

# ADAPTING THE ILLINOIS BULLYING SCALE INTO AZERBAIJANI: EXPLORING THE CONNECTION BETWEEN BULLYING, PSYCHOLOGICAL DISTRESS, AND WELLBEING

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## Abstract

*Bullying is a significant concern in the realm of psycho-social issues today. This study aimed to adapt the Illinois Bullying Scale for use with Azerbaijani adolescents and explore the relationships between bullying, psychological distress, and well-being. The study involved 3,320 Azerbaijani teenagers, comprising 1,882 females and 1,488 males. Various statistical techniques were applied during the adaptation process to assess the measurement's psychometric properties. Confirmatory factor analysis was used to determine its factor structure, concurrent validity was assessed, and reliability analyses were conducted. Mediation analysis was employed to investigate the links between bullying, psychological distress, and well-being. The results from confirmatory factor analysis revealed that the questionnaire, consisting of 18 questions, had a three-dimensional structure and demonstrated a good fit. Additionally, the study found positive relationships between bullying, victimization, fighting, and psychological distress, while these were negatively associated with well-being. Importantly, the findings highlighted that psychological distress acted as a mediator in the impact of bullying sub-dimensions on well-being. Collectively, these results suggest that the Azerbaijani adaptation of the Illinois Bullying Scale exhibits favorable psychometric qualities.*

**Keywords:** *bullying scale, psychological distress, mental wellbeing, scale adaptation*

## Introduction

Over the past few decades, aggression and violence in childhood and adolescence have been subjects of scientific investigation (Horoz et al., 2022; Poling et al., 2019). Research consistently indicates that the occurrence of severe aggression remains relatively stable throughout the transition from childhood to adulthood (Huesmann et al., 2009). However, Loeber and Hay (1997) propose that aggression may initially manifest during the adolescent years.

During adolescence, the significance of relationships with peers, the influence of their opinions, and the pursuit of self-affirmation among peers become prominent (Dornbusch, 1989; Kutuk, 2023). Therefore, the significant impact of peers in facilitating instances of bullying and victimization can be observed through their actions of endorsing the bully, granting them authority, neglecting to intervene, or associating with individuals engaged in bullying behavior (Dornbusch, 1989). When adolescents desire to establish autonomy from their parents, they

frequently rely on their peers as a source of support for addressing issues, expressing emotions, addressing anxieties, and addressing uncertainties. Consequently, the significance of socializing with friends is heightened (Sebald, 1992). The association between the dependence on peers for social support and the heightened pressures to achieve social status has been established (Corsaro & Eder, 1990).

Bullying research has garnered significant interest in recent years due to its impact on the psycho-social development of children and adolescents (Lohmeyer & Threadgold, 2023). Olweus (1991) initially defined bullying as the repeated exposure of an individual to hostile actions by another individual or group, leading to a power imbalance between the bully and the victim. The literature generally identifies four aspects of traditional bullying behavior: intentionality, repetition, power imbalance, and negative affect (Smith, 2014). These aspects encompass specific behaviors such as physical (e.g., kicking), verbal (e.g., using rude words), relational (e.g., gossiping), and cyberbullying (e.g., posting negative comments about someone online). Peer victimization has been found to be significantly correlated with various negative psychological outcomes, including but not limited to psychological distress, anxiety, depression, low self-esteem, psychosis, and even suicide, across diverse age cohorts (Wolke et al., 2013). Moreover, bullying has the potential to result in adverse outcomes such as diminished academic performance and premature discontinuation of formal education (Cornell et al., 2013; Hammig & Jozkowski, 2013).

The intensity of exposure to bullying is a crucial factor influencing the severity of psychological distress and other mental health problems in adolescents. For instance, students who experience repeated victimization report more severe depressive symptoms compared to those victimized only once (Hunter et al., 2007). Frequently victimized students perceive their situation as more threatening and feel less in control of what happens (Hunter et al., 2007). Moreover, witnesses of cyberbullying also experience distress and pressure to respond to incidents (Patterson et al., 2017), although relatively few actively advocate for cyberbullying victims (Sarmiento et al., 2019). Consequently, bullying and cyberbullying affect not only those directly involved but also uninvolved adolescents within the same environment.

Numerous studies have provided evidence supporting the detrimental effects of bullying, specifically cyberbullying, on the mental health of young individuals (Alikasifoglu et al., 2007; Bender & Lösel, 2011; Demir, 2023; Kim, Boyle, & Georgiades, 2017; Nansel et al., 2004). Multiple research studies have documented heightened levels of anxiety, depression, eating disorders, sleep deprivation, contemplation of suicide, and instances of suicide attempts among individuals who have experienced cyberbullying (Fahy et al., 2016; Mateu et al., 2020; Zhu et al., 2021). According to research conducted in Singapore, individuals who experienced cyberbullying reported a higher prevalence of internalizing problems, such as anxiety or depression. Conversely, those who were victims of both traditional bullying and cyberbullying exhibited a greater likelihood of externalizing problems, such as engaging in aggressive behavior (Ong et al., 2021). Research conducted among adolescents in Norway and Finland has identified a correlation between instances of bullying and cyberbullying and the manifestation of psychosomatic symptoms, such as headaches and abdominal pain (Sourander et al., 2010).

### *Research Problem*

The phenomenon of school bullying poses a substantial risk to the overall development and well-being of adolescents, and it has been found to be linked with diminished psychosocial functioning and heightened adjustment difficulties spanning from early childhood to adulthood (Tsang et al., 2012). Although studies on bullying have primarily been conducted in developed countries, there is a need for more information on bullying in developing countries like Azerbaijan. Gaining deeper insights into the prevalence of bullying is particularly crucial in low- and middle-income countries, which often have limited mental health resources and capacity among their healthcare and education systems to prevent and address the consequences of bullying effectively.

Understanding the prevalence and dynamics of bullying in Azerbaijani schools is essential for developing targeted interventions and strategies to address this issue effectively. The goal of

this study was to adapt and validate the Illinois Bullying Scale for use among children and adolescents in Azerbaijani schools. By adapting and validating the Illinois Bullying Scale for use in Azerbaijani schools, this study aims to provide a comprehensive assessment tool that can accurately measure bullying behaviors and victimization experiences among children and adolescents. The findings of this study will not only contribute to the existing body of knowledge on bullying but also provide valuable insights for policymakers, educators, and mental health professionals in Azerbaijan, enabling them to implement evidence-based interventions and support systems to promote a safe and healthy school environment for all students. Ultimately, the successful adaptation of the scale will facilitate the identification and prevention of bullying, leading to improved well-being and academic outcomes for Azerbaijani youth.

### *Research Focus*

The research is centered around adapting the Illinois Bullying Scale for use in the Azerbaijani context. This study delves into a model that examines the intermediary functions of psychological distress in the connection between bullying and well-being.

### *Research Aim and Research Questions*

In recent times, bullying, a subject of extensive research, has been assessed using various measurement tools. The literature reveals that the concept of bullying, which encompasses various definitions and sub-dimensions, is gauged through diverse assessment instruments across different cultures. However, the Azerbaijani literature lacks scale development or adaptation studies on bullying. Hence, this research assesses the validity and reliability of the Illinois Bullying Scale, developed by Bosworth et al. (1999), in the Azerbaijani population. Furthermore, this study explores the relationship between bullying and psychological distress, and well-being. The research questions (RQ) are provided below.

- RQ1. Is the Illinois Bullying Scale adapted for use with Azerbaijani adolescents a valid measurement tool for assessing bullying?
- RQ2. Does the adapted Illinois Bullying Scale demonstrate sufficient reliability?
- RQ3. What is the relationship between bullying and psychological distress, and well-being?
- RQ4. Does psychological distress mediate the relationship between bullying and well-being?

## **Research Methodology**

### *General Background*

The research methodology in this study employed a cross-sectional survey design. The adaptation of the Illinois Bullying Scale for use with Azerbaijani adolescents involved a multi-step process, which included translation and back-translation, expert reviews, and pilot testing. Data were gathered from 3320 adolescents in Azerbaijan through convenience sampling. To assess the psychometric properties of the adapted questionnaire, confirmatory factor analysis, concurrent validity, and reliability analyses were conducted. Using PROCESS mediational analysis, the study examined the correlation between bullying, psychological distress, and well-being. Overall, a quantitative research approach was used in this study to explore the connection between bullying and various psychological outcomes among Azerbaijani adolescents. The data for the study was gathered during the months of August and September in the year 2023.

### *Sample*

A diverse cohort of 3320 adolescents, aged between 10 and 17 years (mean age = 13.13 years, standard deviation = 1.77), formed the subjects of this study. 1832 individuals identified as female, constituting 55.2% of the total, while 1488 participants defined themselves as male, making up 44.8% of the sample. Participants were enrolled in grades ranging from 5 to 11, with an even distribution across all grade levels. When their perceived academic performance was assessed, 67.8% ( $n = 2250$ ) rated it as average, 6.5% ( $n = 215$ ) as low, and the remaining 25.8% ( $n = 855$ ) as high. When birth order was examined, 6.9% ( $n = 229$ ) were only children, 45.5% ( $n = 1512$ ) were first-born, 16.8% ( $n = 168$ ) were middle children, and 30.7% ( $n = 1020$ ) were the youngest siblings. Furthermore, 91.2% ( $n = 3027$ ) of their parents lived together, while 8.8% ( $n = 293$ ) were divorced. When examined from a socioeconomic status perspective, more than half of the participants ( $n = 1949$ , 58.7%) perceived their status as average, while 5.9% ( $n = 194$ ) considered it low, and 35.5% ( $n = 1177$ ) regarded it as high.

Data collection was conducted through an online survey form, which participants could access with the guidance of school psychologists. The selection of schools for this research adhered to the convenience sampling approach, which provided the research team with the convenience of selecting a readily accessible and relevant sample aligned with the study's goals. School psychologists played a pivotal part in enlisting adolescents from their respective educational institutions and distributed the online survey links that were prepared to the participants.

### *Instrument and Procedures*

The Illinois Bully scale, which was employed to measure self-reported bullying, fighting, and victimization, consisted of 18 items selected based on a comprehensive review of existing bullying and victimization measures. These items were subjected to principal axis factoring (PAF) analysis to determine the underlying factor structure. The analysis revealed three distinct factors, namely the Bullying Scale (nine items), the Fighting Scale (five items), and the Victimization Scale (four items). These factors accounted for 49% of the variance, indicating that they captured a substantial portion of the construct's variability (Bosworth et al., 1999; Crick, 1996).

To assess psychological distress among children and adolescents, the Children and Adolescents Psychological Distress Scale (CAPDS-10) developed by De Stefano et al. (2022) was employed. This scale comprised ten items that measured various distressing experiences, such as feeling down or sad. Participants rated the frequency of these experiences on a 4-point Likert scale, ranging from "absolutely not" to "almost every day." The internal consistency of the CAPDS-10 items was found to be satisfactory, with a Cronbach's alpha coefficient of .86, indicating a reliable measure of psychological distress (De Stefano et al., 2022). In this study, the Cronbach's alpha reliability coefficient was calculated to be .89.

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was used to assess the participants' mental well-being. This scale, developed by Tennant et al. (2007), consists of 15 positively worded items that capture different aspects of mental well-being, such as feeling relaxed. Respondents rated their agreement with each item on a 4-point Likert scale, ranging from "I totally disagree" to "I totally agree." The WEMWBS has demonstrated good internal consistency, with Cronbach's alpha scores of 0.89 for student samples and 0.91 for population samples, indicating that the scale items effectively measure mental well-being (Tennant et al., 2007). In this study, the Cronbach's alpha reliability coefficient was calculated to be .94.

### *Data Analysis*

In this study, the Illinois Bullying Scale was adapted into the Azerbaijani language, and its three-dimensional structure was subjected to confirmatory factor analysis. The three-dimensional

structure of the adapted Illinois Bullying Scale was examined using confirmatory factor analysis (CFA). CFA was employed to validate the factorial structure of the scale in the Azerbaijani context, ensuring that the three dimensions identified in the original scale align with the data collected in this study. The internal consistency of the adapted scale was assessed using multiple reliability coefficients, including Cronbach’s alpha, McDonald’s omega, and Guttman’s lambda. These coefficients provide insights into the reliability and consistency of the scale’s items in measuring bullying behaviors.

To evaluate convergent validity, correlations between the adapted Illinois Bullying Scale and measures of psychological distress, and well-being were examined. This analysis aimed to determine whether the scale exhibits the expected relationships with other psychological constructs, supporting its convergent validity. In addition, the study delved into the mediating role of psychological distress in the association between bullying and mental well-being. Mediation analysis has been conducted to elucidate the extent to which psychological distress explains the relationship between bullying experiences and the mental well-being of participants.

## Research Results

### *Structural Validity Assessment*

The evaluation of the structural validity of the Azerbaijani Illinois Bullying Scale unveiled a robust three-factor framework, consisting of domains related to bullying, victimization, and fighting. The presence of substantial factor loadings for all items within the Azerbaijani Illinois Bullying Scale provided compelling evidence to support this structure. This assertion was corroborated by the model’s statistical fit indices, including  $\chi^2(160, N = 3320) = 2215.65, p < .001$ , signifying statistical significance. Furthermore, the model demonstrated acceptable fit across a range of goodness-of-fit indices, such as CFI = 0.90, GFI = 0.93, TLI = 0.90, SRMR = 0.06, and RMSEA = 0.07. Notably, the intercorrelations among the four factors in the model were also significant, which further reinforces the structural validity of the Illinois Bullying Scale.

### *Evaluation of Internal Consistency Reliability*

A comprehensive evaluation of the scale’s internal consistency reliability was carried out, utilizing three distinct coefficients: Cronbach’s alpha, McDonald’s omega, and Guttman’s lambda. The reliability coefficients for bullying ( $\alpha = .745, \omega = .752, \text{ and } \lambda_6 = .793$ ), victimization ( $\alpha = .771, \omega = .793, \text{ and } \lambda_6 = .735$ ), and fighting ( $\alpha = .777, \omega = .820, \text{ and } \lambda_6 = .782$ ) subscales were found to surpass acceptable levels, indicating robust reliability (refer to Table 1).

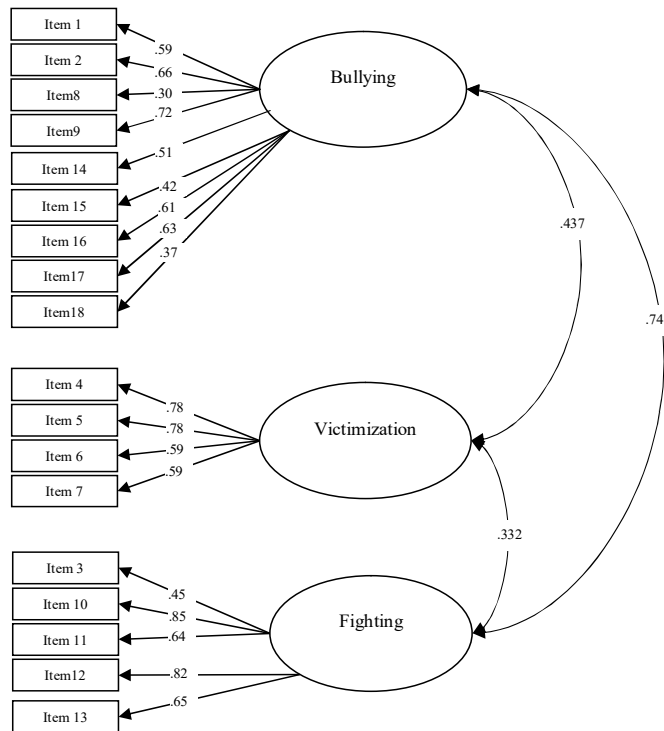
**Table 1.**

*Reliability Coefficients for the Illinois Bullying Scale*

	Bullying	Victimization	Fighting
Cronbach $\alpha$	.745	.771	.777
McDonald $\omega$	.752	.793	.820
Guttman $\lambda_6$	.793	.735	.782

**Figure 1**

*Confirmatory Factor Analysis of Azerbaijani – Illinois Bullying Scale*



*Establishing Convergent Validity*

To assess the convergent validity of the three factors in the Illinois Bullying Scale – bullying, victimization, and fighting - the study employed two distinct measures as outlined in Table 2: the Child and Adolescent Psychological Distress Scale and the Mental Wellbeing Scale. It's worth noting that all correlation analyses produced statistically significant results ( $p < .001$ ). As anticipated, the factors of the Illinois Bullying Scale exhibited positive correlations with psychological distress (ranging from  $r = .286$  to  $.443$ ). Conversely, these factors displayed negative correlations with measures of wellbeing (ranging from  $r = -.225$  to  $.322$ ). These findings underscore the convergent validity of the Azerbaijani version of the Illinois Bullying Scale.

**Table 2**

*Convergent Validity of the Illinois Bullying Scale*

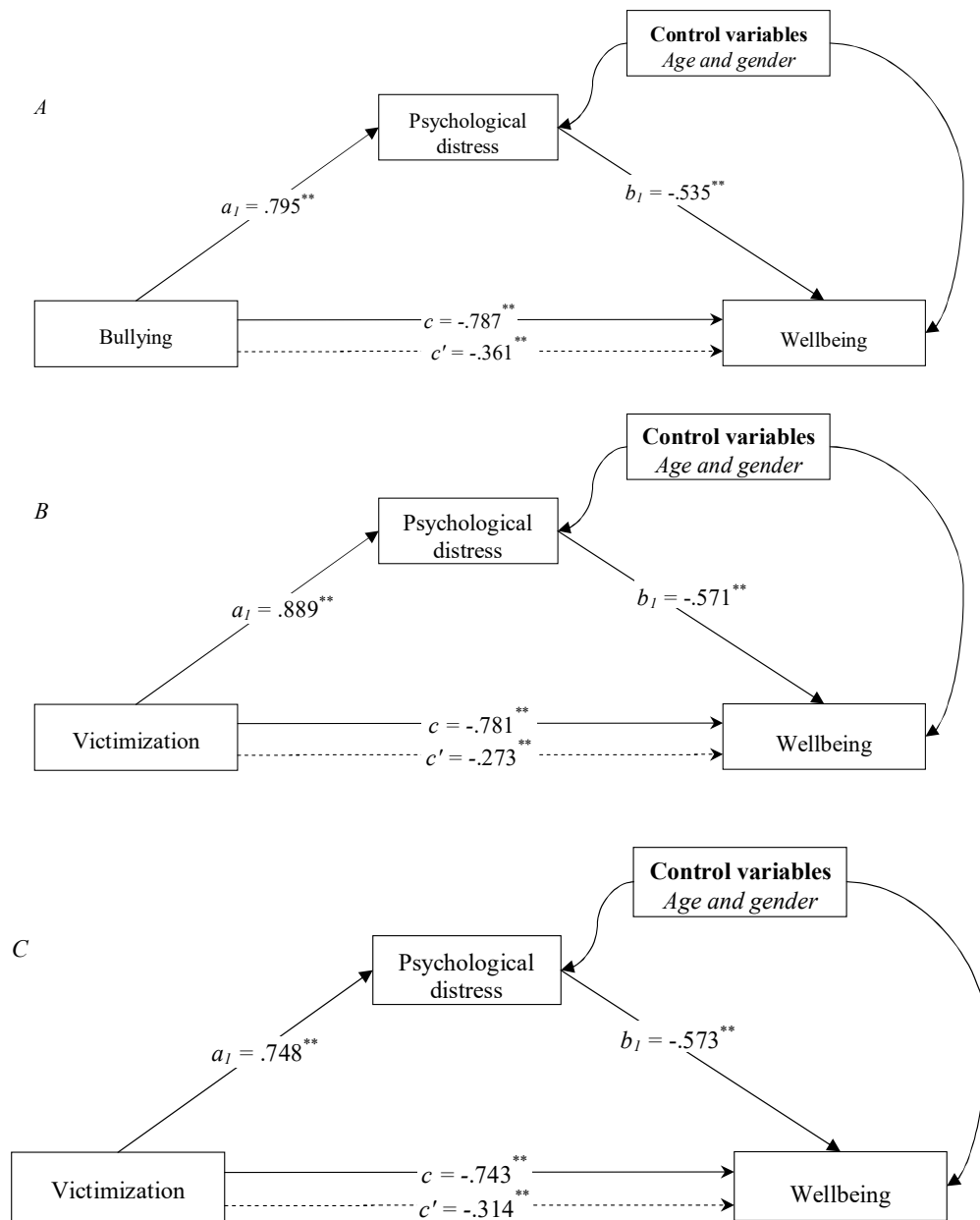
Variable	Bullying	Victimization	Fighting
Psychological distress	.443**	.383**	.286**
Wellbeing	-.322**	-.247**	-.225**

Note. \*\*  $p < .001$

*Evaluation of Predictive Validity*

A mediation analysis was recently undertaken to assess the predictive validity of the scale. This analysis has employed a bootstrapping method to investigate the extent to which psychological distress mediates the connection between bullying/victimization/fighting and wellbeing. Figure 2 displays the outcomes of the regression paths and the direct impacts that were assessed in the mediation analysis.

**Figure 2**  
*Mediational Analysis Results*



The investigation encompassed a thorough examination of direct effects, unveiling that bullying exhibited significant negative predictive power in relation to psychological distress ( $B = 0.795$ ,  $t = 27.72$ ,  $p < .001$ ). To validate the indirect effects of bullying on wellbeing through the mediation of psychological distress, a bootstrapping analysis was conducted. The findings confirmed the significant mediating role of psychological distress (bootstrap value =  $-.426$ , 95%CI =  $-.497$ ,  $-.363$ ) in the association between bullying and wellbeing. Victimization had a substantial and negative predictive influence on psychological distress ( $B = .889$ ,  $t = 25.39$ ,  $p < .001$ ). The results substantiated the substantial mediating role of psychological distress (bootstrap value =  $-.508$ , 95%CI =  $-.581$ ,  $-.438$ ) in the relationship between victimization and wellbeing. Lastly, fighting exerted a significant and adverse predictive impact on psychological distress ( $B = .748$ ,  $t = 20.68$ ,  $p < .001$ ). The findings provided strong support for the substantial mediating role of psychological distress (bootstrap value =  $-.429$ , 95%CI =  $-.495$ ,  $-.369$ ) in the association between fighting and well-being.

## Discussion

The research conducted on the adaptation and validation of the Illinois Bullying Scale in the Azerbaijani context revealed important findings regarding the impact of bullying on the mental health of children and adolescents. The study found that bullying was associated with symptoms of anxiety, depression, and stress in this population.

The confirmatory factor analysis (CFA) results indicated that the adapted version of the Illinois Bullying Scale had acceptable fit indices, suggesting that the scale effectively measured bullying, victimization, and fighting among Azerbaijani adolescents. The one-dimensional version of the scale, consisting of 18 items, showed consistency with the original scale and yielded similar results to previous studies (Akbari Balootbangan & Talepasand, 2015; Shujja & Atta, 2011). Additionally, the three dimensions of the scale (bully, victim, and fighter) were confirmed in Azerbaijani adolescents through CFA, demonstrating the applicability of the scale in this population.

Regarding the internal consistency of the Illinois Bullying Scale items, the study reported satisfactory values. Cronbach's alpha coefficient, McDonald's omega, and Gutmann's lambda coefficients indicated acceptable internal consistency aligning with the established guidelines for reliability (Nunnally, 1978).

Convergent validity analyses revealed significant positive correlations between the Illinois Bullying Scale and the Child and Adolescent Psychological Distress Scale, indicating that higher levels of bullying were associated with increased psychological distress. The scale also demonstrated a negative relationship with the Warwick Edinburg Mental Wellbeing Scale, indicating that higher levels of bullying were linked to lower well-being. These findings align with previous research that has consistently shown the detrimental effects of bullying on mental health and well-being (Schneider et al., 2012). The correlations between the three subscales of bullying (bully, victim, and fighter) and stress were also examined.

Furthermore, the research supported the predictive role of the Illinois Bullying Scale, as it found direct associations between bullying and psychological distress. The findings suggested that bullying acts as a risk factor for heightened levels of anxiety, stress, and depression. The existing literature also supports these associations, indicating a direct link between bullying and negative psychological outcomes, as well as an inverse relationship between bullying and wellbeing (Carretero Bermejo et al., 2022).

Overall, the study provided valuable insights into the psychometric properties and validity of the adapted Illinois Bullying Scale in the Azerbaijani context. The findings confirmed the scale's applicability, reliability, and criterion-related validity, highlighting the negative impact of bullying on the mental health and well-being of Azerbaijani children and adolescents. These results contribute to the existing body of scientific literature on the subject, reinforcing the importance of addressing bullying and its consequences for the promotion of positive mental health in this population.

## Limitations

It is important to acknowledge the limitations of the study to interpret the results appropriately. The mentioned limitations include the reliance on self-reported surveys, which can be subject to biases such as memory recall and social desirability. These biases may affect the accuracy and reliability of the data collected. Additionally, the study sample being biased towards the female sex raises concerns about the generalizability of the findings to the broader population, as gender differences in bullying and mental health outcomes may exist. Another limitation is the cross-sectional nature of the data, which only allows for associations to be observed and does not establish causal relationships between variables. Longitudinal studies would be needed to provide a more comprehensive understanding of the temporal dynamics between bullying and mental health outcomes.

The lack of test-retest reliability assessment is another limitation to consider. Test-retest reliability would provide information about the stability of the scale over time and the consistency of participants' responses. Lastly, the study did not examine certain types of validity, such as concurrent and divergent validity. These validity assessments would provide additional evidence regarding the scale's ability to measure the intended constructs accurately and differentiate them from unrelated constructs.



## 32 Conclusions and Implications

This study successfully adapted the Illinois Bullying Scale to Azerbaijani children and adolescents, providing evidence of its validity and reliability for use in Azerbaijan. The findings support the use of this measurement tool in assessing bullying behaviors among Azerbaijani youth. By conducting further research, policymakers, educators, and healthcare professionals can obtain a more comprehensive understanding of bullying and its impact on the well-being of children and adolescents in Azerbaijan. This knowledge can inform the implementation of targeted interventions and support systems to prevent and manage bullying, ultimately fostering a safer and healthier environment for youth.

### Declaration of Interest

The authors declare no competing interest.

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