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Psychosocial and Neuropsychological Factors Associated with Anxiety in Gen Z: A Scoping Review

[1]Iqra Gohar
[2]Saira Javed
[3]Rubab Shahid
[1]NUMS Department of Psychology, National University of Medical Sciences, Rawalpindi, Pakistan
[2]NUMS Department of Psychology, National University of Medical Sciences, Rawalpindi, Pakistan
[3]NUMS Department of Psychology, National University of Medical Sciences, Rawalpindi, Pakistan
[1]iqragohar01@gmail.com, [3]rubabshahid5009@gmail.com, [2]Saira.javedbhati@gmail.com

Abstract

As the increasing rate of anxiety in youth is quite noticeable. But what's truly attention grabbing is that Gen Z is becoming increasingly serious about rising levels of anxiety. Regarding this, there could be a lot of psychosocial and neuropsychological factors like academic pressure, excessive use of social media, pandemic covid 19, trait anxiety, climate change, dysfunctioning of amygdale, neurotransmitters and prefrontal cortex. This scoping review examined all those factors that mainly contributes in increasing levels of anxiety in Gen Z. This scoping review design extracted 13 articles that met the inclusion criteria, the research design includes Quantitative researches i.e correlational, online surveys, cross sectional, longitudinal cohort study designs, longitudinal quantitative neuroimaging study. Overall, all the studies collectively showed that both psychosocial factors and neuropsychological mechanisms interact and involved to influence the anxiety in Gen Z.

Keywords: Gen Z, Anxiety, Depression, Social media, Academic pressure.

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Introduction

Now- a- days, mental health is a major topic of discussion, with an increasing number of people experiencing mental health issues. Specifically today's generation, the Gen Z (Age ranges between to 2012) is facing mental disorders drastically, commonly anxiety. There are two major factors 1997 i.e psychosocial and neuropsychological factors that mainly contributes in the increasing rate of anxiety in Gen Z that will be discussed in this scoping review. Psychosocial factors includes social and psychological conditions that influences a person's thoughts, feelings and behavior. The major psychosocial factors that are discussed in this review article are academic pressure, excessive use of social media, impacts of pandemic covid 19, trait anxiety and impacts of climate change. As social media is an enjoyment platform but excessive use of it can have negative impacts on individual's personality. Social media helps to connect us with our friends and the outer world, but its overuse can trigger the feelings of isolation, dissatisfaction, disturbed sleep and many kinds of psychological issues. Same goes with academic pressure. A healthy academic stress or positive stress leads individuals towards personal development, motivation and goal achievement, but negative stress leads individuals towards mental and physical strain, poor concentration, irritability, sleep disturbances etc. Covid 19 was one of the ,pandemic that had a drastic effects on today's generation .physically and psychologically both i.e the feelings of isolation, uncertainty and routine disruptions Trait anxiety i.e the tendency of an individual to feel anxious in different situations as its their part of personality, is one of the contributing factors that individuals with high trait anxiety has significantly .low self esteem and confidence with contributes like predisposing factors to psychological illnesses Climate change effects psychological health through impacts from extreme weather changes and .indirectly through social and economics disruptions like job loss homelessness and future insecurity In this systematic review, all the studied publications has shown the serious effects of all these .factors on psychological health mainly increasing levels of anxiety and depression

,Neuropsychology helps us understand how brain and nervous system influences our thoughts feelings and behavior. Anxiety is not just psychological, it also involves neurobiological mechanisms, like over reactivity of amygdale and impaired prefrontal cortex regulation that balance our emotions, how the functioning of neurotransmitters (serotonine, dopamine, cortisol) affects mood and how changes in these brain functions can lead towards mental illnesses. This scoping review aims to explore how neuropsychological mechanisms interact with psychosocial stressors to .shape anxiety levels in Gen Z

Methodology

The included articles were selected through the time span of 2020 to 2024 across the databases of Google Scholar, PubMed, Elsevier. Only those studies were selected which met the inclusion criteria i.e psychosocial factors that contribute in increasing the levels of anxiety and how neuropsychological factors influence it, specifically in Gen Z (Age ranges between 1997-2012) and publications should be should be in years 2018 to 2024, all article must have a Quantitative study .design, and focus on anxiety with neuropsychological aspects

Results

The overview is presented in the PRISMA flow chart in figure 1. Total 14 studies were included and rest of the articles were excluded due to lack of full detail about our inclusion criteria. Table 1 shows .the summary of the studies included

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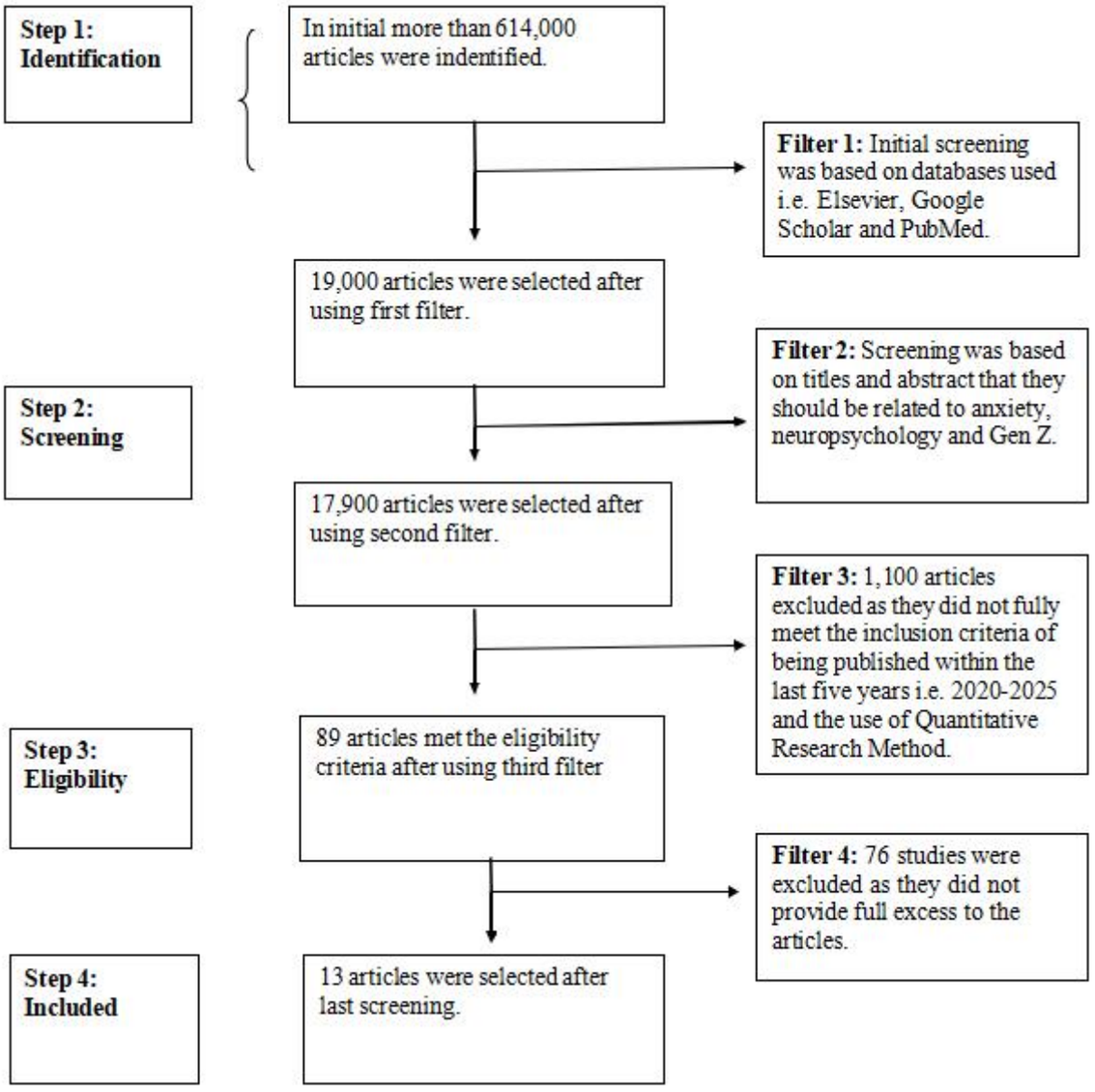

Fig 1: PRISMA Flow Chart

Table 1: ***Summary of Included Studies***

	Author/Year of Publication	Focus	Population	Findings
.1	Shakir & Hashmi, 2024	Academic ,Pressure Educational aspirations	secondary ,504 school students (Gen Z), India	Female Gen Z's had higher anxiety levels as compared to male Gen Z' s Higher educational aspirations negatively .effected the anxiety in Gen z
.2	Akinwale &Adejinle, 2024	Family functioning and online social .interaction	320 undergraduate ,students Nigeria	Study showed that higher use of social media leads to higher anxiety and depression in Gen Z. Also high level of family functioning is little associated .with anxiety and depression

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.3	Sao et al. (2024)	Excessive usage social media.	283 social media users, India	Study showed that excessive social media usage induces mental health issues through mechanisms such as increased social comparison, cyber bullying, disrupted sleep that higher the level of anxiety and depression in Gen Z.
.4	(Weidemann et all. 2022	Impact of Covid 19 on young adult's mental health.	2403 participants (Gen Z), London	Study showed a visible increase in psychological distress commonly anxiety and depression.
.5	Kumari, 2024	Self esteem, coping strategies and anxiety(trait anxiety) among Gen Z.	198 participants, India	Higher trait anxiety is associated with lower self esteem and higher emotion focused and avoidant coping strategies which the reason behind Gen Z's higher level of anxiety and depression.
.6	Reyes et all. (2021)	Relationship between climate change and anxiety among Gen Z.	433 participants, aged 18 to 26 Philipines	Study showed increasing climate change is associated with increased psychological distress also called climate anxiety.
.7	Hammoud et all. (2024)	Brain volumes, behavioral inhibition, and anxiety disorders in children	children 9353 aged 9-10 years (Gen Z) from Adolescent Brain Cognitive Development Study, United States	Results showed that larger cortical and amygdale volumes were associated with lower anxiety risk, and smaller hippocampal and white matter volumes were associated with higher behavioral inhibition and past anxiety.
.8	Hubbard et al. (2020)	Brain function and clinical characterization in the Boston adolescent neuroimaging of depression and anxiety study	adolescents 225 aged 14-17 years (150 with expected depression) a part from BANDA study, United States	Results showed that youth with anxiety and depression has differences in neural circuits that is involved in emotion regulation, reward processing and cognitive control.

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.9	Borchers et all. (2024)	-Threat-and reward related ,brain circuitry and anxiety in adolescents during the covid 19	adolescents who completed brain imaging before covid and follow up anxiety assessments during covid	99 Adolescents reported higher anxiety and stress during pandemic with strong -connectivity in threat-and reward related brain regions .before the pandemic
.10	Hardi et al. (2022)	Prediction of anxiety symptoms through adolescent network connectivity to perceived covid economic adversity	adolescents who had neuroimaging a age 15 and self report assessments at 17 and ,age 15 America ,21	174 Adolescents with nueral differences in emotion related regions like the ventral striatum and anterior cingulate cortex predicted .sensitivity to anxiety
.11	Harrewijn et al. (2023)	Development of neural mechanisms underlying threa :processing associations with childhood social reticence and adolescent anxiety	Adolescents and young adult aged 10 to US and UK ,25	High amygdala reactivity and still-developing prefrontal regulation increases chances of anxiety. The amygdala– prefrontal circuitry gradually matures, influencing how threats are perceived and .controlled
.12	Bas- Hoogendam et al. (2020)	NIGMA- anxiety :working group Rationale for and organization of large- scale neuroimaging studies of. anxiety disorders	3000 adolescents and -adults, multi country ,consortium .primarily U.S (and Europe	Results showed consistent structural alterations in ,regions such as the amygdala hippocampus, and prefrontal cortex among individuals with anxiety. Cross-site data integration improved statistical power and reproducibility in anxiety .neuroimaging Overall, the study highlighted that large-scale brain imaging can uncover reliable neurobiological markers of ,anxiety across the lifespan .including Gen Z populations

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.13	Taylor et al. (2021)	Subclinical Anxiety and Posttraumatic Stress Influence Cortical Thinning During Adolescence	205 participants aged 9-15	Individuals with lower baseline cortical thickness and slowed cortical thinning were associated with higher ;anxiety symptoms posttraumatic stress showed opposite pattern (higher + baseline thickness ;(accelerated thinning

Discussion

Mental health is a major concern in contemporary society, with Generation Z experiencing higher levels of psychological distress compared to previous generations. Multiple contributing factors have been identified, including psychosocial factors such as academic stress, excessive use of social media, the impact of COVID-19 lockdowns, trait anxiety, and rapid climate-related and economic changes, as well as neuropsychological factors such as overactivity of the amygdala and dysregulation of the prefrontal cortex. These factors collectively contribute to the increasing .prevalence of anxiety among Gen Z

The findings of this scoping review, based on 14 studies, indicate that these variables ,significantly influence the psychological well-being of this population. Negative academic pressure the need for social validation, social isolation during lockdown, and increased screen time have been ,associated with sleep disturbances, disordered eating patterns, irritability, and reduced productivity all of which elevate anxiety levels. These findings are consistent with previous research highlighting ,the psychological impact of the COVID-19 pandemic on mental well-being (Javed & Mehmood as well as studies demonstrating increased anxiety under pandemic-related uncertainty and ,(2020 .stress (Javed et al., 2021)

Furthermore, social and cultural factors such as stigma and limited mental health awareness also play a crucial role in shaping psychological outcomes (Qahar et al., 2020). At a neuropsychological level, underlying dysregulation in brain mechanisms, including structural and functional irregularities in the amygdala and prefrontal cortex, along with neurotransmitter imbalances, further increase vulnerability to environmental stressors, thereby exacerbating anxiety .among Gen Z

Implications

There are a lot of factors that contributes in the increasing anxiety in Gen Z, for this purpose policymakers should work on each factor to reduce the vulnerability. There should be some steps .that should be taken in order to minimize mental health issues

Early Identification and Screening .1

There is a need for neuropsychological assessment tools (regular cognitive and emotional screening .in schools or universities) to early detect the anxiety risks in Gen Z

Brain Behavior Interventions .2

As anxiety in Gen Z is mainly due to maladjustment of brain circuits (in amygdale, prefrontal ,cortex), there should be neuropsychological interventions like Cognitive Behavioral Therapy CBT .Mindfulness based Cognitive Training and Executive Functioning enhancement trainings

Educational and Institutional Implications .3

Schools and universities should arrange Stress Management Programs for social skills development in order to help individuals to deal with environmental stress factors (Academic stress, excessive use (of social media, trait anxiety, impacts of covid and climate change

4. Clinical and Diagnostic Implications

Clinicians must use neuropsychological evaluation tools alongside with psychosocial evaluations to .create more accurate and complete diagnosis

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Research and Policy Implications .5

Future researches must work on the connection between neural circuits and psychosocial factors that .influence anxiety Policymakers should promote programs for neuropsychological information .combining with community-based psychosocial interventions

Conclusion

It is conducted that there are a lot of factors discussed above that has a greater influence on mental health of Gen Z. Collectively, the reviewed studies highlights both psychosocial stressors and neuropsychological dysfunctions interact to influence anxiety in Gen Z, indicating that environmental pressures and underlying brain mechanisms are deeply intertwined in shaping their .mental health issues

All these factors should be enlightened in order to minimize the psychological issues of Gen .Z. There should be awareness and management programs to avoid these psychological issues

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