

PERCEIVED SOCIAL SUPPORT AND STRESS LEVELS AMONG CAREGIVERS OF CHILDREN WITH AUTISM SPECTRUM DISORDER IN NAIROBI COUNTY, KENYA

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ABSTRACT

Purpose of the study: The purpose of this study was to investigating the relationship between perceived social support and stress levels among caregivers of children with autism spectrum disorder (ASD), in Nairobi County, Kenya.

Short introduction of problem statement: Caregivers of children with ASD globally face elevated stress levels. Research shows that higher perceived social support is linked to lower stress among these caregivers. Nevertheless, there is a lack of quantitative studies exploring this relationship within the Kenyan context. The gap in empirical literature limits the creation of targeted policies and interventions aimed at bolstering resilience and wellbeing among ASD caregivers.

Method/methodology: A cross-sectional design with 127 caregivers from two selected ASD caregiver support groups. Data analysis was done using SPSS version 27, with descriptive and inferential tests, utilized to analyze the data.

Results of the study: Pearson correlation revealed a significant negative relationship between perceived social support and stress levels in the overall scale ($r = -.287$, $p = .001$), and across all three subscales. The overall regression model was significant ($F(12,114) = 2.39$, $p = .009$, $R^2 = .201$), with emotional help from family ($B = -1.08$, $\beta = -.47$, $p = .007$) and sharing joys with friends ($B = -0.96$, $\beta = -.38$, $p = .014$) indicated as significant stress predictors.

Conclusion and policy recommendation: The study concluded that higher levels of perceived social support were associated with lower levels of stress, thus validating the Stress Buffering Hypothesis (SBH), within the context of ASD caregivers in Kenya. The results of the study underscore the importance of belonging to reliable peer and organizational support groups, strengthening family ties, and improving partner, and spousal ties.

Keywords: *Perceived Social Support, Stress, Caregivers, Children with ASD, Nairobi County, Kenya*

INTRODUCTION

Raising a child with a chronic illness significantly burdens family members, particularly those emotionally connected to the child and involved in their daily caregiving (Almulla et al., 2024). This is particularly true for caregivers of children with autism spectrum disorder (ASD) who face substantial psychological, social, and financial burden, particularly in low-resource settings (Uku et al., 2026). Autism spectrum disorder (ASD) is a neurodevelopmental illness marked by challenges in communication and social interaction, as well as unique interests and repetitive behaviors (Hodges & Soares, 2020).

The persistent characteristics of ASD necessitate ongoing caregiving, frequently leading to heightened stress levels surpassing those experienced by caregivers of ordinarily developing children and children with alternative neurodevelopmental disorders (Sánchez Amate & Luque de la Rosa, 2024; Warreman et al., 2023). The term caregiver in this study pertains to individuals offering informal unpaid, voluntary, continuous support to persons living with a disability or chronic illness (Roth et al., 2015). Increased stress among ASD caregivers is linked to detrimental outcomes such as depression, anxiety, diminished parenting self-efficacy, compromised family dynamics, marital discord, poor physical health, and limited capacity to care for the child with ASD (Gentles et al., 2024). Thus, it is evident that these caregivers require social support.

Social support refers to a system of family, friends, neighbors, and community individuals available during times of necessity to offer emotional, physical, and monetary aid (National Cancer Institute, n.d.). The categories of social support vary according to the source; the nature of assistance offered, including emotional, instrumental, and informational support; and whether the support is experienced or perceived (Gutiérrez-Sánchez et al., 2024). Hailey et al. (2023) describe received social help, often termed "social support," as the tangible quantity and quality of aid rendered, which exhibits a weaker association with mental health outcomes.

In contrast, perceived social support pertains to how one views the availability and sufficiency of their social networks, acknowledging friends, colleagues, and relatives as reachable providers of assistance in times of necessity (Eagle et al., 2019; Hailey et al., 2023). It is a crucial indicator of one's capability to cope with challenges and is associated with better physical and mental health outcomes, as well as enhanced quality of life (Taher et al., 2025). Hence, this metric is frequently assessed in social science studies on social support (Eagle et al., 2019). Consequently, this research centers on perceived social support rather than received social assistance.

Social support is additionally categorized into structural and functional types. Structural support involves social ties like networks and marital status (Grover et al., 2025), which indicate social interactions but do not guarantee satisfaction of emotional or physical needs (Haghighi & Oremus, 2023). Conversely, functional support concerns individuals' perceptions of accessible social assistance, including affection, companionship, financial help, emotional support, guidance, advice, care, information, love, and social validation (Dunst, 2022; Lozano-Hernández et al., 2023; Stewart et al., 2022).

Perceived functional assessments of social support, as noted by the United States Agency for International Development (USAID, n.d.) are termed more reliable indicators of health outcomes than structural assessments. The 12-item Multidimensional Scale of Perceived Social Support (MSPSS), developed by Zimet et al. (1988) quantifies perceived social support from family, friends, and significant others through subscale and total scores (Sulistiani et al., 2022). This scale is commonly used to evaluate perceived social support among primary caregivers of children with neurodevelopmental disorders, such as ASD (Balachandran & Bhuvaneswari, 2025; Hamama, 2025). Alternative social support measures include the Online Social Support Scale evaluating emotional, informational, and instrumental support, as well as esteem and social companionship, from online interactions (Nick et al., 2018). Moreover, the Questionnaire on the Frequency of and Satisfaction with Social Support, assesses perceptions of emotional, informational, and instrumental support (García-Martín et al., 2016).

The stress-buffering hypothesis (SBH) by Cohen and Wills (1985) suggests that perceived social support can mitigate the adverse impacts of stress on mental and physical well-being, by shaping the individual's perception of stressful situations, and enhancing their coping mechanisms. Consequently, stressors may adversely impact the health of those who believe they possess minimal social support, particularly during periods of elevated stress, whereas individuals who believe they have adequate social support will demonstrate weaker associations between stressful life occurrences and adverse health effects (Cohen & Wills, 1985; Ditzen & Heinrichs, 2014). Stress is defined as mental tension from challenging situations perceived as uncontrollable (Curley et al., 2023).

Additionally, perceived stress refers to an individual's subjective experience of stress, reflecting their assessment of managing life's unpredictability and challenges, alongside their perception of their difficulties and surroundings (Curley et al., 2023; World Health Organization [WHO], 2023). In alignment with this concept, international studies have identified an inverse relationship between perceived social support and stress among caregivers of children with ASD (Drogomyretska et al., 2020; Singh et al., 2023; Wahab et al., 2022).

Conversely, diminished social support is associated with heightened psychological stress and ASD symptom manifestations in children (Goedeke et al., 2019).

Nonetheless, research reporting the association between perceived social support and stress among ASD caregivers in Kenya is limited. Rather, existing literature on ASD caregivers in Kenya highlight types of received support such as practical and emotional support from informal networks, fellow parents at therapy clinics, spouses, relatives, and empathetic colleagues (Cloete & Obaigwa, 2019). Spiritual and religious coping strategies are also employed, with caregivers often surrendering their challenges to God. Despite this, they continue to experience significant social isolation and face cultural misconceptions linking ASD to supernatural causes, resulting in psychological distress (Gona et al., 2015). Moreover, Mbugua et al. (2011) states that ASD caregivers in Kenya face significant challenges due to limited support options such as respite care and specialized services.

Further still, while caregiver support groups such as Differently Talented Society of Kenya (DTSK), provide psychosocial assistance including caregiver training, food vouchers, and anti-convulsant medication training workshops, to caregivers of children with ASD, research quantifying how they perceive this support and how this links to their stress levels is minimal. Consequently, this employed the Multidimensional Scale of Perceived Social Support (MSPSS) and the ten item Perceived Stress Scale (PSS-10) tools to quantify and investigate explore the relationship between perceived social support and stress levels among ASD caregivers in Nairobi, guided by the stress-buffering hypothesis.

STATEMENT OF THE PROBLEM

Caregivers of children with ASD face significant stress due to chronic caregiving demands (Picardi et al., 2018). The Stress-Buffering Hypothesis (SBH), by Cohen and Wills (1985), posits that social networks offer resources that can mitigate stress and improve well-being (Drageset, 2021). Most importantly, perceived social support is crucial, as individuals who feel supported tend to report lower stress levels (Rui & Guo, 2022). While previous research globally has examined the association between perceived social support and stress among ASD this relationship is understudied in Kenya. Rather, research from Kenya tends to lean towards qualitative narratives highlighting the support mechanisms used by ASD caregivers, including respite care, prayer, advice, empathy, affection, tangible aid, prayer, advice, and social networks (Kiambati et al., 2025).

Consequently, the present study sought to investigate the relationship between perceived social support and stress levels among caregivers of children with ASD in Kenya. The

Multidimensional Scale of Perceived Social Support (MSPSS) and the ten item Perceived Stress Scale (PSS-10) were used to establish this association. The empirical results from this study may aid policymakers and mental health professionals in developing focused, evidence-driven mental health strategies that may enhance the resilience of ASD caregivers against the detrimental impacts of stress.

RESEARCH OBJECTIVE

To investigate the relationship between perceived social support and stress levels among caregivers of children with autism spectrum disorder, in selected autism support groups in Nairobi County, Kenya

RESEARCH HYPOTHESIS/QUESTIONS

What is the relationship between perceived social support and stress levels, among caregivers of children with autism spectrum disorder, in selected autism support groups, in Nairobi County, Kenya?

THEORETICAL REVIEW/ FRAMEWORK

The Stress Buffering Hypothesis (SBH), developed by Cohen and Wills (1985), was employed to explain the role perceived social support, an external psychological resource, plays in protecting ASD caregivers against the adverse effects of stress. The SBH posits that social support, defined as the psychological and material resources provided by a social network during stressful periods, can improve health by reducing stress appraisals and mitigating the negative health impacts associated with stress. Social support can alleviate stress-induced behavioural and biological changes that may ultimately increase disease risk (Bowen et al., 2014). The types of social support encountered include informational support such as advice, emotional support, tangible support such as financial help, and esteem support. Only perceived support is consistently associated with better mental health among them, while received support and social integration show unreliable correlation with health (Drageset, 2021).

The SBH by Cohen & Wills (1985) operates under two main constructs. Stress moderation via social support happens through the main effect model or buffering effect model of social support (Bekiros, 2022). The main effect model posits that social support improves physical and mental health irrespective of stress levels or stressful events. It finds support through research measuring a person's social network and level of integration within it (Cohen & Wills, 1985). In contrast, the buffering effect model suggests that social support mitigates negative

health impacts mainly during high-stress situations, allowing individuals with higher levels of perceived social support to experience less stress-related outcomes (Drageset (2021). It finds support in studies evidencing perceived social support, or the perceived availability of interpersonal resources, during stress (Cohen & Wills, 1985). For caregivers experiencing stress, perceived support, rather than actual received social assistance, is crucial in protecting against adverse psychological and physical outcomes linked to caregiving, with individuals sensing greater support experiencing lower stress levels (Bekiros, 2022; Rui & Guo, 2022; Yeo et al., 2025).

Subsequently, the present study sought to establish the relationship between perceived social support and stress levels among caregivers of children with ASD. In this regard, the buffering effect model, within the SBH was best suited to investigate the association between perceived social support on the stress outcomes of the caregivers. The buffering model of social support emphasizes how perceived social support buffers individuals against the detrimental outcomes of stress by modifying individual thoughts and actions, which includes rethinking stressors, improving coping skills, and providing problem-solving strategies to lessen stress impact (Cohen & Wills, 1985; Liu et al. 2023).

There are four types of support or resources that function as stress buffers under the buffering model. These include instrumental material including financial and material resources, informational support such as guidance on coping with challenges, esteem support communicating acceptance and value, and social companionship involving leisure activities that fulfill social needs and alleviates worries (Cohen & Wills, 1985). As mentioned earlier, it is the belief that these resources are available as needed, or perception of social support, that is crucial for mitigating stress among the individuals experiencing stress. This theoretical claim is supported by global studies demonstrating that perceived social support significantly influences stress outcomes among caregivers of children with ASD (Abd Rahman et al., 2023; Pardo-Salamanca et al., 2025; Weiss et al., 2021). In conclusion, the SBH provides a more robust understanding of an extrinsic psychological mechanisms that mitigate stress among the caregivers of children with ASD.

The buffering model of social support, under the SBH finds support in studies evidencing perceived social support, or the perceived availability of interpersonal resources, during stress. In contrast, the main effect model finds evidence through research measuring a person's social network and level of integration within it (Cohen & Wills, 1985). According to Yeo et al. (2025), perceived social support, rather than actual received social assistance, enhances psychological functioning and protects individuals from adverse life outcomes.

EMPIRICAL REVIEW

Pardo-Salamanca et al. (2025) conducted at the University of Valencia in Spain. The research examined the correlation between parental stress and perceived social support among 120 moms aged 35 to 55, caring for children aged 8 to 12 years, comprising 47 with ASD, 43 with ADHD, and 30 typically developing children. The findings revealed that ASD caregivers reported higher stress and lower perception of social support than the control group caregivers, as revealed by the Parenting Stress Index–Short Form and the Duke–UNC Functional Social Support Questionnaire. Notably, parenting stress had a strong negative correlation with confident support ($r = 0.64, p < .001$) and affective support ($r = -0.65, p < .001$). The research concluded that caregivers with strong social support, particularly through confident relationships, have better protection against stress.

This observation was supported by results were obtained from a quantitative cross-sectional study in Canada conducted by Robinson and Weiss (2020). The research involving 249 caregivers of children with autism examined the relationship between caregiver stress and perceived social support. The sample included well-educated, married mothers, with only ten male participants, aged 27 to 62, caring for children aged 4 to 18, recruited from autism-focused websites, community organizations, and a university database. Social support was measured using the Social Provisions Scale, while caregiver stress was assessed with the DASS-42. Results indicated a significant negative correlation between perceived social support and caregiver stress ($r = -.44, p < .001$), suggesting that increased support is associated with reduced stress, highlighting its protective role.

Comparable results were documented in Malaysia in a cross-sectional correlation study conducted by Abd Rahman et al. (2023) at the University Putra Malaysia, evaluating stress in relation to perceived social support from the community. The sample comprised 75 purposively selected caregivers, aged 23 to 74, caring for children between the ages of 1 and 25, drawn from community based autism support centers. The Autism Parenting Stress Index (APSI) was utilized to evaluate stress levels, whereas the MSPSS was employed to gauge perceived social support levels. The study results demonstrated that parents who perceived they had greater social support experienced lower stress ($r = -0.265, p = .021$).

Research on perceived social support and stress among caregivers of children with ASD from Africa is sparse. Nevertheless, a cross-sectional, ex post-facto study by Obasi et al. (2019) in Nigeria, involving 50 randomly selected caregivers, revealed contrasting findings in their assessment of perceived social support and caregiver stress levels. The caregivers, ranging

from age 20 to 35 years old, attending to children of unspecified ages, were selected from a neuro-psychiatric hospital. The Autism Parenting Stress Index (APSI) and the MSPSS measured stress and perceived social support, respectively. The results indicated insufficient evidence of an association between perceived social support and stress levels ($t(47)=-0.037$, $p>.05$) in the sample. The variation in the Nigerian findings suggests that the perceptions of social support among ASD caregivers may fluctuate owing to cultural contextual differences. These encompass differences in systemic obstacles and the conceptualization of social assistance. Differences in measuring instruments, sampling methods, caregiver and child ages, and recruitment locations, may have further contributed to the discrepancy.

In Kenya, there exists a considerable number of qualitative studies detailing the types of assistance pursued and obtained by ASD caregivers. For instance, Gona et al. (2016) investigated the experiences of 103 carers in Kilifi, Kenya, highlighting the benefits of respite care and prayer for the caregivers. Similarly, Kiambati et al. (2025) conducted a study using qualitative and quantitative content analysis to analyze messages from three hundred participants in a WhatsApp group for caregivers of children with disabilities, including ASD. The study found that these caregivers received various forms of support, including guidance, prayer, empathy, affection, material assistance, and social connections. Nonetheless, in both studies, the evaluation of perceived support and caregiver stress was not conducted using validated measures.

Consequently, the current research employed the MSPSS and the PSS-10 to examine the correlation between perceived social support and stress among ASD caregivers. Expanding the focus to encompass caregivers from Kenya addresses a significant empirical and contextual gap. Moreover, the data will assist in determining if the outcomes from Nigeria reflect a regional pattern, or if the findings from Kenya align with the Social Buffer Hypothesis, which suggests that perceived social support mitigates stress.

CONCEPTUAL FRAMEWORK

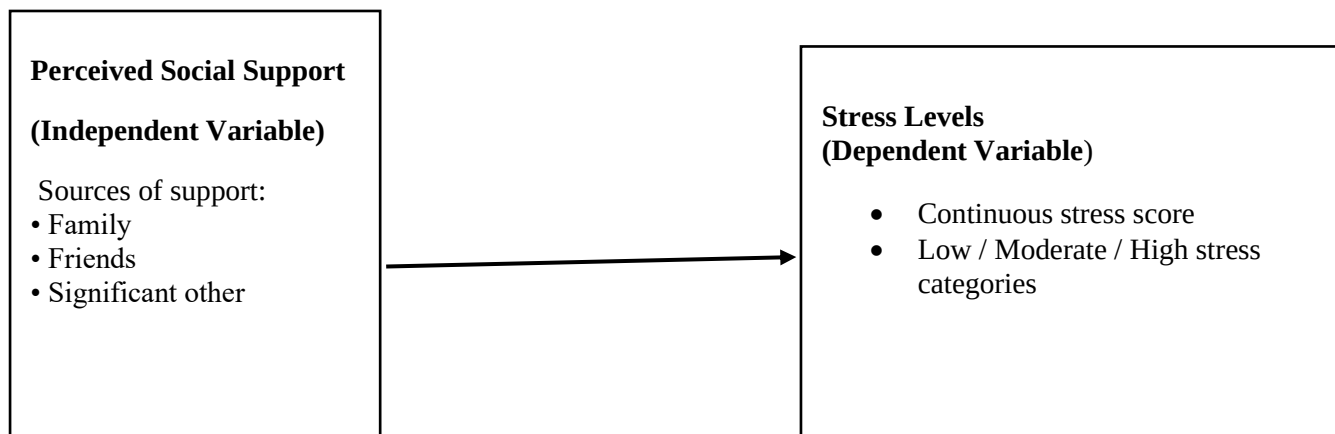


Figure 1: Conceptual framework showing the relationship between perceived social support and stress levels among ASD caregivers.

RESEARCH METHODOLOGY

A cross-sectional descriptive design was used to investigate the relationship between perceived social support and stress levels in Nairobi, Kenya. The study had 127 participants who fulfilled the criteria for inclusion (Arthurs Dream Autism Trust (ADAT) = 61; Differently Talented Society of Kenya (DTSK) = 66). The two support groups were selected because they are acknowledged registered entities that provide psychological aid to caregivers of children with ASD. Moreover, their considerable populations increased the probability of receiving diverse responses, and both had established WhatsApp groups that enabled communication among the directors, organizational members, and the primary researcher concerning data collection via Google Forms. Regarding the inclusion criteria, participants included in the study were 18 to 65 years old, an informal caregiver of a 17 year old or under child diagnosed with ASD, and caring for the child for six months or more. Participants also had to be proficient in the English language to complete study questionnaires. Consent to participate in the study was also required.

The 10- item Perceived Stress Scale (PSS-10) was used to assess stress levels among the respondents. The questionnaire developed by Cohen et al. (1983) is used for individuals aged twelve and older, to gauge how stressful they find various situations in their lives (Lee, 2012; Schneider et al., 2020). Its items assess the extent to which respondents perceive or view their lives as unmanageable, unpredictable, and burdensome in the previous month (National Cancer Institute, n.d.). The PSS-10 employs a 5-point Likert scale from 0 (never) to 4 (very often) to gauge feelings and thoughts during the past month. It comprises six items measuring perceived

distress and four items (4, 5, 7, and 8), related to coping mechanisms, which need to be reversed before scoring. The total score reflects the overall perceived stress level (Jatic et al., 2023).

The PSS-10 scores range from 0 to 40, categorized as low stress (0-13), moderate stress (14-26), and high perceived stress (27-40). Scores for six negatively phrased questions are scored (0 = 0 to 4 = 4), while scores for positively phrased questions (4, 5, 7, and 8) are reversed (0 = 4, 1=3, 2=2, 3=1, 4 = 0) before calculating the total score (Milner, 2025; Perry, 2024; Soria-Reyes et al., 2023). The tool was initially validated in a study by Cohen and Williams (1988) involving 2,387 adults in the U.S., where it showed adequate internal consistency ($\alpha = .78$). It exhibited moderate correlations with weekly stress ($r = .39$, $p < .001$) and past year stressful life events ($r = .32$, $p < .001$). It also demonstrated convergent validity, displaying a negative correlation with perceived health ($r = -.22$, $p < .001$) and positive correlations with psychosomatic symptoms ($r = .28-.34$, $p < .001$) and health service use ($r = .22$, $p < .001$) (Baik et al., 2019).

The internal consistency of the PSS-10 is reported to range from 0.69 to 0.91 (Afulani et al., 2021). Since its inception, the PSS-10 has been validated in various populations, as detailed in a systematic review by Lee (2012), which evaluated the psychometric properties of the PSS-14, PSS-10, and PSS-4 across nineteen studies. The samples constituted diverse adults, including late adolescents to middle-aged individuals from the U.S., Canada, China, Spain, Greece, India, Korea, Japan, Vietnam, and Taiwan, with participant numbers ranging from sixty to over 2,000. The PSS-10 outperformed both the PSS-14 and PSS-4 in psychometric performance, exhibiting strong internal consistency (Cronbach's $\alpha > .70$) and acceptable test-retest reliability ($r > .70$). Factor analyses indicated a two-factor structure of Perceived Helplessness and Perceived Self-Efficacy for the PSS-10 and PSS-14, with PSS-10 demonstrating superior structural validity. Its significant correlations with depression and anxiety measures affirmed its criterion validity, making it the preferred instrument for assessing perceived stress across diverse populations.

Nonetheless, Milo et al. (2025) indicate that while a value of 0.7 or higher is generally accepted for exploratory research, some sources accept 0.60. In line with this, their systematic review of twenty studies found the PSS-10's internal consistency varied across languages and cultures, with values ranging between $\alpha = 0.63$ and $\alpha = 0.87$. Perera et al. (2017) note that reverse worded items in the PSS-10 may perform poorly in cross-cultural contexts, affecting internal consistency, particularly among non-Western populations. Moreover, İlhan et al. (2024) explains that while reverse-scored items aim to reduce response bias, they can lead to confusion

and inconsistent responses, weakening overall internal consistency. This suggests that internal consistencies ranging between 0.60 to 0.70 should be regarded contextually.

In line with this is a study done by Sandhu et al.(2015) wherein the psychometric properties of the Malay Version of the PSS-10 was tested among 229 nurses across four hospitals in Malaysia. The Cronbach's alpha coefficient of the PSS-10 was found to be 0.63, which the authors indicated as satisfactory validity and reliability for assessing stress perceptions. Similarly, a study among Ethiopian university students reported McDonald's Omega of the PSS-10 at 0.68, while a research assessing stress among maternity providers in a rural Kenyan county yielded a Cronbach alpha of 0.60 on the PSS-10 scale. Consistent with these findings, the PSS-10 yielded a Cronbach alpha of 0.62 in the present study, which likely stems from contextual factors, including language. Thus, readers should acknowledge the possible attenuation of the observed associations between perceived social support and stress.

The twelve item Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet et al. (1988), was used to gather data on perceptions of social support. The MSPSS assesses subjective perception of adequacy of informal support through three subscales namely family, friends, and significant others (Wittenborn et al., 2020). The subscales include significant others (items 1, 2, 5, and 10), family (items 3, 4, 8, and 11), and friends (items 6, 7, 9, and 12), measuring both individual and global support domains (Wongpakaran & Wongpakaran, 2012). Thus, each subscale comprises four items, and the overall score varies from 12 to 84, with elevated scores signifying greater social support. Scores of 12-35 = low, 36-60 = moderate, and 61-84 = high perceived social support (Wang et al., 2021). Participants are requested to indicate their level of agreement with each assertion using a 7-point Likert scale ranging from 1 = "strongly disagree" to 7 = "strongly agree" (Wang et al., 2021). The mean for each of the four items for a subscale is calculated by summing the score for each of the four items and then dividing by four. Any mean scale score ranging from 1 to 2.9 is considered low support; a score of 3 to 5 is considered moderate support; and a score from 5.1 to 7 is considered high support (Zimet, 2016).

The initial validation of the scale conducted by Zimet et al. (1988) involving 275 Duke university students in the U.S. aged 17 to 22, demonstrated robust psychometric properties. The subscales Significant other ($\alpha = 0.91$), Family ($\alpha = 0.87$), Friends ($\alpha = 0.85$), and an overall scale of $\alpha = 0.88$, exhibited high internal consistency. Test-retest reliability after 2 to 3 months varied from $r = 0.72$ to 0.85 . Construct validity was supported by negative correlations with depression ($r = -0.25$, $p < .01$) and anxiety ($r = -0.18$ to -0.24 , $p < .01$), confirming the MSPSS as a reliable and valid measure of perceived social support.

Additionally, Kuru and Piyal (2018) conducted a descriptive cross-sectional study in Turkey assessing the relationship between perceived social support and quality of life among ninety caregivers of children with ASD. The MSPSS showed high internal consistency with a Cronbach's alpha of 0.83. The authors revealed that prior Turkish validations had reported strong factor loadings in exploratory factor analysis, and good model fit in confirmatory factor analysis. Split-half reliability was also optimal, confirming its reliability and validity for assessing perceived social support among this demographic. In the present research, the MSPSS demonstrated strong internal consistency, evidenced by a Cronbach's alpha of 0.94.

Data collected from the respondents were analyzed using the Statistical Package for Social Sciences program version 27. For data analysis, the Pearson Correlation Coefficient (Pearson's r) was employed to investigate the association between perceived social support and perceived stress, whereas multiple regression analysis was utilized to determine the significant predictors of PSS-10 perceived stress from the item and subscale levels of MSPSS. Ethical considerations were observed throughout the research process. The researcher obtained the mandatory research approvals from all the concerned bodies. The letters authorizing the researcher to collect data from the respondents from the two research were obtained from the directors of each site, namely Arthurs Dream Autism Trust (ADAT) foundation and Differently Talented Society of Kenya (DTSK). To begin with, ethical clearance was obtained from the Daystar University Institutional Scientific Research Committee (DU-ISERC).

Secondly, clearance to conduct the research was obtained from Daystar University, School of Psychology. Additionally, a research permit was acquired from the National Commission for Science, Technology, and Innovation (NACOSTI). The principals of beneficence and non-maleficence were adhered to by obtaining formal informed consent from the respondents prior to data collection, explicitly stating to them the right to withdraw from the study without penalty, protecting their privacy through replacing participant identifiers data with anonymized codes, and securing data storage with passwords to minimize breach of confidentiality.

RESULTS AND DISCUSSIONS

The aim of this study was to investigate the relationship between perceived social support and stress levels of 127 caregivers of children with ASD in Nairobi, County, Kenya. Social support levels were investigated based on the internal scales and overall support. To calculate the mean subscale scores, Significant Other Subscale: Sum across items 1, 2, 5, & 10, then divide by 4. Family Subscale: Sum across items 3, 4, 8, & 11, then divide by 4. Friends Subscale: Sum across items 6, 7, 9, & 12, then divide by 4. Any mean scale score ranging from 1 to 2.9 is considered low support; a score of 3 to 5 is considered moderate support; a score from 5.1 to 7

is considered high support. To find the overall perceived social support, the mean scores of all three subscales together are added and divided by 3. Higher scores indicate greater perceived social support. Scores are interpreted as Low Support: (1 - 2.9), Moderate Support: (3 - 5) and High Support: (5.1 - 7).

Descriptive Analysis

To begin with the distribution of perceived social support categories of the participants was summarized using frequencies and percentages. Table 1 presents the summary of the findings.

Table 1: Descriptive Analysis of the Multidimensional Scale of Perceived Social Support (MSPSS) Scales

MSPSS Scale	Low, n (%)	Moderate, n (%)	High, n (%)
Significant scales	43 (33.9%)	57 (44.9%)	27 (21.3%)
Family Scales	43 (33.9%)	59 (46.5%)	25 (19.7%)
Friends scales	60 (47.2%)	56 (44.1%)	11 (8.7%)
Overall MSPSS	53 (41.7%)	57 (44.9%)	17 (13.4%)

The distribution of the MSPSS scores showed that most respondents reported social support across diverse sources. In terms of support from a significant other, majority, 44.9% (57) felt moderately supported, a considerable proportion, 33.9% (43), felt lowly supported, while only 21.3% (27) felt highly supported. Regarding support from family. A similar pattern was observed regarding support from family, where almost half the sample, 46.5% (59) experienced support of moderate levels, followed by 33.9% (43) reporting low levels of support, and just 19.7% (25), feeling highly supported. Support from friends appeared to be the weakest of all the dimensions assessed. Almost half of the respondents, 47.2% (60) reported low support from friends, with 44.1% (56), experiencing moderate levels of support. In stark contrast, however, only 8.7% reported high levels of support from their friends.

Overall, across the three subscales, the MSPSS scores indicated that most of the respondents, 44.9% (57), reported feeling moderately supported, a considerable proportion, 41.7% (53), reported low levels of support, while merely 13.4% (17), felt highly supported by their overall social network. The results indicate that while support from immediate family and marital network appear to provide moderate levels of relief to the caregivers of children with ASD, they mostly feel lowly supported by their peers and friendship networks. Thus, their perceptions of sources of support appears to be imbalanced with friends offering limited support in comparison to family and significant others. This leaves this vulnerable population exposed to heightened stress in the absence of support from family and significant partners.

Cross-Tabulation and Fisher-Freeman-Halton exact test

Cross Tabulation and Fisher's exact test analysis was used to analyze the association between categorical levels of perceived social support and caregiver stress levels. This test was considered because over 20% of the cells had expected frequencies under 5, which violated the Chi-square test assumptions. Specifically, the association between stress levels and perceived social support from significant others, family, friends, and total social support, was examined. The findings are summarized in Table 2

Table 2: Association Between Perceived Social Support Categories and Stress Levels

MSPSS Scale	Categories	PSS Scale			Fishers Exact test
		Low, n (%)	Moderate, n (%)	High, n (%)	
Significant other scale	Low (1-2.9)	0 (0.0%)	30 (23.6%)	13 (10.2%)	p-value = 0.227
	Moderate (3-5)	1 (0.8%)	41 (32.3%)	15 (11.8%)	
	High (5.1-7)	1 (0.8%)	23 (18.1%)	3 (2.4%)	
Family scale	Low (1-2.9)	0 (0.0%)	26 (20.5%)	17 (13.4%)	p-value = 0.024
	Moderate (3-5)	1 (0.8%)	47 (37.0%)	11 (8.7%)	
	High (5.1-7)	1 (0.8%)	21 (16.5%)	3 (2.4%)	
Friends scale	Low (1-2.9)	0 (0.0%)	39 (30.7%)	21 (16.5%)	p-value = 0.019
	Moderate (3-5)	1 (0.8%)	46 (36.2%)	9 (7.1%)	
	High (5.1-7)	1 (0.8%)	9 (7.1%)	1 (0.8%)	
Overall MSPSS	Low (1-2.9)	0 (0.0%)	35 (27.6%)	18 (14.2%)	p-value = 0.045
	Moderate (3-5)	1 (0.8%)	44 (34.6%)	12 (9.4%)	
	High (5.1-7)	1 (0.8%)	15 (11.8%)	1 (0.8%)	

Note. FET=Fishers Exact Test

As highlighted in Table 2, descriptively, most respondents reported moderate stress levels in relation to various forms of social support. In terms of respondents who reported low support from significant others, 0% reported low stress, 23.6% indicated moderate stress, while 10.2% presented with high stress. Among those who indicated moderate support from significant other, 0.8% reported low stress, 32.3% indicated moderate stress, while 11.8% reported high stress. For those indicated high support levels, 0.8% reported low stress, 18.1% indicated moderate stress while only 2.4% reported high stress. The Fishers exact test revealed no significant association between perceptions of support from significant others and stress levels ($p = .227$). The findings indicate that the caregivers experienced moderate stress levels regardless of the level of social support from their significant others.

Among the respondents who reported low family support, 0% reported low stress, 20.5% indicated moderate stress, while 13.4% presented with high stress. For those who indicated moderate support, 0.8% highlighted low stress, 37.0% indicated moderate stress, while 8.7% reported high stress. Among those experiencing high support levels, 0.8% indicated low stress, 16.5% indicated moderate stress while only 2.4% reported high stress. A statistically significant association was observed between stress levels and perceived family social support ($p = .024$). The results indicate that family support is a key factor against stress among ASD caregivers.

Regarding the respondents who reported low friendship support levels, 0.0% reported low stress, 30.7% indicated moderate stress, while 16.5% presented with high stress. For those who indicated moderate support levels, 0.8% highlighted low stress, 36.2% indicated moderate stress, while 7.1% reported high stress. Among those experiencing high support levels, 0.8% indicated low stress, 7.1% indicated moderate stress while only 0.8% reported high stress. The association between perceived social support from friends and stress levels was significant ($p = .019$). The results indicate that friendship networks are significantly associated with the stress experiences of ASD caregivers.

In terms of the overall scale, the association between overall levels of perceived social support and stress levels was statistically significant ($p = .045$). Among participants reporting low overall support, 0.0% experienced low stress, 27.6% experienced moderate stress, and 14.2% experienced high stress, while those reporting high overall support presented with 11.8% moderate stress and 0.8% high stress. The results indicate that specific sources of support, rather than generalized support, need to be taken into account when determining the critical sources of support for ASD caregivers.

Pearson Correlation Analysis

Subsequent to the categorical analysis, Pearson Correlation analysis was done to assess the strength and direction of perceived social support in association to stress levels. The results of the bivariate analysis are presented in Table 3.

Table 3: Correlations Between Perceived Social Support Subscales and Stress Levels

Variables	Pearson r	Sig. tailed)	(2- 95% CI (Lower–Upper)
PSS – Significant other support	-.211*	.017	[-.371, -.037]
PSS – Family support	-.252**	.004	[-.408, -.080]
PSS – Friend support	-.288**	.001	[-.439, -.119]
PSS – Total social support (MSPSS)	-.287**	.001	[-.438, -.118]

Note. $p < .01$ (two-tailed) for correlations marked with **; $p < .05$ for correlations marked with *. Confidence intervals are based on Fisher's r-to-z transformation with bias adjustment. The correlation analysis revealed consistent negative but weak associations between perceived stress (PSS) and all forms of perceived social support. Higher perceived stress was significant but weakly associated with lower support from a significant other ($r = -.211$, $p = .017$), family ($r = -.252$, $p = .004$), friends ($r = -.288$, $p = .001$), and the total social support score (MSPSS) ($r = -.287$, $p = .001$). Taken together, these findings suggest that individuals with stronger social support networks reported lower levels of perceived stress. However, the r values ranging from $r = -.211$ to $r = -.288$ signified small effect sizes, indicating associations that were weak to moderate in strength. Thus, it may be concluded that there may be other more prominent factors driving stress among ASD caregivers in the Kenyan context.

Multiple Linear Regression Analysis

Regression Diagnostics

To ensure the validity of the multiple linear regression model, the assumptions of linearity and homoscedasticity were verified simultaneously using a residual scatter plot. The findings are shown in Figure 1.

Figure 1: Scatter Plot

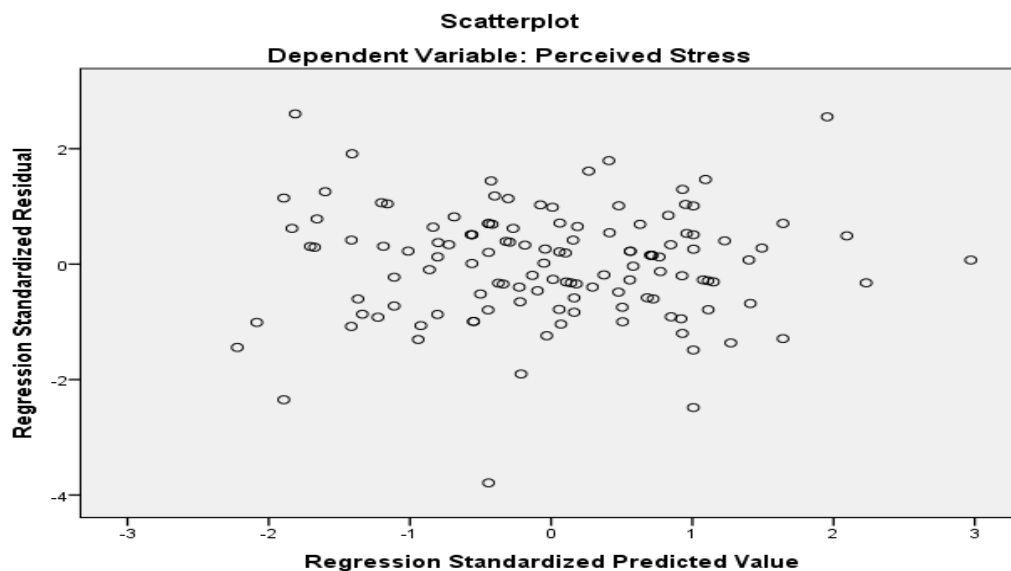
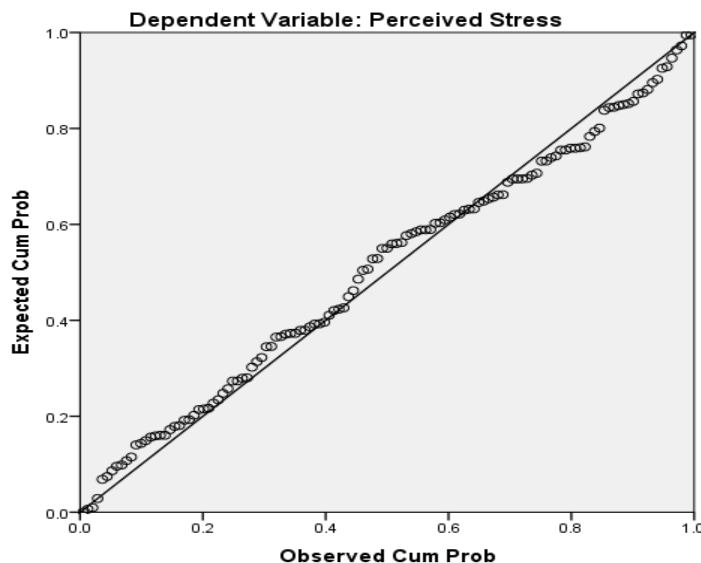


Figure 1 above showed no distinct curves or patterns with random scatter points distributed uniformly around zero, revealing that the assumption of linearity and homoscedasticity was met.

Second, the assumption of normality was tested using a P-P plot. The findings are reported in Figure 2.

Figure 2*P-P Plot for Normality testing*

The observed values, based on Figure 2, were normally distributed along the diagonal line, indicating the residuals followed a normal distribution. Thus, the assumptions of normality were met.

Additionally, Tolerance and the Variance Inflation Factor (VIF) were used to determine the multi-collinearity assumption. The findings are displayed in Table 4

Table 4: Multicollinearity Test

Predictor	Collinearity Statistics	
	Tolerance	VIF
Constant		
MSPSS1:There is a special person who is around when I am in need.	0.29	3.45
MSPSS2:There is a special person with whom I can share my joys and sorrows.	0.23	4.28
MSPSS3:My family really tries to help me.	0.26	3.81
MSPSS4:I get the emotional help and support I need from my family.	0.24	4.12
MSPSS5:I have a special person who is a real source of comfort to me.	0.26	3.88
MSPSS6:My friends really try to help me.	0.25	3.97
MSPSS7:I can count on my friends when things go wrong.	0.31	3.20
MSPSS8:I can talk about my problems with my family.	0.25	3.94
MSPSS9:I have friends with whom I can share my joys and sorrows.	0.30	3.32
MSPSS10:There is a special person in my life who cares about my feelings.	0.34	2.92

MSPSS11:My family is willing to help me make decisions.	0.24	4.16
MSPSS12: I can talk about my problems with my friends.	0.31	3.20

As shown in Table 4, all VIF values were below 5.0 and Tolerance values were above 0.20, indicating that multicollinearity did not bias the regression coefficients. Thus, all the variables were retained for further analysis.

Further still, Cook's distance, leverage values, studentized deleted residuals, and Mahalanobis distance to test the assumption of influential observations. The results are reported in Table 5

Table 5: Influential Observations

Residuals Statistics	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	19.78	29.72	24.03	1.91	127
Std. Predicted Value	-2.22	2.97	0.00	1.00	127
Standard Error of Predicted Value	0.48	2.61	1.21	0.44	127
Adjusted Predicted Value	18.99	29.60	24.05	1.97	127
Residual	-15.18	10.44	0.00	3.81	127
Std. Residual	-3.79	2.60	0.00	0.95	127
Stud. Residual	-3.82	2.83	0.00	1.00	127
Deleted Residual	-15.40	12.56	-0.02	4.27	127
Stud. Deleted Residual	-4.07	2.92	0.00	1.02	127
Mahal. Distance	0.79	52.31	11.91	10.10	127
Cook's Distance	0.00	0.14	0.01	0.02	127
Centered Leverage Value	0.01	0.42	0.09	0.08	127

a Dependent Variable: Perceives Stress

As indicated in Table 5, Cook's distance was relatively low, indicating that no observation exerted a substantial influence on the regression model based on the conventional threshold of 1.00.

Model Results

Finally, multiple regression analysis was conducted to predict PSS-10 perceived stress based on the 12 MSPSS items (MSPSS1–MSPSS12). Table 6 displays the regression results.

Table 6: Regression Predicting Perceived Stress from MSPSS Subscales

Predictor	B	SE B	β	t	p	95% CI for B
Constant	26.88	1.03	—	26.09	.000	[24.84, 28.92]
MSPSS1:There is a special person who is around when I am in need.	0.06	0.38	.02	0.14	.887	[-0.71, 0.81]
MSPSS2:There is a special person with whom I can share my joys and sorrows.	0.19	0.40	.08	0.48	.630	[-0.60, 0.98]

MSPSS3:My family really tries to help me.	0.51	0.38	.22	1.34	.182	[-0.24, 1.25]	
MSPSS4:I get the emotional help and support I need from my family.	-1.08	0.39	-.47	-2.75	.007	[-1.86, 0.30]	-
MSPSS5:I have a special person who is a real source of comfort to me.	-0.36	0.37	-.16	-0.98	.331	[-1.09, 0.37]	
MSPSS6:My friends really try to help me.	-0.85	0.45	-.31	-1.86	.065	[-1.75, 0.05]	
MSPSS7:I can count on my friends when things go wrong.	0.49	0.41	.18	1.18	.240	[-0.33, 1.31]	
MSPSS8:I can talk about my problems with my family.	0.45	0.39	.19	1.14	.256	[-0.33, 1.22]	
MSPSS9:I have friends with whom I can share my joys and sorrows.	-0.96	0.39	-.38	-2.49	.014	[-1.73, 0.20]	-
MSPSS10:There is a special person in my life who cares about my feelings.	0.29	0.34	.12	0.86	.390	[-0.38, 0.95]	
MSPSS11:My family is willing to help me make decisions.	-0.04	0.38	-.02	-0.11	.911	[-0.80, 0.72]	
MSPSS12:I can talk about my problems with my friends.	0.40	0.38	.16	1.03	.304	[-0.36, 1.16]	

Model Summary. $R = .449$, $R^2 = .201$, Adjusted $R^2 = .117$, Std. Error = 4.01, $F(12,114) = 2.39$, $p = .009$

Based on Table 6, the overall model was statistically significant, $F(12,114) = 2.39$, $p = .009$, with $R^2 = .201$. This indicates that the set of social support items collectively explained 20.1% of the variance in perceived stress. Among the individual predictors, two items emerged as statistically significant contributors to perceived stress: MSPSS4 (“I get the emotional help and support I need from my family”) ($B = -1.08$, $\beta = -.47$, $p = .007$), and MSPSS9 (“I have friends with whom I can share my joys and sorrows”) ($B = -0.96$, $\beta = -.38$, $p = .014$). Both predictors had negative coefficients, indicating that stronger family emotional support and supportive friendships were associated with lower perceived stress. MSPSS6 (“My friends really try to help”) was not statistically significant ($p = .065$) and should therefore not be interpreted as a definitive effect. The remaining items did not reach statistical significance, indicating that their effects were either weak or overlapped with the stronger predictors.

The regression model indicated that perceived social support accounted for 20.1% of the variance in caregiver stress, which decreased to 11.7% after adjusting for the number of predictors. Significant independent predictors of lower stress included MSPSS4 (emotional help and support from family, $p=.007$) and MSPSS9 (friends to share joys and sorrows with $p = .014$). The other MSPSS items provided limited incremental explanatory value. These findings highlight the importance of strengthening family emotional support and peer relationships in interventions aimed at reducing stress among caregivers of children with ASD.

RECOMMENDATIONS

Based on the findings of this study, it is suggested that mental health practitioners utilize the validated tools such as the MSPSS to assess perceptions of perceived social support among ASD caregivers. This will help them identify caregivers who are at a risk of increased stress and facilitate psychoeducation on the importance of investing in healthy friendships and seeking support from family and friends. These measures can build their resilience, improve their coping capacity, and minimize their risk of developing adverse outcomes of stress.

Additionally, community based caregiver support groups aimed at providing psychosocial support to ASD caregivers should aim to address the wellness of both the caregiver and the child. While wellness strategies for the children diagnosed with ASD often take precedence, the focus should at times shift to enhancing the mental wellness of the caregivers. This can be done through facilitating the formation of peer groups that are smaller in size to which can foster closeness among the caregivers. Doing so will give the caregivers alternative spaces away from the home environment where they can engage in conversations and activities that are emotionally uplifting, enabling them to cope better with their caregiving challenges. Moreover, future research should consider longitudinal designs that allow for tracking of changes in stress levels in relation to their perceptions of social support, across a period of time. Moreover, alternative measures of stress assessments could be explored including measuring stress using a tool that measures stress specifically linked to parenting children with ASD such as the Autism Parenting Stress Index (APSI), or other similar scales.

CONCLUSIONS

The evidence from the study supports an inverse association between perceived social support and stress. Nonetheless, the cross-sectional design does not establish temporal direction or causality. The research found that overall, caregivers who perceive higher levels of social support experienced less stress. Nonetheless, it determined that different kinds of assistance associated differently with caregiver stress. Specifically, emotional backing and support from family surfaced as a primary predictor of stress levels among the caregivers. The caregiver's perceptions of the accessibility of friends with whom they can share both celebratory occasions and difficulties, was another crucial predictor of caregiver stress. The results suggest that social support from family and friends provides positive reinforcement to the caregivers. Thus, mental health interventions aimed at strengthening familial bonds and fostering friendships are crucial for enhancing the mental well-being of ASD caregivers. The findings underscore the

importance of integrating perceived social support into policies and interventions aimed at enhancing resilience and improving the mental wellness of ASD caregivers.

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