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THE IMPACT OF MASS MEDIA ON THE MENTAL HEALTH OF SECONDARY SCHOOL STUDENTS AND UNIVERSITY STUDENTS: ANXIETY, STRESS, DEPRESSION AND AGGRESSION

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Abstract
This study investigates the influence of mass media consumption on mental health indicators - anxiety, stress, depression, and aggression - among secondary school students (grades 10–11) and university students in Uzbekistan. A cross-sectional comparative design was employed with 70 participants (n = 35 per group). Three validated instruments were administered: the Spielberger - Khanin Anxiety Inventory (STAI), the Depression Anxiety Stress Scales-21 (DASS-21), and the Buss–Durkee Aggression Inventory. University students demonstrated significantly higher reactive anxiety. Regarding aggression, indirect aggression and resentment were significantly higher in schoolchildren. Strong positive correlations were identified between anxiety types and DASS-21 subscales. These findings highlight differential media-related psychological burden across educational groups and underscore the need for targeted mental health interventions.

Keywords: mass media; mental health; anxiety; depression; stress; aggression; DASS-21; Buss - Durkee; adolescents; university students; Uzbekistan

Introduction

The rapid proliferation of digital mass media — encompassing social networking platforms, streaming services, online news aggregators, and messaging applications — has fundamentally reshaped the informational and social environment for contemporary youth (Castells, 1996; Toffler, 1970). Adolescents and young adults constitute the most intensive consumers of digital media globally, with daily media exposure increasingly associated with significant psychological consequences (Twenge et al., 2018; Gao et al., 2020).

Empirical research consistently documents associations between heavy media consumption and elevated anxiety, depressive symptomatology, heightened stress, and increased. However, the psychological mechanisms and demographic moderators of these associations remain incompletely understood, particularly in non-Western developing country contexts such as Uzbekistan (Vahabova, 2023; Vahabova, 2024). The transition from secondary education to university represents a period of heightened vulnerability during which media consumption patterns and their psychological sequelae may differ substantially between age groups. Schoolchildren in grades 10–11 face academic pressure and identity formation challenges, while university students navigate newfound autonomy, social identity shifts, and institutional stressors — all of which may interact with media exposure to produce distinct psychological profiles (Dollard et al., 1939; Bandura, 1977).

The present study therefore pursues three aims: (1) to compare anxiety, depression, stress, and aggression levels between secondary school students and university students in Uzbekistan; (2) to examine intercorrelations among anxiety types and DASS-21 subscales across the combined sample; and (3) to contribute empirical data to the underrepresented literature on media-related mental health in Central Asia.

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Literature review

Mass media influence on psychological well-being has been theorized through multiple frameworks. Bandura's (1977) Social Learning Theory posits that individuals acquire behavioral scripts and emotional responses through media observation. The Frustration - Aggression Hypothesis (Dollard et al., 1939) suggests that media-induced frustration or exposure to media violence can activate aggressive impulses. Gerbner's (1976) Cultivation Theory argues that heavy television viewing shapes viewers' perceptions of social reality, cultivating anxiety and fear. Empirical studies corroborate these theoretical frameworks. Huesmann et al. (2003) demonstrated that longitudinal television violence exposure in childhood predicted adult aggression. Anderson and Bushman (2001) reported significant associations between violent video game exposure and aggressive behavior. Berkowitz (1984) emphasized cognitive priming mechanisms whereby media content activates associated thought networks influencing affect and behavior. The Spielberger–Khanin distinction between reactive (state) and trait anxiety provides a critical lens for understanding media effects: reactive anxiety reflects acute situational responses to media content, while trait anxiety represents stable dispositional vulnerability potentially shaped by cumulative media exposure (Spielberger, 1983). Similarly, the DASS-21's tripartite structure (Lovibond & Lovibond, 1995) enables differentiated assessment of depression, anxiety, and stress as distinct though intercorrelated constructs.

In the Uzbek context, Vahabova (2023, 2024) and Karimova (2025) have noted growing concerns about the psychological effects of digital information environments on youth, with particular emphasis on social media's role in shaping emotional regulation and interpersonal behavior. UNESCO (2018) has highlighted the importance of media literacy programs in mitigating these effects. The current study builds upon these foundational contributions by providing systematic psychometric data.

Methodology

Research Design and Participants

A cross-sectional comparative design was employed. The total sample comprised N = 70 participants, divided into two equal groups: secondary school students in grades 10–11 (n = 35; aged 15–17) and university students (n = 35; aged 18–22). Participants were recruited from educational institutions in Uzbekistan through purposive sampling. Written informed consent was obtained from all participants (and parental assent for minors). The study was conducted in accordance with the ethical principles of the World Medical Association Declaration of Helsinki.

Instruments

Three validated psychometric instruments were administered:

Spielberger - Khanin Anxiety Inventory (STAI): A 40-item scale measuring reactive (state) and trait (personal) anxiety. Adapted and validated for Russian- and Uzbek-language populations by Khanin (1978), it demonstrates high internal consistency and construct validity.

Depression Anxiety Stress Scales – 21 (DASS-21): A 21-item self-report scale with three subscales (depression, anxiety, stress). The DASS-21 has been validated across diverse cultural contexts (Lovibond & Lovibond, 1995).

Buss–Durkee Aggression Inventory: A 75-item instrument assessing seven components: physical aggression, verbal aggression, indirect aggression, irritability, negativism, resentment, and guilt. It

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provides a comprehensive multidimensional profile of aggressive tendencies (Buss & Durkee, 1957).

3.3 Statistical Analysis

Data were processed using SPSS Statistics v.26. Between-group comparisons were conducted using independent samples t-tests with Levene's test for equality of variances. Pearson product-moment correlation coefficients were computed to assess relationships among anxiety types and DASS-21 subscales. Statistical significance was set at $p \leq 0.05$. All descriptive statistics are reported as means (M).

Results

Anxiety Levels: Spielberger–Khanin Scale

Table 1 presents reactive (state) and trait (personal) anxiety scores for both groups.

Table 1. *Reactive and Trait Anxiety Scores by Group (Spielberger–Khanin Scale)*

Component	Group	n	Mean (M)	t	p
Reactive Anxiety	Schoolchildren	35	27.17	−2.546	**p ≤ 0.05***
	University Students	35	33.40		
Trait Anxiety	Schoolchildren	35	43.71	−0.346	p > 0.05
	University Students	35	44.51		

** p ≤ 0.05; statistically significant difference.*

University students scored significantly higher on reactive anxiety (M = 33.40) compared to schoolchildren (M = 27.17; t = −2.546, p ≤ 0.05). No significant group difference was found for trait anxiety (t = −0.346, p > 0.05), suggesting comparable dispositional anxiety across groups despite differing situational responses.

DASS-21 Subscale Comparisons

Table 2 presents DASS-21 depression, anxiety, and stress subscale scores by group.

Subscale	Group	n	Mean (M)	t	p
Depression	Schoolchildren	35	11.80	−0.779	p > 0.05
	University Students	35	13.00		
Anxiety	Schoolchildren	35	10.62	0.155	p > 0.05
	University Students	35	10.42		
Stress	Schoolchildren	35	17.48	0.230	p > 0.05
	University Students	35	17.11		

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Table 2. *DASS-21 Subscale Scores by Group*

No statistically significant group differences on any DASS-21 subscale (all $p > 0.05$).

Both groups displayed comparable levels of depression, anxiety, and stress as measured by the DASS-21, with mean scores falling in the mild-to-moderate range according to DASS-21 normative classifications. This suggests that media-related internalizing burden is distributed similarly across secondary and tertiary educational levels.

Buss - Durkee Aggression Inventory Comparisons

Table 3 presents scores on seven aggression components for both groups.

Table 3. *Buss - Durkee Aggression Inventory: Component Scores by Group*

Component	Group	n	Mean (M)	t	p
Physical Aggression	Schoolchildren	35	52.48	1.610	p > 0.05
	University Students	35	44.48		
Verbal Aggression	Schoolchildren	35	55.77	1.606	p > 0.05
	University Students	35	47.37		
Indirect Aggression	Schoolchildren	35	61.85	4.866	**p ≤ 0.01****
	University Students	35	39.85		
Suggestibility (Negativism)	Schoolchildren	35	48.28	1.783	p > 0.05
	University Students	35	40.11		
Irritability	Schoolchildren	35	50.17	−0.576	p > 0.05
	University Students	35	53.02		
Suspicion	Schoolchildren	35	43.40	1.005	p > 0.05
	University Students	35	39.08		
Resentment	Schoolchildren	35	51.14	3.404	**p ≤ 0.01****
	University Students	35	36.11		
Guilt	Schoolchildren	35	50.97	0.770	p > 0.05

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Component	Group	n	Mean (M)	t	p
	University Students	35	46.82		

*** p ≤ 0.01; statistically significant difference. Higher scores indicate greater expression of that aggression component.*

Schoolchildren demonstrated significantly higher indirect aggression (M = 61.85 vs. M = 39.85; t = 4.866, p ≤ 0.01) and resentment (M = 51.14 vs. M = 36.11; t = 3.404, p ≤ 0.01) compared to university students. No statistically significant group differences were observed for physical aggression, verbal aggression, irritability, negativism, suspicion, or guilt (all p > 0.05).

Correlation Analysis: Anxiety Types and DASS-21 Subscales

Table 4 presents Pearson correlation coefficients between reactive and trait anxiety and DASS-21 subscales across the combined sample (N = 70).

Table 4. *Pearson Correlations Between Anxiety Types and DASS-21 Subscales (N = 70)*

DASS-21 Subscale	Reactive Anxiety (r)	Trait Anxiety (r)
Depression	0.529**	0.731**
Anxiety	0.542**	0.746**
Stress	0.575**	0.772**

*** p < 0.01 (two-tailed). Strong positive correlations across all pairs.*

All correlations were highly significant (p < 0.01). Trait anxiety demonstrated stronger associations with all DASS-21 subscales (r = 0.731–0.772) compared to reactive anxiety (r = 0.529–0.575). The strongest correlation was between trait anxiety and stress (r = 0.772), and the weakest between reactive anxiety and depression (r = 0.529).

Discussion

The findings of this study offer nuanced insights into the differential psychological impact of media exposure across educational levels in Uzbekistan. The most pronounced between-group difference emerged in reactive anxiety, with university students reporting significantly higher situational anxiety than secondary school students. This aligns with broader literature indicating that the transition to higher education is a period of heightened acute stress (Twenge et al., 2018), potentially amplified by intensified social media use and information overload during this developmental transition (Eppler & Mengis, 2004; Pariser, 2011).

The absence of significant DASS-21 group differences for depression, anxiety, and stress suggests that chronic internalizing burden has reached comparable levels across both populations, potentially reflecting the pervasive nature of media exposure in contemporary adolescent and young adult life. Both groups displayed mean DASS-21 scores in the mild - to - moderate range, consistent with sub-clinical psychological distress profiles reported in comparable studies (Gao et al., 2020).

The aggression findings are particularly theoretically instructive. Schoolchildren exhibited significantly higher indirect aggression and resentment relative to university students. Indirect aggression - defined as covert hostile behavior directed at others through third parties or displacement - may be especially prevalent among adolescents whose social environments and limited agency constrain direct behavioral expression (Berkowitz, 1993; Dollard et al., 1939). Media

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environments rich in aggressive content may prime these covert hostility scripts, consistent with Bandura's (1977) Social Learning Theory and Gerbner's (1976) Cultivation Theory. The higher resentment in schoolchildren may reflect chronic exposure to negative social comparisons fostered by social media platforms, consistent with research on envy and hostile attribution biases in online environments (Huesmann et al., 2003).

The strong positive correlations between anxiety types and DASS-21 subscales (r = 0.529–0.772) affirm the convergent validity of the instruments and confirm the co-occurrence of anxiety, depression, and stress as components of a unified internalizing syndrome. Trait anxiety's consistently stronger DASS-21 correlations suggest that stable dispositional anxiety - shaped in part by cumulative media exposure - constitutes the more robust predictor of psychological distress, a finding with important implications for preventive screening.

Several limitations should be acknowledged. The sample was drawn from a single geographic region within Uzbekistan, limiting generalizability. Self-report methodology introduces potential social desirability and recall biases. The cross-sectional design precludes causal inference regarding media exposure and mental health outcomes. Future research should employ longitudinal designs, objective media usage metrics (e.g., screen time logs), and expanded, nationally representative samples.

Conclusion

This study provides the first systematic psychometric comparison of anxiety, stress, depression, and aggression between secondary school students and university students in the context of mass media exposure in Uzbekistan. The results demonstrate that media-related psychological burden manifests differentially across educational levels: university students exhibit elevated reactive anxiety, while schoolchildren display higher indirect aggression and resentment — patterns consistent with distinct developmental and social pressures interacting with media environments.

These findings carry practical implications for educational psychologists, school counselors, and institutional mental health services in Uzbekistan. Universities should implement targeted media literacy and stress management programs during the transition period of early higher education. School-based prevention programs addressing covert aggression and hostile attribution processes are indicated for grades 10–11. The strong intercorrelations among anxiety and DASS-21 subscales support the use of brief combined screening (STAI + DASS-21) in educational mental health settings.

Future research should examine media consumption patterns as prospective predictors of mental health trajectories, investigate the moderating roles of gender and socioeconomic status, and develop culturally adapted intervention protocols for the Uzbek educational context. The integration of media literacy into school and university curricula represents a promising public health strategy for mitigating the psychological costs of intensive digital media use.

Conflict of Interest

The authors declare no conflict of interest.

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No external funding was received for this study.

Ethics Statement

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