

## **Influence of Traumatic Events on Adolescents' Self-Esteem: A Case Study of Kangui Village in Murang'a County, Kenya**

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### **Abstract**

Adolescence is often a time of development, the discovery of one's true self, the determination of personal values, and the determination of social and vocational direction in life. However, in Kenya, adolescents have shown antisocial behavior. This has been linked to low self-esteem. The focus of this research was to establish the influence of traumatic events on adolescents' self-esteem in Kangui Village, Murang'a County, Kenya. A descriptive research design was used in the study. The study population consisted of 229 adolescents living in Kangui Village, Murang'a County, at the time of the study. The population was small; hence, census sampling was used. Data for the study were collected using self-administered questionnaires. Self-esteem was measured using the Rosenberg Self-Esteem Scale. The reliability of the research instrument was established using Cronbach's Alpha. All items in the questionnaire had coefficients greater than 0.7. The data were analyzed using descriptive statistics, Pearson correlation analysis, and regression analysis. It was established that the association between traumatic events and self-esteem was negative and statistically significant, as implied by  $r=-0.403$ ,  $p$ -value 0.000. The regression results showed that traumatic events had a negative and statistically significant effect on self-esteem.

**Keywords:** *Traumatic events, Stress, Self-esteem, Adolescents*

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## **1.0 Introduction**

Adolescence is a significant stage in human development. It is characterized by changes in physical appearance, emotional status, and social relationships (Allen & Waterman, 2024). During adolescence, the individual transitions from childhood to adulthood. During this transition, the individual experiences puberty, identity changes, and shifts in relationships (Mastorci et al., 2024). Adolescence is marked by numerous behavioural and psychological changes that shape emotional, social, and cultural identity (Ross et al., 2020). Adolescents also develop their self-concept and self-esteem (Branje, 2022).

Psychologists maintain that self-esteem is important to life outcomes, including health, social, educational, and financial outcomes. According to Acosta-Gonzaga (2023), adolescents with higher self-esteem experience positive outcomes, including job success, higher-quality social relationships, a strong sense of well-being, positive peer perceptions, high academic attainment, and high levels of emotional intelligence. In China, Gu et al. (2024) found that low self-esteem can result in depression, substance abuse, antisocial behavior, and suicide.

According to the World Health Organization (2024), 14 percent of adolescents worldwide suffer from low self-esteem. Low self-esteem is attributed to adversity, a challenging home environment, and socioeconomic problems. In Sub-Saharan Africa, the United Nations Children's Fund (2022) found that one in five adolescents suffers from low self-esteem. Adolescents also face economic, political, and safety challenges for prolonged periods.

In a study of adolescents in high schools in Nairobi Constituency, Kibuthu and Muasa (2023) found that adolescents had low self-esteem. The researchers found that the government and non-governmental organizations had implemented measures to increase adolescents' self-esteem and confidence. However, adolescents still suffered from low self-esteem. The measures put in place were ineffective because they did not address the academic and socioeconomic factors that shape self-esteem. The Ministry of Education in Kenya recognizes that adolescents have low self-esteem, which affects their academic performance (Ministry of Education, 2019).

According to the World Health Organisation (2024), the major cause of low self-esteem in adolescents across the globe is stress. Stress is thought to be very complex and occurs in two phases. In phase one, the individual evaluates the items causing the stress and what the stressful item requires. In the next phase, the individual analyzes whether they have what it takes to meet the demands caused by the stressful event. Different individuals respond differently to the same stressor. The reaction can be physiological, emotional, or behavioural (Chu et al., 2024).

In Kenya, school unrest, juvenile crime, substance abuse, arson attacks, and violence are recurring problems in many schools. These events result in property damage, injuries, deaths, and interruptions in learning (Wasonga, 2021). The level of suicide among adolescents in Kenya is also a concern (Ministry of Health, 2020). The risk factors for school violence and the rise in suicide rates among adolescents in Kenya have been attributed to mental, economic, traumatic, and social stressors (Ministry of Health, 2020; Umija et al., 2021; Wasonga, 2021; Mutiso, 2023). The government has put in place measures

to address these challenges. These measures include counselling, financial hand-outs, school reforms, and the protection of students' rights. However, the challenges adolescents face persist (World Bank, 2024).

### ***Statement of the Problem***

In an ideal society, adolescents develop in a supportive environment that nurtures their self-esteem, resilience, and overall well-being. Positive self-esteem is essential for healthy psychological development and influences various life outcomes, including academic performance, career success, and social relationships. When adolescents experience stress, their ability to cope effectively determines whether they emerge as well-adjusted individuals or struggle with maladjustment and behavioural problems.

However, in Kenya, adolescent-related challenges have been persistently rising, including school unrest, substance abuse, juvenile crime, and an alarming increase in suicide cases. These trends suggest that many adolescents are experiencing significant stress that may be affecting their self-esteem and overall psychological well-being (Wasonga, 2023; Muthuri, 2021). Despite efforts by the government, parents, and religious organizations to address these issues, the persistence of these problems indicates that existing interventions have not fully addressed the underlying causes.

Although research on stress and its psychological effects is extensive, most studies have focused primarily on adult populations (Ashfaq, 2024; Tuna et al., 2025). Studies examining adolescents, such as Perica and Luna (2023) and Smith and Pollak (2020) have primarily focused on how stress affects neurobiological

mechanisms but have not explored its influence on self-concept, particularly self-esteem. In Kenya, existing research has largely examined stress in relation to discipline, substance abuse, and school unrest (Ministry of Education, 2019). However, the increasing prevalence of these issues suggests that not all aspects of adolescent stress have been adequately addressed.

*“The study concludes that adolescents in Kangui Village in Murang'a had experienced traumatic events that reduced the respondents' self-esteem”*

Moreover, Srivastava et al. (2015) explored how perceived stress affects self-esteem among school-going adolescents. While their findings were insightful, their study excluded participants who had experienced significant life stressors such as parental loss, psychiatric illness, or economic hardships—factors that are, in fact, major sources of stress. This exclusion presents a biased understanding of how stress influences adolescent self-esteem. By including a diverse sample of adolescents without exclusion criteria, this study aims to provide a more comprehensive understanding of the relationship between stress and self-esteem. Addressing this gap is critical to developing targeted interventions that foster positive self-esteem among adolescents, ultimately helping them navigate stress more healthily and reducing the prevalence of maladaptive behaviours. This study, therefore, seeks to examine how traumatic events influence self-esteem among adolescents, contributing to a deeper understanding of adolescent mental health

and informing more effective intervention strategies.

### **Literature Review**

Traumatic events affect an individual's self-esteem by altering the sense of self and how they feel about themselves. When bad things happen to an individual, they may begin to believe negative things about themselves and experience feelings of unworthiness, guilt, and self-blame (Liberation, 2023). Trauma affects the cognitive and somatic basis of an individual. These effects are captured in clinical accounts, which include 'I do not know myself anymore' and 'I feel dead inside' (Laniu et al., 2020). Daines et al. (2021) found that life trauma(s) interferes with the developmental trajectory, beginning in childhood, maturing into adolescence and early adulthood.

Traumatic events in children's lives have been found to include parental divorce. Parental divorce often results in emotional and behavioural problems among adolescents. Divorce brings feelings of sadness, anxiety, confusion, mistrust, and anger in adolescents. It often disrupts their relationships with one or both parents. Parental divorce is stressful for adolescents because it disrupts their family life. During adolescence, the family is crucial to growth and development (Davies et al., 2019). Tullius et al. (2021) studied the association between mental health challenges and parental divorce in a longitudinal study. The researchers used four waves of a tracking survey of adolescents' individual lives with 10 – 12-year-olds. The sample consisted of 230 individuals. The researchers found that parental divorce was one of the most stressful life events for young people. The experience was so traumatic that it

had long-term emotional and behavioral effects on young people.

Mutiso (2023) evaluated stress and support structures among youth in Kenya. The study included 254 youths. The researcher used cross-sectional data from an ongoing preventive intervention. The researcher used multiple regression analyses to examine the effects of stress on relational health. The researcher found that certain types of stress were associated with psychological symptoms. For example, exposure to violence was linked to depression. Gender was found to moderate the effects of stress on youth well-being. That research is relevant to this study because it examines the effects of stress on youth. This study broadens the understanding of how stress affects adolescents' self-esteem.

Umija et al. (2021) sought to understand the relationship between irrational beliefs and stress levels. The researchers focused on orphans in Kenyan secondary schools. The researchers sampled 350 double-orphaned adolescents. The Irrational Belief Inventory and the Perceived Stress Scale were used to assess irrational behavior and stress. The researchers found a weak positive correlation between demandingness, awfulizing, irrational beliefs, and stress levels. The researchers concluded that orphaned children were overwhelmed by stress arising from irrational beliefs. This research aims to continue the work of Umija et al. (2021) by examining how stress affects self-esteem.

Bhatt (2020) conducted a study to examine the relationship between self-efficacy and self-esteem. The study population consisted of 400 students from four colleges in Lucknow, Pakistan. The researcher used the General Self-Efficacy Scale and the Rosenberg Self-Esteem

Scale. The data were analyzed using correlational, quantitative, comparative, and exploratory research methods. The computed Pearson’s correlation coefficient was 0.1, with a p-value of 0.00. Bhatt's (2020) work is important to this study because it shows how efficacy affects self-esteem. This study will contribute to Bhatt's (2020) work by demonstrating how stress influences self-esteem.

The study by Melamed et al. (2024) established that trauma at any stage of childhood is linked to physical and mental health challenges in both childhood and adulthood. In their research, Melamed et al. (2024) found a negative relationship between trauma and self-concept ( $r=-0.20$ ). The impact of trauma on the individual was determined by the type of trauma and the extent of the adolescent's exposure to it. Ainamani et al. (2022) found that exposure to domestic violence resulted in post-traumatic stress disorder, which led to internalizing behavior, including anxiety, and externalizing behavior, such as aggression and violence.

## 2.0 Materials and Methods

The study location was Kangui Village. The village is in Kandara Sub-County, Muranga County, and is in the Rucha Sub-location (Murang’a County Government, 2024). According to information collected, Kangui Village had 229 adolescents at the time of the study. The study adopted a descriptive research design. This design was considered appropriate because it allows the researcher to collect data that yield reliable results (Taherdoost, 2021). Data for the study were collected using questionnaires.

## 3.0 Results and Discussions

The study population consisted of 229 individuals in Kangui Village, Muranga County. Because the population was small and geographically concentrated, the researcher used a census approach. The researcher had hoped to interview all 229 adolescents. However, only 217 (95%) were accessible. Table 1 presents stress from traumatic events. The findings suggest that, on average, the adolescents who participated in the study did not consider parental divorce a traumatic event, as indicated by a mean of 3.03 and an SD of 1.57.

**Table 1**

*Stress from Traumatic Events*

Statement	Extent of agreement or disagreement					Mean	Std. Deviation
	SD (%)	D (%)	N (%)	A (%)	SA (%)		
My parents’ divorce is stressful to me	49 (22.6%)	52 (24%)	24 (11.1%)	27 (12.4%)	65 (30%)	3.03	1.57
Conflicts between my parents are very stressful	0 (0%)	48 (22.1%)	23 (10.6%)	13 (6.0%)	133 (61.3%)	3.52	1.71

Conflicts between my parents and siblings create stress in the home	47 (21.7%)	34 (15.7%)	10 (4.6%)	12 (5.5%)	114 (52.4%)	4.06	1.27
The health challenges in my family are traumatic	88 (40.6%)	62 (28.6%)	0 (0%)	7 (3.2%)	60 (27.6%)	2.49	1.67
Negative changes in behaviour within the family are often stressful	30 (13.8%)	11 (5.1%)	70 (32.3%)	26 (12.0%)	80 (36.0%)	3.6	1.54
The death of my parent/sibling was traumatic	58 (26.7%)	51 (23.5%)	0 (0%)	45 (20.1%)	63 (29%)	3.02	1.64
Arguments between me and my siblings, parents, or friends are stressful	60 (27.6%)	13 (6%)	0 (0%)	41 (18.9%)	103 (47.5%)	3.77	1.78
<b>Aggregate</b>						<b>3.36</b>	<b>1.60</b>

The findings suggest that either the adolescents' parents are not divorced or, if they are divorced, this is not a problem. These findings contradict those of Tullius et al. (2021), who found that parental divorce was very stressful because it broke down the family unit, which was important for adolescents.

The findings show that conflicts between parents were the most significant factor affecting respondents, as indicated by an M of 4.06. Relationships with siblings, parents, or friends were also identified as major concerns, with an M of 3.52. An M of 3.77 suggests that arguments with parents and siblings were traumatic for respondents. Family conflicts are stressful because they affect adolescents' mental state. The mean of 2.49 and the standard deviation of 1.54 indicate that, on average, adolescents do not have health challenges that cause them to be mentally distressed. This was not surprising, as adolescents

are young and do not typically face many health challenges.

The mean of 3.60 and the standard deviation of 1.54 suggest that the adolescents did not experience stress from major changes in family behavior. The mean of 3.02 and the standard deviation of 1.64 suggest that, on average, the majority of respondents did not have trauma associated with the death of a parent and/or sibling. The findings suggest that the adolescents who participated in the study have not experienced the death of a family member. The aggregate level of stress from traumatic events was found to be 3.36, with an SD of 1.60, implying that the level of stress due to traumatic events was substantially different for respondents.

Table 2 shows the level of adolescents' self-esteem. The Rosenberg Self-Esteem Scale was

used to assess adolescents' self-esteem. Self-esteem is an important determinant of individuals' psychological well-being and development, especially among adolescents. The findings summarized in Table 4.6 indicate that the respondents did not view themselves as persons of worth, as implied by an M of 2.08. The feeling of worth is an important part of self-esteem and reflects how one views oneself relative to others. The responses suggest that the respondents have

low self-belief. The respondents disagreed with the assertion that they had several good qualities, as implied by an M of 2.89 and an SD of 1.45. The findings suggest that respondents do not have a positive self-image. The adolescents have negative self-evaluations. Self-esteem is an overall subjective sense of personal worth and value (Cherry, 2023). The findings suggest that adolescents lack confidence in their abilities and attributes.

**Table 2**  
*Respondents' Self-Esteem*

Statement	Mean	Std. Deviation	Score
I feel that I am a person of worth, at least on an equal plane with others.	2.08	1.16	1
I feel that I have several good qualities.	2.89	1.45	1
Overall, I feel I am a failure.	3.95	0.22	1
I can do things as well as most other people.	2.57	1.31	1
I feel I have little to be proud of.	3.28	1.04	1
I take a positive attitude toward myself.	2.72	1.45	1
Overall, I am satisfied with myself.	2.33	1.35	1
I wish I could have more respect for myself.	3.97	0.16	1
I certainly feel useless at times.	4.01	0.11	0
At times, I think I am not good at all	3.81	0.46	1
<b>Aggregate</b>	<b>3.16</b>	<b>0.87</b>	<b>9</b>

The M of 3.95 indicates that respondents felt they were failures; the SD of 0.200 indicates a high degree of agreement among respondents. The responses imply that the respondents do not expect, accept, or believe in success. This is congruent with a negative concept. The respondents indicated that they are not able to do things as well as others, as indicated by a mean of 2.57 and a standard deviation of 1.31. The findings suggest that respondents feel inadequate. According to Bandura (1977), an individual who believes they can do things as well as others has self-efficacy, which is important for self-esteem.

The adolescents indicated that they had little to be proud of, as indicated by an M of 3.28 and an SD of 1.04. This suggests a gap between how the

adolescents view themselves and how they hope to be. They feel that their actual self falls short of their ideal self. The adolescents also feel that their actual self falls short of what they are expected to be. The M of 2.72 suggests that the adolescents have a negative self-image. The findings suggest that the adolescents have low self-confidence. A negative response implies that there is no congruence between the 'real self' and the 'idealised self' (Ndungu, 2024).

The M of 2.33 suggests that, on average, respondents are not satisfied with themselves. The findings imply that adolescents are not happy with themselves and do not value themselves highly. Adolescents have negative self-evaluations. The respondents indicated that they

wish they could have more respect for themselves, as implied by the mean of 3.97. This response suggests that the respondents do not respect or value themselves. The Ms of 4.01 and 3.81 suggest that adolescents felt useless at times and that they are not good at all. The respondents indicated that they felt they had little to be proud of, as implied by the M of 3.28. These statements suggest that adolescents have low self-esteem and engage in negative self-criticism. Negative self-criticism is an indicator of depression, helplessness, and unhappiness among the adolescents who participated in the study (Gao et al., 2023). The overall M score was below 15, indicating low self-esteem among the respondents. The overall score and the responses imply that adolescents have negative self-evaluations. They have depressive thoughts, such as "I feel useless at times." The findings imply that adolescents have self-criticism and are vulnerable to traumatic stress.

Pearson correlation analysis and regression analysis were conducted to determine the relationship between traumatic events and adolescents' self-esteem. The findings show that as traumatic events increase, self-esteem decreases by -0.403, p-value 0.000. The regression analysis showed that the effect of traumatic events on self-esteem was negative and statistically significant. These findings suggest that increased stress leads to statistically significant reductions in self-esteem.

## References

Acosta-Gonzaga, E. (2023). The effects of self-esteem and academic engagement on university students' performance. *Behavioural Science*, 13(4), Article 348. Doi: 10.3390/bs13040348

## 4.0 Conclusion

The study concludes that adolescents in Kangui Village in Murang'a had experienced traumatic events, including parental divorce, disputes with friends and family, the death of a parent or sibling, arguments with parents, changes in family behavior, and health challenges. These events reduced the respondents' self-esteem.

## 5.0 Recommendations

The study recommends that parents provide psychological and emotional support to adolescents and help them cope with changes in the family unit. Families experiencing conflicts between parents and siblings should seek support and assistance from the local authority, relatives, and the church to resolve these challenges. Adolescents facing health challenges should receive financial and psychological support from the family and the government. To cope with the death of a family member, adolescents should receive grief counselling.

The study's implications are psychological, social, and educational. Psychological implications indicate that the development of self-esteem requires self-compassion-based therapies. Schools need to develop counselling and peer support programs to help students manage stress and build self-esteem. The community can also provide mentorship, empowerment initiatives, and support groups to help vulnerable adolescents cope with stress. This study on traumatic events and self-esteem provides valuable insight into the dynamics between adverse life events and adolescent development.

Ainamani, H., Weierstall-Pust, R., Bahati, R., Otwine, A., Tumwesigire, S., & Rukundo, G. (2022). Post-traumatic stress disorder, depression, and the associated factors among children and adolescents with a history of maltreatment in Uganda.

- European Journal of Psychotraumatology*, 13(1), 2007730. Doi: 10.1080/20008198.2021.2007730
- Allen, B., & Waterman, H. (2024, April 29). *Stages of adolescence*. HealthyChildren.org. <https://www.healthychildren.org/English/ages-stages/teen/Pages/Stages-of-Adolescence.aspx>
- Ashfaq, S. (2024). Correlation between stress, self-esteem, and anxiety in young adults. *International Journal of Novel Research and Development*, 9(7), 1–16. <https://share.google/W6UtD0N6p8NuW8VN8>.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bhatt, S. (2020). Importance of self-esteem and self-efficacy for college students. *Indian Journal of Community Psychology*, 14(2), 404–419. <https://share.google/Wx4VpdgyXDvFqAoiZ>
- Branje, S. (2022). Adolescent identity development in context. *Current Opinion in Psychology*, 45, 1–6. <https://doi.org/10.1016/j.copsyc.2021.11.006>
- Cherry, K. (2023, December 5). *What is self-esteem? Your sense of your personal worth or value*. Very well mind <https://www.verywellmind.com/what-is-self-esteem-2795868#:~:text=Self%20esteem%20is%20your%20subjective,your%20overall%20quality%20of%20life>.
- Chu, B., Marwaha, K., Sanvictores, T., Awosika, A., & Ayers, D. (2024). *Physiology, stress reduction*. Stat Pearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK541120/>
- Daines, C., Hansen, D., Novilla, M., & Crandall, A. (2021). Effects of positive and negative childhood experiences on adult family health. *BMC Public Health*, 21(651), 1–8. <https://doi.org/10.1186/s12889-021-10732-w>
- Davies, P. T., Parry, L. Q., Bascoe, S. M., Martin, M. J., & Cummings, E. M. (2019). Children's Vulnerability to Interparental Conflict: The Protective Role of Sibling Relationship Quality. *Child development*, 90(6), 2118–2134. <https://doi.org/10.1111/cdev.13078>
- Gao, Y., Liu, X., Liu, J., & Wang, H. (2023). The effects of self-criticism and self-compassion on adolescents' depressive symptoms and non-suicidal self-injury. *Psychology Research and Behaviour Management*, 16, 3219 – 3230. <https://doi.org/10.2147/PRBM.S417258>
- Gu, H., Zhang, P., & Li, J. (2024). The effect of self-esteem on depressive symptoms among adolescents: The mediating role of hope and anxiety. *Humanities and Social Sciences Communications*, 11(932), 1–15. <https://doi.org/10.1057/s41599-024-03249-1>.
- Kibuthu, J., & Muasa, W. (2023). Strategies for enhancing self-esteem among students in mixed secondary schools in Soweto Embakasi East County, Nairobi, Kenya. *International Journal of Research and Innovation in Social Science*, 7(8), 960 – 969. <https://dx.doi.org/10.47772/IJRISS.2023.7872>
- Lanius, R., Terpou, B., & McKinnon, M. (2020). The sense of self in the aftermath of trauma: Lessons from the default mode network in posttraumatic stress disorder. *European Journal of Psychotraumatology*, 11(1), 1807703 <https://doi.org/10.1080/20008198.2020.1807703>
- Liberation Healing. (2023). *How trauma affects your self-esteem*. <https://www.liberationhealingseattle.com/bl>

- og-trauma-therapist/how-trauma-affects-your-self-esteem.
- Mastorci, F., Lazzeri, M., Vassalle, C., & Pingitore, A. (2024). The transition from childhood to adolescence: Between health and vulnerability. *Children, 11*(8), 989. <https://doi.org/10.3390/children11080989>
- Melamed, D., Botting, J., Lofthouse, K., Pass, L., & Meiser-Stedman, R. (2024). The relationship between negative self-concept, trauma, and maltreatment in children and adolescents: A meta-analysis. *Clinical Child Family Psychology Review, 27*(1), 220 – 234. doi: 10.1007/s10567-024-00472-9.
- Ministry of Education. (2019). *Mentorship policy for early learning and basic education*. Government of Kenya. <https://www.education.go.ke/sites/default/files/2022-05/Mentorship-policy.pdf>.
- Mutiso, V., Ndeti, D., Muia, E., Musyimi, C., Masake, M., Osborn, T., Sournder, A., Weisz, J., & Mamah, D. (2023). Students' stress patterns in Kenya's sociocultural and economic context: Toward a public health intervention. *Scientific Reports, 13*(580), 1–14. doi: 10.1038/s41598-023-27608-1.
- Ministry of Health. (2020). *Suicide prevention strategies*. Government of Kenya. <http://guidelines.health.go.ke:8000/media/SUICIDE-PREVENTION-STRATEGY-2021-2026.pdf>.
- Murang'a County Government. (2024). *Murang'a County Children Policy 2024*. Government of Kenya. <https://muranga.go.ke/resources/public/001.pdf>.
- Muraya, J. (2021, October 19). *New drive launched to get 250,000 out-of-school children back to class in 16 counties*. UNICEF. <https://www.unicef.org/kenya/press-releases/new-drive-launched-get-250000-out-school-children-back-class-16-counties>.
- Muris, P., & Otgaar, H. (2023). Self-esteem and self-compassion: A narrative review and meta-analysis on their links to psychological problems and well-being. *Psychological Research Behavioural Management, 3*(16), 2961 – 2975. Doi: 10.2147/PRBM.S402455.
- Muthuuri, J. (2021). *Influence of selected psychosocial challenges on academic performance amongst first year students in Kenyatta University, Nairobi County* [unpublished master's thesis]. Kenya Methodist University.
- Ndungu, R. (2024). *Academic self-concept and achievement motivation as predictors of academic achievement among form three students in secondary schools in Kirinyaga County, Kenya* [unpublished master's thesis]. Kenyatta University.
- Perica, M., & Luna, B. (2023). Impact of stress on excitatory and inhibitory markers of adolescents' cognitive critical-period plasticity. *Neuroscience & Bio-behavioural Reviews, 153*, 1–15. <https://doi.org/10.1016/j.neubiorev.2023.105378>
- Phuong, N., Truong, N., Le, V., & Nguyen, X. (2024). The relationship between academic performance, peer pressure, and educational stress as it relates to high school students' openness to seeking professional psychological help. *Journal of Curriculum and Teaching, 13*(1), 1–19. doi:10.5430/jct.v13n1p83
- Ross, D. A., Hinton, R., Melles-Brewer, M., Engel, D., Zeck, W., Fagan, L., Herat, J., Phaladi, G., Imbago-Jácome, D., Anyona, P., Sanchez, A., Damji, N., Terki, F., Baltag, V., Patton, G., Silverman, A., Fogstad, H., Banerjee, A., & Mohan, A. (2020). Adolescent Well-Being: A Definition and Conceptual Framework. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine, 67*(4), 472–476.

- <https://doi.org/10.1016/j.jadohealth.2020.06.042>
- Sataloff, R., & Vontela, S. (2021). Response rate in survey research design. *Journal of Voice*, 35(5), 683 – 684. DOI:10.1016/j.jvoice.2020.12.043.
- Selye, H. (1975). Confusion and controversy in the field of stress. *Journal of Human Stress*, 1(2), 37–44. DOI: 10.1080/0097840X.1975.9940406.
- Smith, K., & Pollak, S. (2020). Early life stress and development: Potential mechanisms for adverse outcomes. *Journal of Neurodevelopmental Disorders*, 12(34), 1–15. <https://doi.org/10.1186/s11689-020-09337-y>.
- Srivastava, P., Kumar, P., & Kiran, M. (2015). Perceived stress and self-esteem among school-going adolescents: A gender perspective. *Journal of Disability Management and Rehabilitation*, 1(1), 38 – 41. <https://share.google/v4wLJnOo4nqmRtvPi>.
- Taherdoost, H. (2021). Data collection methods and tools for research: A step-by-step guide to choosing data collection techniques for academic and business research projects. *International Journal of Academic Research in Management*, 10(1), 10 – 38. hal-03741847, HAL.
- Tuna, R., Keles, D., & Keles, F. (2025). The effect of perceived stress, bio-psycho-social response, and stress coping behaviours of nursing students on professional self-esteem. *Teaching and Learning in Nursing*, 20(2), 478 – 484. <https://doi.org/10.1016/j.teln.2024.12.013>
- Tullius, J., De Kroon, M., Almansa, J., & Reijneveld, S. (2021). Adolescents' mental health problems increase after parental divorce, not before, and persist until adulthood: A longitudinal TRAILS study. *European Child Adolescent Psychiatry*, 31(6), 969 – 978. doi: 10.1007/s00787-020-01715-0.
- United Nations Children's Fund. (2022). *Adolescents*. <https://data.unicef.org/topic/adolescents/#:~:text=There%20are%201.3%20billion%20adolescents%20in%20the%20world,adulthood%20and%20with%20it%2C%20significant%20growth%20and%20development>
- Umija, M., Aloka, P., & Wachianga, W. (2021). Relationship between awfulising irrational beliefs and stress among orphaned students in Kenyan public secondary schools. *Asian Journal of Sociological Research*, 4(1), 176-187. hal-05192189.
- Wasonga, T. (2021, November 25). *Acts of violence or a cry for help? What fuels Kenya's school fires? The Conversation*. <https://theconversation.com/acts-of-violence-or-a-cry-for-help-what-fuels-kenyas-school-fires-172410>.
- World Bank. (2024). *Kenya secondary education equity and quality improvement program (P501648)*. <https://education.go.ke/sites/default/files/2024-05/Kenya%20Secondary%20Education%20Equity%20and%20Quality%20Improvement%20Program-Environmental%20and%20Social%20System%20Assessment.pdf>.
- World Health Organisation. (2024). *Mental health of adolescents*. <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>