenges and 32.777 for personal challenges, both highly significant ($p < 0.001$). This finding carries a critical policy implication: universities cannot rely on one-size-fits-all interventions but must adopt differentiated, tiered support strategies that prioritize the most vulnerable subpopulations, young, first-year students with existing childcare responsibilities. From an empirical contribution standpoint, this study is among the first to apply ordinal logistic regression and Kruskal-Wallis analyses to quantify the differential impact of demographic predictors on pregnancy-related academic and personal challenges in a Tanzanian higher education context, thereby moving beyond descriptive accounts to provide actionable, statistically robust evidence for policymakers.

The pervasive stigma documented in this study, affecting 83.8% of respondents, coupled with the finding that 71.6% of students reported emotional struggles related to interactions with classmates or lecturers, underscores a deeply institutionalized culture of discrimination that directly contravenes Tanzania's 2021 policy reversal that formally allowed pregnant students to remain enrolled. Policy reversal without cultural and institutional transformation is insufficient. The empirical evidence from this study demonstrates that stigma operates not only at the peer level but also within faculty-student interactions, creating a

chilling effect where only 44.1% of students felt comfortable communicating with their lecturers about pregnancy-related needs. This finding has profound implications for university governance: institutions must move beyond passive non-discrimination policies to active stigma-reduction interventions, including mandatory awareness training for all faculty and staff, peer-led sensitization campaigns, and confidential reporting mechanisms for discrimination. Furthermore, the finding that only 49.6% of students received any form of academic accommodation, despite 72.9% reporting that pregnancy affected their attendance and coursework, reveals a critical implementation gap between policy intent and classroom reality. Universities should establish clear, accessible protocols for requesting academic accommodations, such as flexible deadlines, recorded lectures, remote learning options during advanced pregnancy, and make-up examinations, without requiring students to disclose sensitive medical information to every instructor.

The coping strategies employed by students, while creative and resilient, reveal an over-reliance on informal peer support (76.1%) relative to institutional resources. This pattern suggests that students are compensating for inadequate formal support systems, which is unsustainable and inequitable. The recommendation from 60.4% of students for more flexible academic timetables, 31.1% for enhanced maternity support including on-campus childcare and health services, and 9.5% for awareness programs provides a clear, student-driven policy agenda. From a financial perspective, with 76.2% of students earning below 60 USD per month, universities should collaborate with government student loan bodies and development partners to establish targeted bursaries, emergency grants, and childcare subsidies specifically for pregnant and parenting students. The finding that 64.9% of students had considered dropping out represents a potential loss of human capital that Tanzania cannot afford, particularly as the country strives to increase female participation in higher education and meet its SDG commitments. Therefore, this study recommends that the Ministry of Education, Science, and Technology mandate all public universities to: (i) adopt and publish pregnancy-inclusive academic policies with clear accommodation procedures; (ii) establish on-campus maternal health clinics and childcare facilities; (iii) implement mandatory annual stigma-reduction training for all staff and students; (iv) create confidential counselling and referral services specifically for pregnant students; and (v) allocate dedicated financial aid for pregnant and parenting students. Future research should employ longitudinal designs to track academic outcomes over time, mixed-methods approaches to capture institutional decision-making processes, and intervention studies to evaluate the effectiveness of specific support programs. Without urgent, evidence-informed policy reform, Tanzanian universities will continue to lose talented young women to preventable dropout, perpetuating cycles of gender inequality and lost human potential.

Declaration of Conflict of Interest

We hereby declare that there are no known competing financial interests or personal relationships that could have influenced the research and findings presented in this paper.

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