

Prevalence of Mental Health Challenges among Public Service Vehicles Drivers in Nairobi County

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ABSTRACT

The study aim was to determine prevalence of depression, anxiety, and stress among PSV drivers in Nairobi County. A descriptive cross-sectional survey research design was used with self-administration questionnaires. The research tools used included the Depression, Anxiety, and Stress Scale (DASS-21) to measure psychological distress, the Connor-Davidson Resilience Scale (CD-RISC) to assess resilience, and the Brief COPE Inventory to evaluate coping strategies. The study sampled 265 PSV drivers from West Madaraka SACCO in Nairobi County. Findings revealed alarmingly high prevalence rates of depression (86.8%), anxiety (90.2%), and stress (69.4%), with 66.4% of participants experiencing all three disorders concurrently. The study recommends the incorporation of mental health programs for high-stress occupations, particularly in the public transport sector. It is also recommended that further research be conducted to explore long-term effects and the feasibility of implementing such interventions on a larger scale within the industry. Additionally, policy interventions should be developed to address the systemic stressors faced by PSV drivers to promote sustained improvements in mental health and well-being.

KEYWORDS: Mental Health, Depression, Anxiety, Stress, drivers

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BACKGROUND

Public service vehicles (PSVs) are a major cornerstone of Kenya's transportation infrastructure, offering affordable and accessible mobility to millions of people in both rural and urban settings. This sector is instrumental to Kenya's economic and social development, enabling the daily commute of the working population and facilitating the movement of goods and services. According to the National Transport and Safety Authority (NTSA, 2023), approximately 70% of urban commuters rely on PSVs for their daily travel needs. In Nairobi County alone, PSVs support the movement of over two million people each day, primarily through high-density traffic corridors. Despite this critical role, PSV drivers particularly in urban environments routinely encounter occupational stressors that significantly impact their mental health and well-being.

The nature of PSV driving involves prolonged working hours, often exceeding 12 hours per day, with minimal rest periods (Mutero, 2015). Drivers operate in congested traffic, face unpredictable schedules, and are frequently subjected to confrontational interactions with passengers and law

enforcement agents. These stressors, compounded by the pressure to meet daily financial targets set by vehicle owners or SACCOs management, expose drivers to heightened psychological strain. Studies indicate that such factors, namely long shifts, traffic congestion, aggressive encounters, and fare-related stress are linked to elevated rates of depression, anxiety, and emotional exhaustion (Mwanzia, 2023; Shitanda, Bosire, & Kiveu, 2018). For instance, Kathuku (2018) reported that approximately 55% of PSV drivers in Nairobi experience symptoms consistent with anxiety and depression, largely attributed to persistent job-related stressors.

In Kenya, public service vehicle drivers face significant daily stressors, including long working hours, heavy traffic congestion, and pressure to meet strict fare collection targets. The chaotic working environment contributes to mental health challenges, including stress, burnout, and low job satisfaction, all of which can impair resilience (Gutiérrez, Miravet & Domènech, 2021). In a study on urban transport workers, Zandieh and Acheampong (2021) highlighted that drivers in public transport settings are particularly vulnerable

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to stressors such as inadequate management support, poor working conditions, and high job demands, all of which undermine their ability to cope effectively with challenges. These findings are further supported by evidence from similar studies in other global contexts, where public transport workers report heightened levels of psychological distress due to job-related stress (Odongo, 2019).

In term of mental health resilience, the high accident rates involving public service vehicles is evidence of the need to urgently address mental issues among drivers (NTSA, 2023). In 2023 alone, the National Transport and Safety Authority (NTSA) reported over 4,000 fatalities in road accidents, many of which involved public service vehicles (NTSA, 2023). This statistic emphasizes the role that driver well-being plays in road safety and the importance of fostering mental health resilience to mitigate these risks.

The purpose of this study was therefor to evaluate the prevalence of mental health challenges (depression, anxiety, and stress) among PSV drivers in Nairobi County.

LITERATURE REVIEW

In an effort to understand the level of mental health among public drivers, several theories and models were analyzed. This section examines different theories and associated studies among them The Cognitive Model of Depression and Anxiety Disorders, Cognitive Model, Mental health disorders and post-traumatic stress disorder (PTSD).

The prevalence of mental disorders among public transport workers has become an area of growing concern due to the demanding and often stressful nature of their work. Mental health disorders, including depression, anxiety, and post-traumatic stress disorder (PTSD), are prevalent in this occupational group due to factors such as long working hours, exposure to road accidents, and the pressures of dealing with passengers and traffic authorities. According to research, compared to the general population, transport workers especially drivers are more likely to experience mental health problems (Shitanda, Bosire & Kiveu, 2018). In order to estimate the prevalence of major depressive disorder (MDD), anxiety disorder (AD), and post-traumatic stress disorder (PTSD) symptoms among high-risk public transportation workers after critical incidents, Carey et al. (2021) conducted a study on the prevalence of PTSD in the United States, major depression, and anxiety symptoms among these workers. The key findings revealed that PTSD prevalence ranged widely from 0.73% to 29.9%, while depression prevalence ranged from 0.05% to 16.3%, and anxiety prevalence from 1.3% to 13.9%.

Cavallari et al. (2021) investigated the relationship between working time features and mental health outcomes, including depressive symptoms and burnout, among transportation maintainers and penitentiary supervisors. The findings revealed that workers reporting high shift intensity (working six or more days consecutively) experienced a higher prevalence of burnout symptoms (PR: 1.15, 95% CI: 1.01–

1.31). Similarly, depressive symptoms were more prevalent among those with unpredictable work schedules (PR: 1.17, 95% CI: 1.01–1.35) but less common among workers with greater schedule control (PR: 0.86, 95% CI: 0.77–0.96). Khatami et al. (2023) studied the relationship between psychological disorders and risky driving behavior (RDB) among drivers in Shiraz, Iran. The study revealed that drivers with psychological disorders, including depression, anxiety, and psychosis, were three times more likely to engage in high-risk driving behavior. Substance abuse was also identified as a significant predictor of risky driving. A study by Mathieu et al. (2022) compared the risk of suicide in the male-dominated, high-pressure transportation sector to that of the whole working population. According to the meta-analysis, compared to the general and employed populations, transport workers have a noticeably higher risk of suicide.

Public service vehicle (PSV) drivers in Nairobi County provide essential transportation services to millions of commuters daily, contributing significantly to the urban economy. However, the nature of their work exposes them to intense occupational stressors such as long and irregular working hours, congested traffic conditions, frequent passenger conflicts, and tense interactions with law enforcement. These chronic stressors can have profound psychological impacts, including heightened levels of anxiety, depression, and emotional exhaustion (Hall et al., 2020). In Nairobi's PSV sector, such pressures are further amplified by inconsistent income, limited access to mental health resources, and a highly competitive work environment. Recent studies in Kenya and other developing contexts have underscored the growing prevalence of psychological distress among drivers in high-pressure occupations. For instance, Kithae and Paul (2022) report that over half of urban transport workers exhibit symptoms of mental health disorders. Without adequate resilience, PSV drivers may resort to harmful coping mechanisms such as substance abuse or emotional withdrawal, ultimately impairing both their personal well-being and the safety of road users (Masila, 2019). The study aim was to determine prevalence of mental health challenges (depression, anxiety, and stress) among PSV drivers in Nairobi County.

This study holds considerable significance for policymakers, particularly those in the Ministry of Transport and the Ministry of Health. The findings will offer evidence-based insights that can guide the formulation of policies addressing occupational mental health within the public transportation sector. These insights may inform the design of mental health support programs specifically tailored for public service vehicle (PSV) drivers, ultimately promoting a healthier, more resilient workforce and contributing to public safety.

METHODOLOGY

This study adopted a descriptive cross-sectional research design to assess for the prevalence of depression, anxiety and stress among PSV drivers in West madaraka SACCO

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Nairobi. The study targeted Embasava SACCO, one of the major SACCOs in Embakasi East Sub County. A convenience sampling technique was used to recruit drivers affiliated with Embasava SACCO. The driver's availability and consent were important considerations for their inclusion in the study.

The data collected for this study were analyzed using quantitatively using descriptive statistics utilizing SPSS version 27. The specific tool used was Depression, Anxiety, and Stress Scale (DASS-21). The DASS-21 is a widely used and validated tool for measuring the severity of depression, anxiety, and stress. The results from this scale were analyzed using descriptive statistics to determine the prevalence of the mental health conditions within the sample. Frequency distributions and percentages were calculated to quantify the proportion of participants experiencing various levels of depression, anxiety, and stress. These results were visually represented through tables to provide a clear understanding of the mental health status of the drivers.

The reliability of the DASS-21 was assessed for each of its subscales (depression, anxiety, and stress). The depression

scale, consisting of 7 items, demonstrated strong internal consistency with a Cronbach's alpha of $\alpha = .84$ ($n = 223$). Similarly, the anxiety subscale ($\alpha = .81$, $n = 223$) and the stress subscale ($\alpha = .83$, $n = 208$) also exhibited good reliability. These results indicate that the DASS-21 subscales were consistently measuring their respective constructs (depression, anxiety, and stress) across the sample, supporting their use for further analyses and clinical assessments. The high reliability of the DASS-21 underscores its suitability for evaluating the psychological distress experienced by public service vehicle (PSV) drivers and highlights its robustness in detecting significant levels of depression, anxiety, and stress within this occupational group.

STUDY FINDINGS AND DISCUSSION

Prevalence of Mental Health Challenges

The study assessed the prevalence of mental health challenges among public service vehicle (PSV) drivers in Nairobi County. Findings are presented in Table 1.

Table 1: The Prevalence of Mental Health Challenges

Mental health Challenges	Status	Prevalence N (%)	Severity levels	N	%
Depression	No depression	31(13.2%)	Normal (0-9)	31	13.2%
	Depressed	204(86.8%)	Mild (10-13)	36	15.3%
			Moderate (14-20)	44	18.7%
			Severe (21-27)	41	17.4%
			Extremely severe (28+)	83	35.3%
			Total	235	100%
Anxiety	No anxiety	23(9.8%)	Normal (0-7)	23	9.8%
	Anxious	212(90.2%)	Mild (8-9)	15	6.4%
			Moderate (10-14)	49	20.9%
			Severe (15-19)	23	9.8%
			Extremely severe (20+)	125	53.2%
			Total	235	100%
Stress	No stress	72(30.6%)	Normal (0-14)	72	30.6%
	Stressed	163(69.4%)	Mild (15-18)	39	16.6%
			Moderate (19-25)	32	13.6%
			Severe (26-33)	57	24.3%
			Extremely severe (34+)	35	14.9%
Total				235	100%

The findings revealed notably high rates of mental health challenges, with the majority of participants reporting significant levels of depression, anxiety, and stress. Out of the total 235 participants, the prevalence of depression was alarmingly high, with 86.8% ($n = 204$) of drivers reporting depressive symptoms. Only 13.2% ($n = 31$) scored within the normal range of (0-9). The severity of depression varied, with 15.3% ($n = 36$) of drivers experiencing mild depression, 18.7% ($n = 44$) reporting moderate depression, 17.4% ($n = 41$) exhibiting severe depression, and a staggering 35.3% ($n = 83$) experiencing extremely severe depression. These

findings are consistent with previous studies indicating that public transport workers, particularly drivers, are at a high risk of mental health challenges, especially depression. Research by Shitanda, Bosire, and Kiveu (2018) highlighted that transport workers often face a combination of financial instability, long working hours, and exposure to traffic-related accidents, all of which contribute to elevated rates of depression. Further study by Carey et al. (2021) found that transport workers, are at higher risk of mental health disorders, with depression being one of the most common.

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Anxiety was similarly prevalent, affecting 90.2% (n = 212) of the drivers, while only 9.8% (n = 23) scored within the normal range. Among those with anxiety, 6.4% (n = 15) experienced mild anxiety, 20.9% (n = 49) had moderate anxiety, 9.8% (n = 23) suffered from severe anxiety, and a significant 53.2% (n = 125) experienced extremely severe anxiety. This high prevalence of anxiety aligns with findings from Khatami et al. (2023), who found that drivers with psychological disorders were more likely to engage in risky driving behavior, further exacerbating the mental strain. Moreover, anxiety can be linked to the constant stress of navigating traffic, dealing with passengers, and the financial uncertainties of the job, as drivers reported in the study. These stressors are also consistent with previous studies by Mathieu et al. (2022), which observed that high-stress occupations, such as driving in the public transport sector, often correlate with higher levels of anxiety.

In terms of stress, 69.4% (n = 163) of the PSV drivers in this study reported elevated stress levels while 30.6% (n = 72) fell

within the normal range. The severity of stress was categorized as mild (16.6%, n = 39), moderate (13.6%, n = 32), severe (24.3%, n = 57), and extremely severe (14.9%, n = 35). The high levels of stress among PSV drivers are reflective of the broader body of literature on occupational stress in high-risk professions. Studies by Cavallari et al. (2021) have demonstrated that long working hours, unpredictable schedules, and the physical demands of driving contribute to chronic stress among transport workers. The persistent exposure to road traffic, customer interactions, and the pressure to meet earnings targets significantly contributes to the stress experienced by PSV drivers. The high prevalence of severe and extremely severe stress in this study underscores the urgent need for effective stress management interventions tailored for this occupational group. Additionally, the comorbidity of depression, anxiety, and stress was assessed as shown in table 2.

Table 2: The Comorbidity of Depression, Anxiety and Stress

Comorbidity	N	%
None	7	3.0%
Only one	33	14.0%
Two disorders	39	16.6%
Three disorders	156	66.4%
Total	235	100%

Table 2 highlights the significant comorbidity of depression, anxiety, and stress among the public service vehicle (PSV) drivers in Nairobi County. A substantial 66.4% of the participants reported experiencing all three mental health disorders simultaneously, indicating a high degree of co-occurrence of these conditions in this occupational group. Only 3% of participants reported no symptoms, while 14% had symptoms in one domain, and 16.6% in two domains. This high rate of comorbidity underscores the compounded mental health challenges faced by PSV drivers, who are exposed to a variety of stressors such as long working hours, financial insecurity, and lack of social support (Amiri, 2024). The findings are consistent with existing literature, which has demonstrated that mental health disorders in high-stress occupations often do not occur in isolation but are interlinked, with one condition exacerbating the other (Shitanda, Bosire & Kiveu, 2018). Research by Carey et al. (2021) also supports these findings, showing that individuals in high-risk professions, such as public transport drivers, frequently experience comorbid conditions that require integrated mental health interventions. The co-occurrence of these disorders emphasizes the need for comprehensive mental health support strategies that address the interconnected nature of mental health challenges.

Many of the drivers who experienced one mental health challenge also exhibited symptoms of anxiety and stress,

indicating a high degree of overlap between these disorders. This comorbidity is common in high-stress occupations like driving, where multiple stressors converge to create a compounded mental health burden. Previous research, including that by Liu (2020), has shown that comorbid mental health disorders such as depression, anxiety, and stress are prevalent in professions that expose workers to high levels of psychological strain, such as in the transportation sector. The interrelationship between these mental health challenges is well-documented, with stress often acting as a precursor or exacerbating factor for both anxiety and depression. This shows the need for comprehensive mental health support strategies that address the interconnected nature of mental health challenges

SUMMARY OF THE FINDINGS

The study aimed to assess the prevalence of mental health challenges (depression, anxiety, and stress) among PSV drivers in Nairobi County. The findings revealed alarmingly high levels of mental distress among this group. Depression was reported by 86.8% of the drivers, with over one-third (35.3%) experiencing extremely severe depression. Anxiety was also prevalent, with 90.2% of drivers reporting symptoms, and more than half (53.2%) exhibiting extremely severe anxiety. Stress was another major concern, with 69.4% of drivers indicating they suffered from stress, and 14.9%

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reporting extremely severe stress. The comorbidity between depression, anxiety, and stress was particularly concerning. A majority of drivers (66.4%) experienced all three mental health challenges simultaneously, suggesting that these mental health issues are interconnected and exacerbate each other. The prevalence of mental health challenges in this population highlights the urgent need for targeted mental health interventions to address the psychological toll of their occupation.

CONCLUSIONS

This study concluded that public service vehicle (PSV) drivers in Nairobi County experience significant mental health challenges, with alarmingly high rates of depression, anxiety, and stress. The prevalence of these issues is a reflection of the unique and often challenging working conditions that these drivers face. The matatu industry is characterized by financial insecurity, systemic exploitation, and lack of legal protections, which collectively contribute to the elevated levels of mental distress observed. The financial instability, long working hours, and the constant fear of police harassment and traffic-related issues exacerbate the emotional and psychological burden borne by drivers. These challenges are compounded by a lack of social protection systems, such as health insurance or retirement benefits, leaving many drivers vulnerable to both economic and emotional strain.

RECOMMENDATIONS

It is crucial for policymakers to collaborate with PSV operators to create a supportive policy environment that addresses the systemic challenges contributing to the mental health struggles of PSV drivers. Key issues such as low pay, lack of legal protections, and exploitation by authorities must be addressed to reduce the financial and emotional stress drivers face. Policies that promote job security, fair pay, and access to social protections (health insurance, pensions) are essential to reducing the financial insecurity that exacerbates mental health problems. Moreover, ensuring that PSV drivers are protected from exploitation by law enforcement and traffic authorities would significantly reduce the stressors in their working environment. A collaborative effort between government, PSV operators, and driver representatives can help create a safer, more secure, and healthier work environment for all drivers.

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