Levels of Occupational Stress Among Motorcycle Taxi Riders in Rongai, Kajiado County, Kenya

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ABSTRACT

Motorcycle taxi riders are routinely exposed to demanding working conditions including harsh and unpredictable weather conditions, prolonged working hours, traffic congestion, unstable income, and frequent encounters with law enforcement agencies. Therefore, the objective of this study was to examine levels of occupational stress among motorcycle taxi riders in Rongai, Kajiado County, Kenya. The study was anchored on the Transactional Model of Stress and Coping, and it employed the descriptive research design. The target population comprised 641 motorcycle taxi riders from which a sample size of 247 riders was selected. Data were collected using the Perceived Stress Scale (PSS-10). The findings of the study indicated that 23.2% of the respondents had high occupational stress, 70.4% had moderate occupational stress, while 6.4% had low occupational stress. The study recommends that the County Government of Kajiado in collaboration with mental health service providers should periodically provide psychological screening, psycho-education, brief counselling, and referral services specifically accessible to motorcycle taxi riders.

Keywords: Occupational Stress, Motorcycle Taxi Riders, Rongai; Kajiado County, Kenya

INTRODUCTION

Motorcycle taxi transportation has become an important component of urban and peri-urban mobility in many low- and middle-income countries. The occupation provides employment opportunities and facilitates relatively inexpensive, flexible movement of passengers where conventional public transportation may be limited. However, motorcycle taxi riding is also characterized by occupational demands that may affect the psychological health of the riders. These demands include long working hours, traffic congestion, road hazards, exposure to weather and noise, customer interactions, competition for passengers, financial uncertainty, fatigue and, for some riders, daily motorcycle-rental or remittance obligations (Truong et al., 2021). In this stance, the interaction of these demands may create occupational stress and potentially influence psychological well-being of riders to a greater degree.

Occupational stress is work-related stress caused by a working environment; it occurs when the demands of the work exceed one's ability to cope with the demands. It is regarded as a significant global health issue, and is further defined as a mental and physical condition resulting from work demands exceeding an individual's knowledge and abilities. It is an investigated health risk which ranges from psychological, behavioral, and medical disorders and diseases (Quick & Henderson, 2016). Additionally, the World Health Organization (2020) describes occupational stress as a response to pressures that challenge a person's coping abilities and labels it as a global phenomenon due to its adverse economic, health, and social impacts. It is a harmful response arising when job requirements do not align with a worker's capabilities, resources, or needs (Motta, 2024). Marín-Berges et al. (2025) established that stress among taxi drivers generally ranged from 19% to 55%. The authors further

identified long working hours, poor working conditions, insufficient sleep, work-family conflict, discrimination, and other occupational pressures as important factors associated with psychological difficulties among driver.

In Australia, Davidson et al. (2020) carried out a study on mental health of taxi drivers. The participants were recruited through advertisements at the Melbourne airport taxi holding yard and through the Facebook page of the Victorian Taxi Association. A total of 46 drivers met the eligibility criteria. The average age of participants was 38.2 years (SD 9.8; range 22-57 years), and all participants were male. Over a third (35.7%) of the sample had a university degree and 42.9% had a certificate qualification. Nearly all participants (40/42, 95%) were immigrants, with 51.3% (20/39) having settled permanently in Australia in the last 10 years. According to the findings of the study, at baseline, the mean stress score was 6.88 (SD = 6.71), with 81.0% of participants reporting normal stress, 4.8% mild stress, 7.1% moderate stress, and 7.1% extremely severe stress, while none reported severe stress. Following the intervention, the mean stress score increased to 8.58 (SD = 6.98). The proportion with normal stress decreased to 69.1%, whereas mild stress increased to 11.9% and moderate stress decreased to 4.8%; no participants were classified as having severe or extremely severe stress. Davidson et al. (2020) focused on taxi drivers in Australia, who operate within a relatively different occupational and socioeconomic environment from motorcycle taxi riders in Kenya. Therefore, findings from Australian taxi drivers may not adequately explain occupational stress and psychological well-being among Kenyan motorcycle taxi ride. The Australian urban transport environment, regulatory structures, occupational protections, and social conditions differ considerably from those experienced by motorcycle taxi riders in Rongai, Kajiado County. Consequently, there was a need for research situated within the Kenyan context.

Similarly in the USA, Mirpuri et al (2021) examined levels of stress among taxi drivers. The sample (n=252) was comprised of male taxi drivers, 98%of whom were born outside of the U.S., with the majority from South Asian countries (62%), and 45 years old on average (SD=11). The study found that stress was positively associated with sleep disturbances and negatively associated with smoking. Mirpuri et al. (2021) conducted the study in the United States, where taxi transportation operates within a different socioeconomic, regulatory, occupational, and healthcare environment from that of Kenya. The majority of participants were immigrants from South Asian countries, further making their social and cultural experiences different from those of motorcycle taxi riders operating in Rongai, Kajiado County. Consequently, findings from the United States cannot automatically be generalized to motorcycle taxi riders in Kenya. In addition, Mirpuri et al. (2021) examined levels of stress among taxi drivers, while the present study examines occupational stress.

In Brazil, Cidreira et al. (2023) investigated perceived stress by motor taxi drivers and its relationship with occupational characteristics. The sample consisted of 800 motorcycle taxi drivers. In the sample calculation, the expected prevalence of 50% was adopted for the outcome, precision of 5%, confidence level of 95% and power of 80%, additional 20% for losses, reaching a sample of 398 motorcycle taxi drivers. The study found that 46.8% of the riders had high perceived stress. In Colombia, Useche et al. (2018) investigated working conditions, job strain, and traffic safety among three groups of public transport drivers. A sample of 780 professional drivers was drawn from three transport companies in Bogota sample of 780 professional drivers working in public transport companies was used: 448 (57.4%) city bus drivers, 195 (17.6%) taxi drivers, and 137 (25%) operators of interurban bus. The mean age of participants was X = 41.13 [standard deviation (SD) = 11.3; (18–76)] years. The average antiquity of drivers in their companies was X = 7.9 (SD = 7.58), and the mean of driving experience was X = 18.38 (SD = 9.87) years. Analyses showed significant associations between measures of socio-labor variables and key performance indicators such road traffic accidents and penalties. The study concluded that work stress was an issue that compromised the safety of professional drivers.

Useche et al. (2018) examined working conditions, job strain, and traffic safety, whereas the present study specifically investigated occupational stress. Although job strain and occupational stress are related concepts, they are not necessarily interchangeable. Also, Useche et al. (2018) conducted the study in Bogotá, Colombia, whereas the present study was situated in Rongai, Kajiado County, Kenya. The two settings differ in their transport systems, road environments, socioeconomic conditions, regulatory structures, and organization of public transportation. Therefore, findings from Colombia cannot be directly generalized to motorcycle taxi riders operating in the Kenyan context.

In Brazil, Cidreira et al. (2023) conducted a cross-sectional study on perceived stress among motor taxi drivers and its relationship with socio-demographic and occupational characteristics. Findings from the study revealed that most motorcycle taxi drivers recorded perceived stress of high levels with low control over work, low social support at work, long hours of work of more than eight hours per day. It was further found that 46.8% of the motorcycle taxi drivers had a high level of perceived stress. In addition, 59.1% reported low control over their work, 63.1% experienced high psychological demand, 57.2% reported low social support at work, and 51.1% demonstrated excessive commitment to work. Cidreira et al. (2023) examined perceived stress in relation to sociodemographic and occupational characteristics. In contrast, the present study focused specifically on the levels of occupational stress. Thus, the present study addressed this gap by examining both constructs within the same population. Further, Cidreira et al. (2023) conducted their research in Brazil, whose socioeconomic conditions, transportation systems, road environments, occupational regulations, and motorcycle taxi practices differ from those in Kenya. Consequently, although the Brazilian findings provided useful evidence concerning perceived stress among motorcycle taxi drivers, they cannot be directly generalized to motorcycle taxi riders operating in Rongai, Kajiado County. The present study therefore provided context specific evidence from Kenya.

In Thailand, Rongthong and Boonkerd (2022) conducted a cross-sectional study among 100 motorcycle taxi drivers in Muang District, Nakhon Pathom Provin. The researchers found that 62.0% of riders had a high level of stress, 20.0% had severe stress, and 18.0% had moderate stress. Chronic disease was significantly associated with stress, whereas factors such as gender, age, education, monthly income, work experience, working hours, smoking, and alcohol consumption were not statistically associated with stress in the study.

The study by Rongthong and Boonkerd (2022) involved only 100 motorcycle taxi drivers. In contrast, the present study obtained responses from a substantially larger sample of 205 motorcycle taxi riders in Rongai. A larger sample provides an opportunity to examine occupational stress among a broader group of riders and to obtain evidence that is more representative of the selected study population. Motorcycle taxi drivers in Thailand operate within conditions that may differ from those encountered by motorcycle taxi riders in Rongai. Kenyan riders may face distinctive challenges related to road safety, traffic congestion, income insecurity, long working hours, passenger demands, weather exposure, and competition within motorcycle taxi stages. These contextual differences justified investigating occupational stress specifically among riders in Rongai.

In Cameroon, Owona et al., (2019) carried out a cross-sectional study in Douala on the prevalence and risk factors of work-related stress amongst commercial motorbike drivers in Douala. The aim of the study was to investigate the prevalence and factors causing work related stress amongst the selected Motorbike driver's population in Douala. The participants comprised of 620 male motorbike drivers with a mean age of 30.92±8.86 years old voluntary adults with more than 6 months of commercial motorbike practice who are affiliated to a motorbike trade-union. The study was carried out using a mixed method questionnaire comprising their individual data, working conditions and, the Karasek questionnaire to determine the prevalence of work-related stress. The findings revealed that work related stress prevalence was high with (71.1%) amongst the motorbike drivers who operated out of the legal framework. According to the researchers, this context and the working conditions of this activity can affect the mental health of the motorbike drivers.

Owona et al. (2019) concentrated on the prevalence and risk factors of work-related stress. The present study addressed this gap by examining levels of occupational stress. Additionally, the study by Owona et al. (2019) primarily focused on work-related stress as the outcome of interest, whereas the present study considered occupational stress levels.

In Nigeria, Musa et al. (2022) conducted a cross-sectional study among the motorcyclist in Ogun state. Using snowball techniques, self-administered questionnaires known as structured modified Nordic. Majority of this group of participants were youths who either dropped out of secondary school or school certificate holders. The highest educational level of the motorcyclist was a secondary school certificate (64.6%) and most of them were married (80.1%). Findings showed that 76.1% of the motorcycle taxi drivers experienced daily pains and 81.6% showed that major affected body regions were lower back (81.6%), legs (61.2%), upper back (82.0%), shoulders (55.1%), neck (82.5%), knees (73.3%), wrist/hand (98.8%), thighs (91.3%), ankle/feet (78.9%), ears (80.3%),

eyes (59.0%), head (63.1%) respectively. The authors posit that high prevalence of work-related musculoskeletal disorder (WRMSDs) existed among the commercial motorcyclists as a result of working hours, sitting posture, smoking and alcoholic drinking, thereby suggesting that these conditions and symptoms could be reduced by reducing the long hours of work.

This study provided an in-depth insight on the level of occupational stress faced by the commercial motorcycle operators on a daily basis, creating more awareness on the physiological health impact of this stress on the motorcycle taxi riders. This created a framework for understanding the present discourse among the motor cycle operators in Rongai, Kajiado county. However, the present study tended to go beyond physical pains, to investigate the levels occupational stress of motorcycle taxi operators in Rongai, Kajiado County in Kenya whose cultural context differs from that of Nigeria.

Owino et al. (2024) collected standardized survey data from approximately 300 motorcycle taxi operators across ten urban locations, with Kenya, Tanzania, and Uganda each contributing approximately 60–70 motorcycle taxi operators. The study found that most operators worked six or seven days per week, while many had remained in the occupation for several years. The findings illustrated the demanding and relatively informal nature of motorcycle taxi work in East and West Africa, who in turn rides for that day. In Liberia 33% opting to work for 3–5 days a week. Although the study was not designed specifically to quantify occupational stress using a standardized stress scale, its findings concerning long working schedules, occupational insecurity, and working conditions provided an important contextual basis for understanding stress among African motorcycle taxi rider

In Kenya, Kanjagua (2024), in a study conducted among 145 male motorcycle taxi riders in Kamahuha Ward, Murang'a County, specifically assessed levels of stress. The study found that 101 riders had moderate stress, 26 had high stress, and 18 had low stress. Thus, approximately 69.7% of participants were classified at the moderate level, 17.9% at the high level, and 12.4% at the low level. Comparable evidence comes from Uasin Gishu County, where Bore et al. (2024) examined occupational health hazards among 368 commercial motorcyclists using a cross-sectional design and the Hazard Identification, Risk Assessment and Control (HIRAC) approach. Stress was identified as a high-risk psychosocial hazard for 55.4% of riders, making it the predominant psychosocial hazard reported in the study. Similarly, Kanjagua (2024) conducted the study in Kamahuha Ward, Murang'a County, whereas the present study focuses on boda-boda riders in Rongai, Kajiado County. Although both studies were conducted in Kenya, the two locations may differ in road conditions, economic activities, population characteristics, transportation patterns, and organization of motorcycle taxi operations. Therefore, findings from Murang'a County cannot necessarily be generalized to riders in Rongai, Kajiado County. Kanjagua (2024) specifically assessed levels of stress, whereas the present study examined occupational stress among the motorcycle taxi riders. The present study consequently offered evidence from a larger study population within a different Kenyan setting.

Further, Bore et al. (2024) focused broadly on occupational health hazards, using the HIRAC approach to identify and assess workplace risks. Occupational stress, however, represents a specific psychosocial dimension of occupational health. The previous study therefore provided evidence about hazards faced by commercial motorcyclists but did not specifically establish the levels of occupational stress experienced by riders. In addition, the study by Bore et al. (2024) concentrated on identifying occupational hazards and associated risks rather than examining psychological well-being. The present study addressed these gaps by examining levels of occupational stress.

In Rongai, Kajiado County, the pressure to earn a living amid unpredictable income, demanding working conditions, and financial responsibilities raises important concerns about riders' psychological well-being. Sustained occupational stress may contribute to emotional exhaustion, anxiety, fatigue, and difficulties in maintaining a satisfying and psychologically healthy life. The concern, therefore, extends beyond the roads riders navigate daily to the psychological burdens they may carry silently while striving to survive economically. Their mental health deserves attention, not only because of the services they provide, but also because their well-being matters. Despite these concerns, there was limited locally established empirical evidence on the levels of occupational stress among motorcycle taxi riders in Rongai. The knowledge gaps further gave credence to the current study, and therefore, sought to examine the levels of occupational stress among motorcycles taxi riders

in Rongai, Kajiado County, Kenya, to generate evidence that can inform mental health support, occupational safety initiatives, decent and sustainable work.

Objective Of This Study

The objective of this study was to examine the levels of occupational stress among motorcycle taxi riders in Rongai, Kajiado County, Kenya.

THEORETICAL FRAMEWORK

A theoretical framework provides a conceptual foundation for understanding and analyzing a research problem by linking relevant theories, concepts, and empirical evidence (Visa, 2022). This study was grounded in the transactional model of stress and coping. The Transactional Model of Stress and Coping was developed by Richard Lazarus and his student Susan Folkman and formalized in their 1984 book Stress, Appraisal, and Coping, building on Lazarus's earlier work on cognitive appraisal. The model treats stress as a dynamic transaction between a person and their environment, and not simply as a property of external events or physiological reactions. A situation becomes stressful when a person judges that its demands exceed the coping resources available to them. This judgement happens through two appraisals: in primary appraisal the person decides whether an event is irrelevant, benign-positive or stressful (and, if stressful, whether it signals harm or loss, threat or challenge), and in secondary appraisal the person weighs their coping resources and options.

The model also distinguishes problem-focused coping, which tries to change the source of stress, from emotion-focused coping, which regulates emotional responses to it. Depending on the strategy used, coping can either reduce or worsen the effects of stress, so stress depends on how people perceive and respond to their circumstances. This makes the model well suited to studying boda-boda operators in Kenya, who face similar stressors such as heavy traffic, financial instability, police interactions, road accidents and environmental hazards, yet are affected differently according to their appraisals and coping strategies. Its dynamic and subjective nature, together with research support in occupational and health settings, also gives it a practical use as a basis for stress-management and coping-skills programmes.

Lazarus and Folkman's (1984) Transactional Model of Stress and Coping was considered appropriate for this study of occupational stress among motorcycle taxi riders in Rongai, Kajiado County, for four reasons. First, the model defines stress as a transaction between the individual and the environment, which depends on how a person appraises a situation and the coping resources available to them (Lazarus & Folkman, 1984). It therefore explained why riders who faced the same stressors, such as heavy traffic, unstable income, police interactions and accident risk, were affected differently. Second, the model's two appraisal processes, primary and secondary, matched the constant judgements that riders in an unregulated and unpredictable occupation make about whether an event is a threat, a harm or a challenge they can manage. Third, its distinction between problem-focused and emotion-focused coping gave the study clear constructs to measure and a basis for examining how riders managed stress (Folkman & Lazarus, 1988). Finally, because stress in this model depends on appraisal and coping, it can be changed, and the model's wide support in occupational and health research made it a credible foundation for recommending stress-management and coping-skills interventions for riders (Folkman, 2013; Folkman & Moskowitz, 2004).

METHODOLOGY

The research design is the blueprint which specifies how data relating to a given problem should be collected and analyzed. It provides the procedural outline for conduct any given investigation (Emaikwu, 2019). The study employed the descriptive research design. The target population comprised 641 motorcycle taxi riders, from which a sample size of 247 riders was selected. Proportionate stratified sampling was used to distribute the sample across the four stages of operation, so that each stage was represented according to the size of its rider population. Table 1 presents the sampling frame for each stage in Rongai, Kajiado County, Kenya.

Table 1 Quantitative Sampling Frame

Name of stages of operation	Target population	Sample size	Percentage
Cleanshelf	135	52	21.0%
Kware	130	50	20.2%
Maasai Lodge	168	65	26.4%
Rongai Stage 1	208	80	32.4
Total	641	247	100%

The study targeted 641 motorcycle taxi riders across four stages of operation and selected a sample of 247 riders. The largest proportion of the sample was drawn from Rongai Stage 1 (32.4%, n = 80), followed by Maasai Lodge (26.4%, n = 65), Cleanshelf (21.0%, n = 52), and Kware (20.2%, n = 50). Therefore, the sample of 247 riders represented 100% of the intended sample distribution across the four stages.

In addition, in this study, a 10 - item of Perceived Stress Scale (PSS-10) was utilized. PSS was developed in 1983 by Sheldon Cohen in collaboration with Tom Kamarck and Robin Mermelstein. There are three versions of the PSS. The original instrument is a 14-item scale (PSS-14) developed in English (Cohen et al., 1983), with 7 positive items and 7 negative items rated on a 5-point Likert scale. Five years after the introduction of the PSS-14, it was shortened to 10 items (PSS-10), using factor analysis based on data from 2,387 U.S. residents, it is the most widely used version. A four-item PSS (PSS-4) was also introduced as a brief version for situations requiring a very short scale or telephone interviews (Cohen & Williamson, 1988).

For this present study, PSS-10 was employed, this version of the scale has been used in recent cross-sectional studies in Western Kenya (Kitale and Bungoma) to assess stress symptoms among youth (Odunga, 2023). This confirms its applicability in the Kenyan context. A study on boda-boda riders in Bungoma County directly investigated stress triggers affecting road safety (Nabiswa&Nabiswa,2025). The PSS-10 is scored on a 5-point Likert scale (0 = Never, 1 = Almost Never, 2 = sometimes, 3 = Fairy Often, 4 = very often). Positive items (4, 5, 7, 8) were reversed (0=4, 1=3, 2=2, 3=1, 4=0), before summing the total. Total Perceived Stress Score = Sum of all 10 items (after reverse-scoring), ranges from 0-40. 0-13 = low stress; 14-26 = moderate stress; 27-40 = high perceived stress. Therefore, total score ranges from 0 to 40, with higher scores indicating greater perceived stress (Cohen et al., 1983). After data collection, data were coded and computed using the Statistical Package for Social Science (SPSS) version 26. Descriptive statistics, including frequencies, percentages were used to summarize the data.

Ethical measures are principles which the researcher inculcated while conducting any research. In line with this, the researcher upheld ethical standards in all aspects of the research process. First, the researcher obtained permission from the Director of the Psycho-Spiritual Institute to carry out the research. The researcher obtained research license from the National Commission for Science, Technology and Innovation (NACOSTI). In addition, letter of authorization was sought from the motorcycle taxi riders' association in Rongai. Obtaining informed consent from participants was essential to ensure that they were fully informed about, and understood, the purpose, procedures, potential risks and benefits of the study. The researcher therefore gave participants clear information and allowed them to decide voluntarily whether to take part. A detailed informed consent statement was included in a letter that each participant signed. Before participants began filling in the questionnaires, the researcher also explained verbally the study's objectives, procedures, benefits, confidentiality measures, potential risks and the right to withdraw at any time, and all questions that arose were answered appropriately. The researcher ensured that participants' information was protected and not disclosed without their explicit permission. Confidentiality was maintained by anonymizing the data, and no personally identifiable information such as names or addresses was recorded. Instead, a pseudonym or unique identification code was assigned to each participant. In addition, all the data were stored securely and were accessible only to the researcher.

FINDINGS

This section presents the findings of the study in line with the objective which was to examine levels of occupational stress among motorcycle taxi riders in Rongai, Kajiado County, Kenya. It begins with the

Demographic Characteristics of Respondents which are age, years of experience, and marital status of the respondents.

Response Rates

The study distributed 247 questionnaires to motorcycle taxi riders in Rongai, Kajiado County, Kenya, and received 205 completed questionnaires, representing a response rate of 83.3%. The remaining 41 questionnaires (16.7%) were not returned. The high response rate indicates that the study obtained responses from a substantial proportion of the targeted participants, thereby providing an adequate basis for quantitative data analysis. A response rate of 83.0% can be considered very good for a questionnaire-based study. According to Mugenda and Mugenda (2003), a response rate of 50% is adequate for analysis and reporting, 60% is good, and 70% and above is considered very good. Similarly, Kothari (2004) notes that a higher response rate enhances the representativeness of the collected data and reduces concerns associated with non-response. Therefore, the 83.3% response rate achieved in this study suggests a relatively low level of non-response and strengthens confidence in the findings.

Demographic Characteristics of Respondents

Descriptive statistical analysis was performed for all demographic variables which comprised of age, years of experience, marital status, levels of education, stage of operation, and ownership of motorcycle. Frequencies and percentages of each of the demographic variables were attained. The results from demographic characteristics are presented using pie charts and bar charts respectively.

Distribution of Respondents by Age

This study engaged motorcycle taxi operators. The findings on participants' age are shown in figure 1.

Figure 1 Distribution of Age

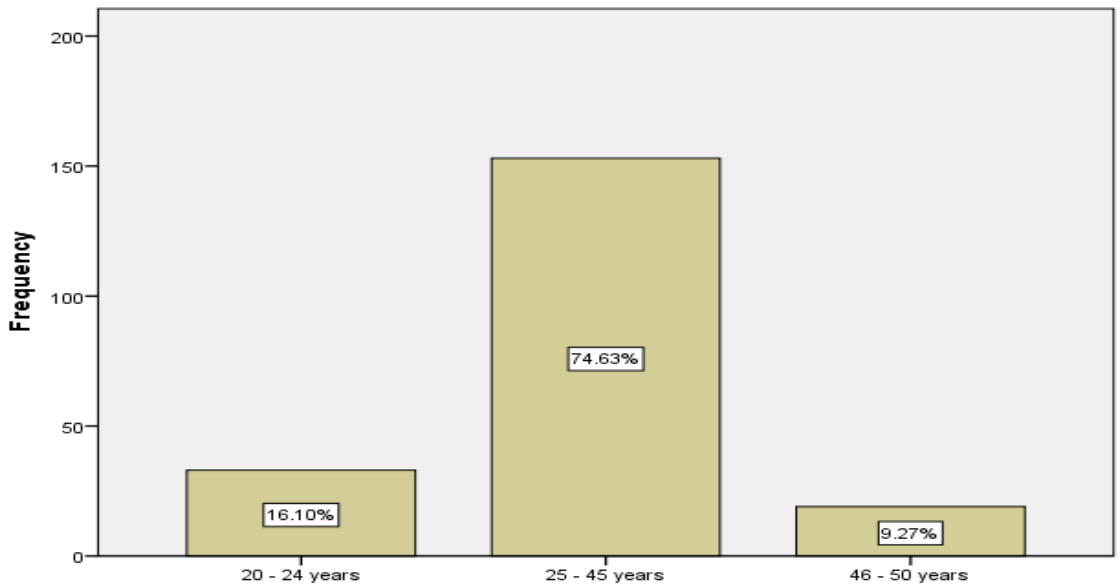


Figure 1 shows that most of the respondents (74.63%) fall within the 25-45 years age bracket, making this by far the dominant age group among motorcycle taxi riders in Rongai. This is followed by the 20-24 years group at 16.10%, while the 46-50 years category accounts for the smallest proportion at 9.27%. No respondents below 20 years or above 50 years were recorded, suggesting the sector is almost entirely composed of adults in their prime working years. The concentration of operators in the 25-45 age bracket reflects the fact that motorcycle taxi riding work is physically demanding and best suited to individuals in their peak physical strength and stamina, a pattern consistent with earlier Kenyan studies that found the trade dominated by youthful and early-

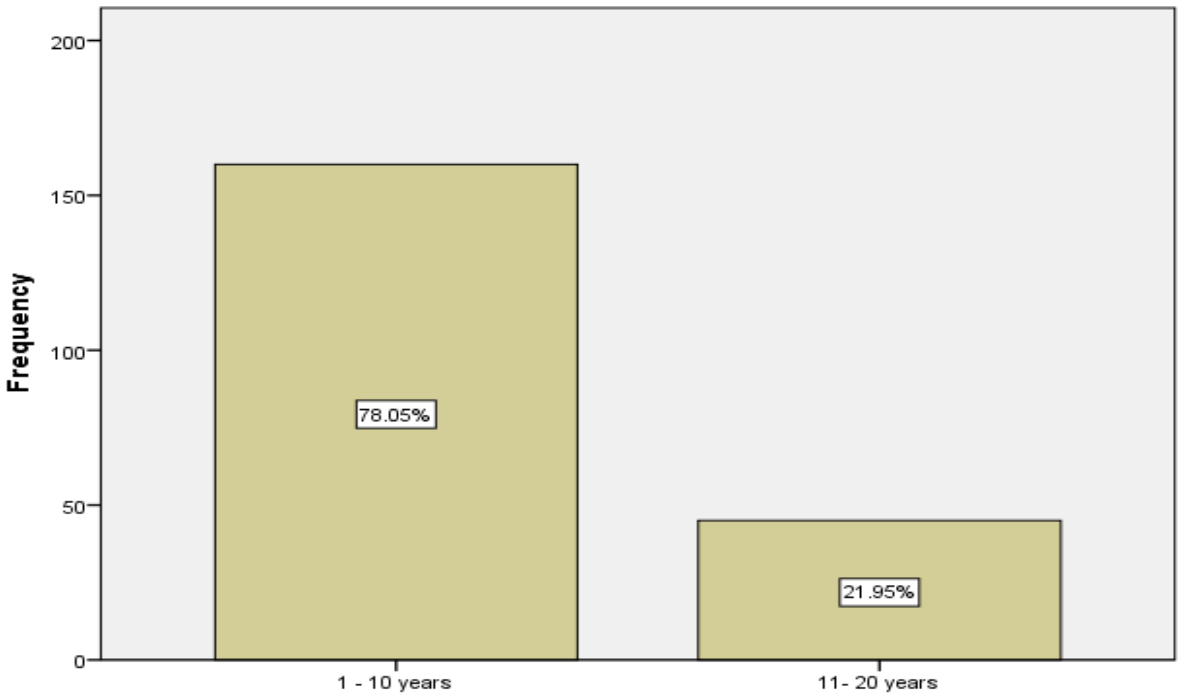
middle-aged men due to the energy required to operate motorcycles and carry passengers or luggage over long hours (Okonda et al., 2015). Similar findings have been reported across East Africa; for instance, boda-boda operators in Kampala were found to range mostly between 16 and 35 years with all operators being male and ranging in age from 16 to 35 years, approximately half of whom were married with children. The relatively smaller share of very young operators (20-24 years) in the Rongai data may reflect entry barriers such as the capital needed to acquire or lease a motorcycle, or the requirement of a valid riding license, which younger entrants may not yet have secured. This aligns with observations that many riders enter the industry after completing informal apprenticeships rather than formal training (Luchidio, Kahuthia-Gathu & Gatebe, 2013), a process that takes time and typically pushes the age of active, independent operation slightly upward.

The sharp decline among operators aged 46-50 years is consistent with national findings that the motor cycle taxi industry is largely a youth-absorbing sector; it has been estimated that around 1.2 million people are employed in the trade in Kenya, the majority of whom are males under 35 years old. While the Rongai sample skews somewhat older than this national picture, with the modal group being 25-45 rather than strictly under 35. It is argued that motorcycle taxi riding is physically taxing work that becomes less attractive or less feasible as riders age, prompting many to exit into other once they pass their mid-40s (Olawo, 2014).

Distribution of Respondents by years of experience

This section presents and interprets the distribution of respondents by years of experience in relation to occupational stress among motorcycle taxi riders in Rongai, Kajiado County, Kenya. figure 2 demonstrates the outcomes of descriptive analysis.

Figure 2 Years of Experience



The finding in figure 2 revealed that 78.05% of the respondents, have between 1–10 years of experience operating motorcycle taxis, while only 21.95% (n≈45) have 11–20 years of experience. No respondents reported more than 20 years in the trade. This indicates that the motorcycle taxi business in Rongai is a relatively recent and still-growing occupation, dominated by riders who entered the trade within the last decade.

This pattern is consistent with the broader growth trajectory of the motorcycle taxi industry in Kenya, which expanded rapidly from the mid-2000s onward and has since become one of the largest informal-sector employers

in the country, absorbing over two million riders nationally and providing a livelihood to an estimated five million Kenyans. Because large-scale entry into the trade is a comparatively recent phenomenon, it follows that most current operators, including those in Rongai would have joined within the last one to ten years rather than having decades-long careers in the business (Mkutu & Mkutu, 2019).

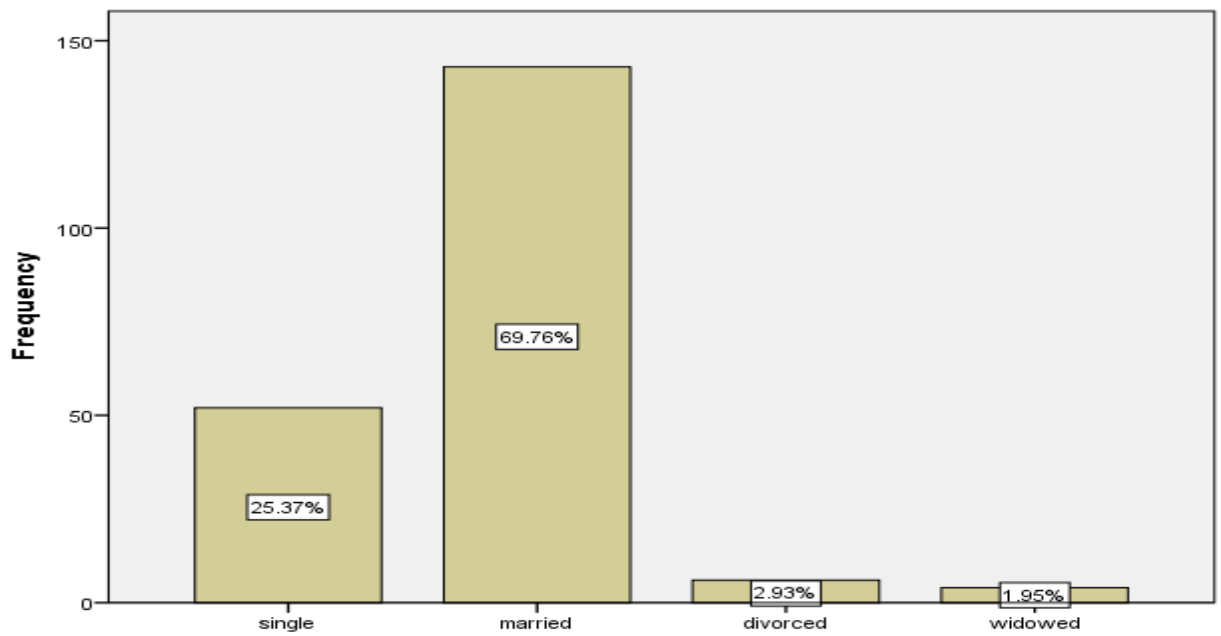
The dominance of the 1–10-year experience bracket also reflects the persistently high rate of new entrants into the sector, driven largely by unemployment among Kenyan youth. Unprecedented levels of youth unemployment have been shown to push novice riders into the motorcycle business with limited prior exposure to the occupational risks involved, a dynamic that helps explain why the majority of Rongai's operators remain relatively new to the trade. Similarly, national studies have found that most motorcycle riders are young adults who turned to the trade after failing to secure formal employment, a pattern that produces continuous inflows of first-time operators and keeps the "years of experience" profile skewed toward the lower end (Mkutu & Mkutu, 2019).

The smaller proportion of operators with 11–20 years of experience likely represents an early cohort who entered the trade closer to its take-off period in the mid-to-late 2000s and have remained in its long-term, possibly due to limited alternative livelihood options, accumulated customer networks, or ownership of their motorcycles rather than dependence on daily hired-rider arrangements.

Distribution of Respondents by Marital Status

This section presents the distribution of respondents according to their marital status, as marital status is one of the key demographic variables in this study. A descriptive analysis is carried out and the findings are presented in figure 3.

Figure 3 Marital Status among Respondents



The results point that 69.76% of respondents, were married, while 52 (25.37%) were single. Divorced respondents accounted for a small proportion of 6 (2.93%), and widowed respondents were the least represented at 4 (1.95%). The findings indicate that married individuals dominated the sample, suggesting that most respondents had established family responsibilities and were likely to bring a household-oriented perspective to the study. This is consistent with the view that married respondents tend to exhibit greater stability and a stronger sense of responsibility, which can shape their perceptions and decisions. According to Ganong et al. (2016), married individuals may exhibit greater relationship stability and a stronger sense of interpersonal obligation, as

marriage is associated with increased commitment, shared responsibilities, and expectations regarding decision-making within the household. The relatively low proportion of divorced and widowed respondents of the current study suggests that the sample was largely composed of individuals in active family units, which may have implications for how the study's variables were experienced or reported. The presence of single respondents, though a minority, still represents a notable segment whose views may differ due to fewer familial obligations

6. Levels of Occupational Stress Among Motorcycle Taxi Riders in Rongai, Kajiado County, Kenya

The objective of this study was to examine the levels of occupational stress among motorcycle taxi riders in Rongai, Kajiado County, Kenya. Occupational stress was assessed to determine the extent to which work-related demands and challenges experienced by motorcycle taxi riders may contribute to their daily work. Descriptive statistics were used to summarize and present the respondents' levels of occupational stress. The findings are tabulated in Table 2.

Table 2 Level of Occupational Stress Among Motorcycle Taxi Riders

Levels Of Occupational Stress	Frequency	Percentages
High occupational stress	48	23.2%
Moderate occupational stress	144	70.4%
Low occupational stress	13	6.4%
Total	205	100%

The findings in Table 2 indicate that occupational stress was prevalent among the motorcycle taxi riders in Rongai, Kajiado County. Out of the 205 respondents, 144 (70.4%), experienced moderate levels of occupational stress. This suggests that although most riders were not experiencing severe occupational stress, they were nevertheless exposed to work-related pressures that could affect their psychological well-being and daily functioning. A substantial proportion of the respondents, 48 (23.2%), reported high levels of occupational stress. This finding is noteworthy because nearly one-quarter of the riders experienced considerable work-related stress, potentially placing them at greater risk of emotional exhaustion, reduced concentration, fatigue, and other stress-related difficulties. In contrast, only 13 (6.4%) of the respondents reported low levels of occupational stress, indicating that relatively few riders experienced minimal work-related stress.

DISCUSSION

This study's objective was to examine the levels of occupational stress among motorcycle taxi riders in Rongai, Kajiado County, Kenya. Among the motorcycle taxi riders who were assessed, 48 (23.2%) reported high occupational stress, 144 (70.4%) reported moderate occupational stress, and 13 (6.4%) reported low occupational stress. Moderate occupational stress was the most frequent category, followed by high and then low occupational stress. The findings of this current study are closely related to the findings by Davidson et al. (2020). Both studies demonstrate that occupational driving is associated with varying degrees of psychological stress, rather than all drivers experiencing either uniformly high or uniformly low stress. In the present study, respondents were distributed across low, moderate, and high occupational stress categories, while Davidson et al. (2020) similarly identified normal, mild, moderate, and extremely severe stress categories. However, the dominant category differed considerably: moderate stress predominated among the Rongai motorcycle taxi riders (70.4%), whereas normal stress predominated among the taxi drivers in Davidson et al. (2020) (81.0%).

In terms of dissimilarity, the findings of Davidson et al. (2020) among taxi drivers showed a generally lower level of stress. At baseline, the mean stress score was 6.88 (SD = 6.71), with 81.0% of participants reporting normal stress, 4.8% reporting mild stress, 7.1% moderate stress, and 7.1% extremely severe stress, while none reported severe stress. Thus, whereas the present study found that 70.4% of motorcycle taxi riders experienced moderate occupational stress and 23.2% experienced high stress, Davidson et al. (2020) found that the majority of taxi drivers fell within the normal stress category.

Cidreira et al. (2023) provides findings that are broadly consistent with the present study regarding the substantial burden of occupational stress among motorcycle taxi riders. In the present study conducted among 205 motorcycle taxi riders in Rongai, Kajiado County, 70.4% experienced moderate occupational stress, while 23.2% experienced high occupational stress, indicating that the majority of riders experienced moderate-to-high levels of occupational stress. Similarly, Cidreira et al. (2023) found that 46.8% of motorcycle taxi drivers had a high level of perceived stress. Although the proportion of respondents with high stress was greater in the present study when moderate and high categories are considered together, both studies demonstrate that occupational stress constitutes an important occupational concern among motorcycle taxi riders.

The findings from both studies also differ in the distribution of stress severity. In the Rongai study, moderate occupational stress was the dominant category, accounting for 70.4% of respondents, whereas Cidreira et al. (2023) specifically reported that 46.8% had high perceived stress. This difference may be attributable to variations in the measurement instruments, operationalization of stress categories, study settings, and characteristics of the motorcycle taxi workforce.

Rongthong and Boonkerd (2022) reported findings that are broadly consistent with the present study in demonstrating a substantial level of occupational stress among motorcycle taxi riders. In the present study conducted among 205 motorcycle taxi riders in Rongai, Kajiado County, 70.4% reported moderate occupational stress, 23.2% reported high occupational stress, and 6.4% reported low occupational stress. Similarly, Rongthong and Boonkerd (2022), in a cross-sectional study of 100 motorcycle taxi drivers in Muang District, Nakhon Pathom Province, Thailand, found that 62.0% experienced high stress, 20.0% severe stress, and 18.0% moderate stress. Thus, both studies demonstrate that stress is highly prevalent among motorcycle taxi riders.

In addition, a major difference concerns the severity and distribution of stress. Whereas moderate stress was the predominant category in the present study (70.4%), high stress was predominant in the Thai study (62.0%), with an additional 20.0% experiencing severe stress. In contrast, only 23.2% of the Rongai riders were classified as having high occupational stress. This indicates that the Thai sample had a greater concentration of riders in the upper stress categories, while the Rongai sample was concentrated primarily in the moderate category stress differed between the two settings. Owona et al. (2019) reported findings that are consistent with the present study, showing a high burden of occupational stress among commercial motorcycle riders. In the present study, 70.4% of motorcycle taxi riders in Rongai experienced moderate occupational stress, while 23.2% experienced high occupational stress. Similarly, Owona et al. (2019) found a 71.1% prevalence of work-related stress among commercial motorbike drivers. Thus, both studies demonstrate that occupational stress is prevalent among motorcycle taxi riders. The results of the current study are closely related with the findings Kanjagua (2024). In the present study, 70.4% of motorcycle taxi riders experienced moderate occupational stress, 23.2% experienced high stress, and 6.4% experienced low stress. Similarly, Kanjagua (2024) found 69.7% moderate stress, 17.9% high stress, and 12.4% low stress among boda-boda operators.

Further, the predominance of moderate occupational stress may be explained by the nature of motorcycle taxi work, which exposes riders to several simultaneous physical, economic, and psychosocial demands. Motorcycle taxi riding requires prolonged concentration, continuous interaction with passengers and other road users, adaptation to changing traffic conditions, and exposure to road accidents and adverse weather conditions. Cidreira et al. (2023), in a study of 800 motorcycle taxi drivers in Brazil, similarly established substantial levels of perceived stress, with 46.8% of riders reporting high stress. The authors attributed stress partly to traffic congestion, poor road conditions, weather exposure, crowded roads, reckless road users, and the demanding nature of the occupation. They further observed that motorcycle taxi stands may provide inadequate conditions for rest because riders often remain outdoors and exposed to climatic variations.

The high proportion of riders with moderate stress in the present study may also be associated with long working hours and the need to generate sufficient daily income. Motorcycle taxi riding is generally dependent on daily earnings, meaning that riders may continue working despite fatigue or unfavorable conditions in order to meet personal and family financial obligations. The finding can also be understood through the Job Demand-Control model, which proposes that psychological strain is likely to emerge when workers face substantial job demands while having limited control over how their work is performed (Karasek, 1979). Motorcycle taxi riders operate

within an informal employment environment in which their income is closely tied to the availability of passengers and the number of trips they complete. Although riders have some autonomy over when and where they work, this autonomy may be constrained by economic necessity. A rider may therefore continue working despite fatigue, unfavourable weather, traffic congestion, or psychological strain because stopping work may result in loss of income. This interaction between occupational demands and constrained economic choices may help explain why stress was predominantly moderate among the respondents. Economic pressure is particularly relevant in understanding the finding. Motorcycle taxi riding is commonly dependent on daily earnings, and riders may have personal, household, motorcycle-maintenance, or loan-related financial obligations. Nabiswa and Makhanu (2025) identified financial difficulties, inability to save for the future, fatigue and mental overload, and daily financial obligations as important stress triggers among motorcycle taxi riders in Kenya. Financial uncertainty can create a continuing psychological demand because riders may feel compelled to remain productive even when passenger numbers are low.

The relatively substantial proportion of riders experiencing high occupational stress (23.2%) may indicate that some riders are exposed to occupational demands that exceed their available coping resources. Individual differences are important in understanding this finding because not all riders experience the same occupational circumstances. Differences in years of riding experience, daily working hours, ownership of motorcycles, income, working environment, access to social support, and exposure to road-related risks may influence how occupational demands are perceived and managed. Cidreira et al. (2023) found that work organization and psychosocial conditions, including working hours, work control, and social support, were associated with perceived stress among motorcycle taxi drivers.

The finding that only 13 (6.4%) respondents experienced low occupational stress is also meaningful. It suggests that relatively few riders experience their occupation as having minimal psychological demands. This may be because motorcycle taxi riding requires constant alertness and involves relatively little separation between the worker and the workplace. Prolonged exposure without adequate recovery can contribute to fatigue and psychological strain. Nabiswa and Makhanu (2025) similarly identified fatigue and mental overload as relevant stress triggers among motorcycle taxi riders, illustrating how the occupational environment can place continuing demands on riders. The finding may further be interpreted using Lazarus and Folkman's (1984) transactional theory of stress and coping, which conceptualizes stress as arising from the interaction between environmental demands and an individual's appraisal of whether available resources are sufficient to manage those demands. From this perspective, the moderate stress reported by most riders does not necessarily mean that the occupational environment is objectively moderate for every rider. Rather, riders may differ in how they interpret and respond to similar occupational experiences. A rider who has developed experience in navigating traffic, managing difficult passengers, dealing with fluctuating income, and responding to road hazards may perceive these challenges as manageable. Another rider with fewer coping resources may perceive the same conditions as overwhelming. The distribution of stress levels in the present study may therefore reflect differences in individual appraisal and coping capacity in addition to differences in actual occupational exposure.

Experience and adaptation may also help explain why the largest proportion of riders fell within the moderate category rather than the high category. According to Beigi et al. (2022), motorcycle taxi riders who have worked for several years may have developed practical strategies for dealing with common occupational stressors. Such strategies may include choosing particular operating routes, identifying safer riding periods, developing relationships with regular customers, taking breaks when necessary, or relying on fellow riders for information and emotional support. However, adaptation does not necessarily eliminate occupational stress. Instead, it may enable riders to continue functioning while experiencing a manageable degree of psychological strain.

CONCLUSION

The study assessed the levels of occupational stress among motorcycle taxi riders in Rongai, Kajiado County, Kenya. The findings showed that most riders experienced moderate occupational stress (70.4%), followed by high occupational stress (23.2%), while only a small proportion experienced low occupational stress (6.4%). Occupational stress was therefore present across the riders assessed, and relatively few riders reported low stress.

The finding that nearly a quarter of the riders reported high stress, in addition to the large group reporting moderate stress, points to an occupational group that carried a considerable stress burden.

RECOMMENDATIONS

Motorcycle Taxi Riders: Motorcycle taxi riders should be encouraged to adopt regular stress-management and self-care practices as part of their daily work routines. Riders should take appropriate rest breaks, avoid excessively long working hours where possible, maintain supportive relationships with fellow riders, and participate in recreational activities that promote relaxation.

Motorcycle taxi riders' associations should establish member welfare programmes that include peer-support groups, recreational activities, mentorship, and periodic stress-management sessions. Each association should designate a welfare representative who can identify riders experiencing significant psychological difficulties and facilitate referral to professional counselling services

The County Government of Kajiado: The County Government of Kajiado should integrate motorcycle taxi riders' mental health and occupational well-being into county health and social-support programmes. County health facilities and outreach teams should periodically provide psychological screening, psychoeducation, brief counselling, and referral services specifically accessible to motorcycle taxi riders. The County Government should also support stage-based health outreach programmes, enabling riders to access services without having to leave their work for extended period.

Based on recommendation for future research, comparative study should be carried out between motorcycle taxi riders and public service transport providers on the relationship between occupational stress and psychological well-being.

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