future

MDPI

Article

Are Rural–Urban Differences in Bullying and Poly-Bullying Victimization Associated with Internet Addiction or Depressive Symptoms among Adolescents in Jiangsu Province of China

Feng Huang [1,†], Yan Wang [2,†], Hui Xue [1], Xiyan Zhang [2], Yong Tian [1], Wei Du [1], Lijun Fan [1,*] and Jie Yang [2,*]

[1] School of Public Health, Southeast University, Nanjing 210009, China
[2] Department of Child and Adolescent Health Promotion, Jiangsu Provincial Center for Disease Control and Prevention, Nanjing 210009, China
* Correspondence: fanlijun@seu.edu.cn (L.F.); july-summer@jscdc.cn (J.Y.); Tel.: +86-(25)-8327-2303 (L.F.); +86-(25)-8542-9232 (J.Y.)
† These authors contributed equally to this work.

Abstract: Background: School bullying is a global problem. Although previous studies showed rural adolescents were at higher risk of being bullied compared to their urban counterparts, the rural–urban differences in the risk of bullying or poly-bullying victimization in relation with different characteristics and the joint association of internet addiction and depressive symptoms with the observed urban–rural disparities are unclear. Objective: We aim to investigate the rural–urban differences in bullying or poly-bullying victimization among adolescents and whether the observed rural–urban differences are associated specifically with internet addiction or depression. Methods: This cross-sectional study considered a total of 25,377 Grade 7 to 12 adolescents from the 'Surveillance for Common Disease and Health Risk Factors among Students' project implemented in Jiangsu Province in 2019. Rurality of residence was ascertained via the Regulation of Statistical Classification. We used Poisson regression to estimate the age–sex adjusted rate ratios (RRs) and 95% confidence interval (CI) for bullying and poly-bullying victimization. Results: Approximately 20.26% (95%CI: 16.11–25.47%) and 7.67% (5.48–10.74%) rural adolescents experienced bullying and poly-bullying, in comparison with 16.50% (12.65–21.52%) and 5.81% (4.34–7.78%) urban adolescents, respectively. Rural adolescents had 14% and 23% higher rates of bullying victimization (RR: 1.14, 95%CI: 1.03–1.26) and poly-victimization (RR: 1.23, 95%CI: 1.05–1.44) than their urban counterparts. When further controlled for internet addiction, the observed rural–urban disparities increased among adolescents with depressive symptoms, whereas diminished among those without depressive symptoms.

Keywords: bullying victimization; rural–urban difference; internet addiction; depression; adolescents

Citation: Huang, F.; Wang, Y.; Xue, H.; Zhang, X.; Tian, Y.; Du, W.; Fan, L.; Yang, J. Are Rural–Urban Differences in Bullying and Poly-Bullying Victimization Associated with Internet Addiction or Depressive Symptoms among Adolescents in Jiangsu Province of China. *Future* **2024**, *2*, 1–15. https://doi.org/10.3390/future2010001

Academic Editor: Ranran Song

Received: 1 September 2023
Revised: 19 November 2023
Accepted: 13 December 2023
Published: 25 December 2023

1. Introduction

School bullying is a global problem receiving widespread attention [1], which could lead to a range of adverse outcomes including physical injury [2], depression [3], self-harm [4], and low academic achievement [5]. In 2018, the United Nations Educational, Scientific, and Cultural Organization reported that about one-third (32%) of students worldwide had been bullied by their classmates in the past month [6]. The prevalence of bullying victimization varies vastly across countries, with rates ranging from 7% to 81% [7]. According to the Student Reports of Bullying in the United States, one out of every five (20%) students aged 12 to 18 years old experienced bullying (24% reported being bullied once, 17% reported being bullied on 2 days, 30% reported being bullied on 3–10 days, and 20% reported being bullied on >10 days), and its prevalence rate peaked in middle school (27%) [8]. A Canadian national survey reported that 60% of adolescents had been bullied in the past two months [9]. In China, a national survey of the public showed that 6% of students in grade 6, 8, and 10 had been bullied in the past 3 months [10]. In

addition, bullying victimization was common in other developed nations, with conservative prevalence estimates of 75% in South Africa, Ghana and Botswana in the last month [7], 20% in India in the past 6 months [11], 57% in Iraq [12] and 38% in Vietnam [13] over the past 3 months, as well as 28% in Thailand in the past 30 days [14]. Addressing youth bullying will help ensure a safer growing environment for all children and adolescents across the world, particularly in low-income and middle-income areas.

Despite bullying being a highly pervasive issue around the world, disparities in child and adolescent bullying between rural and urban areas continue to persist. Previous studies have found that adolescents in rural areas were at a higher risk of experiencing bullying compared to those in urban areas, e.g., in Canada, rural students in Grade 8 reported higher rates of bullying victimization than urban students (5% vs. 3%) [15]. The rate of ever being bullied in the past 30 days among Chinese rural children and adolescents was 32%, higher than that in their urban counterparts (26%) in Zhejiang Province [16]. Similar rural–urban disparities were reported among adolescents aged 15–17 years in China [17], 15-year-olds in India [18], as well as those aged 11, 13, and 15 years in Iceland [19] and Lithuania [20]. Factors such as geographic variations in the mental health service provision [21], the occurrence of child neglect and abuse in households [22,23], as well as the peer and school supportive environment [24], might explain the observed rural–urban differences. Moreover, rural children and adolescents had limited and relatively less access to child legal protection services than their urban counterparts [25], which might exaggerate the problem of child neglect and in turn increase the risk of bullying victimization in rural children. However, Choo et al. (2011) did not observe any statistically significant difference between rural and urban adolescents aged 15–17 years in Malaysia [26]. Little evidence was reported as to the rural–urban disparity in poly-victimization. Recently, poly-bullying victimization, defined as experiencing multiple forms of bullying regardless of the context in which these had occurred [27], has emerged as one of the priority areas for anti-bullying action in adolescents. Although relatively rare, poly-bullying victimization was also reported, for example, 13% of Vietnamese [13], 22% in Malaysia [26], 16% in Spain [27], and 37% in Australia [28]. Given that children experiencing poly-bullying victimization were at higher risk of poor outcomes than those experiencing a single type of victimization [29], an obvious hypothesis exists that rural–urban disparities would persist in the context of poly-bullying scenarios. However, few studies attempted to address this in China and elsewhere around the world. Considering that effectiveness of anti-bullying prevention strategies would vary according to not only geographic locations but also sociodemographic and health characteristics [30], it is crucial to understand the differences in bullying between rural and urban areas among adolescents with various characteristics. More research is needed to describe the urban–rural differences in the risk of being bullied among adolescents with different characteristics to provide valuable insights into the unique risk factors and challenges faced by different high-risk victim groups, allowing for the development of targeted prevention strategies.

Previous literature suggested that internet addiction was associated with an increased risk of bullying victimization [31–33]. Adolescents with internet addictions might have developed compulsive and problematic social and emotional habits, experienced disruptive peer relationships and restricted social participation, consequently leading to bullying victimization [34]. Moreover, the impaired socioemotional competencies in adolescents with internet addiction may also have a detrimental effect on their mental health [35], possibly through attentional bias towards negative information [36], then perhaps leading to bullying victimization in adolescents [37]. Although emerging studies have recently attempted to explicate the linkage between these behaviors, evidence is lacking with respect to the joint contributions of internet addiction and depression to bullying or poly-bullying victimization.

In addition to internet addiction and depression, ample studies have reported sociodemographic and health characteristics such as older age [38], boarding in schools [39], being overweight, and obesity [40], among the other factors in association with bully-

ing victimization. As adolescents age, they undergo numerous biological and cognitive changes that can contribute to bullying, such as individual differences in status-driven social cognition [38]. Furthermore, the pivotal role of parents in managing, constructing, and mitigating potential deviant peer behavior during adolescence is crucial. Therefore, boarding school adolescents who lack sufficient parental guidance and support are more susceptible to bullying issues [39]. In addition, negative attitudes towards overweight or obese individuals, such as perceiving them as lazy, unmotivated, careless, and lacking in self-discipline, can lead to weight stigma. This weight-related negative stereotype can further contribute to bullying [40]. Previous findings also indicated that the risk of internet addiction was elevated in adolescents with older age [41], those boarding in schools [42], being overweight, and obesity [43]. Similarly, a 46% increase in risk in depression was reported in overweight and obese adolescents [44]. In consideration of better targeting, identification of at-risk population subgroups may assist in addressing their needs and clarifying the core components of anti-bullying intervention programs.

In this study, the research questions were as follows: (1) what are the differences in bullying or poly-bullying victimization between rural and urban adolescents? (2) Are the observed rural–urban differences in bullying or poly-bullying victimization associated specifically with internet addiction or depression? We hypothesized that the risks of bullying and poly-bullying victimization would be higher in rural adolescents than their urban counterparts, and such rural–urban disparities would not disappear in the presence of internet addiction and depression. In the current study, we aimed to investigate the rural–urban differences in the risk of bullying or poly-bullying victim in adolescents with different characteristics, and to investigate the separate and joint association of internet addiction and depression with the observed urban–rural disparities in bullying and poly-bullying victimization among a large cohort of school aged adolescents in Jiangsu Province of China.

2. Materials and Methods

2.1. Study Design and Sample

This cross-sectional study obtained data from the 'Surveillance for Common Disease and Health Risk Factors among Students' project carried out in Jiangsu Province in 2019. This project used the stratified cluster random sampling scheme to select a total of 25,857 students aged 10 years and over from 13 municipalities in Jiangsu Province. The sampling method involved selecting a provincial representative sample from primary schools, junior high schools, senior high schools, and vocational schools, encompassing both urban and rural areas in Jiangsu Province. A self-administered structured questionnaire was provided to all participants to complete. The project questionnaire was developed by the leading experts in pediatrics and child health as well as public health practitioners. Pilot studies were carried out in multiple counties to validate the project instruments prior to implementation across the entire province. Details of the project were described somewhere else [45].

In the present study, we initially recruited a total of 25,857 students aged 10 years and over. Considering that there may be variations in the students' experienced bullying victimizations across different parental educational attainment and family structure, we excluded 8 participants due to unclassifiable values for parental educational attainment and 472 participants due to missing values for family composition variables. The final study population included 25,377 students. Ethics approval has been obtained.

2.2. Measures

2.2.1. Bullying and Poly-Bullying Victimization

Bullying and poly-bullying victimization was measured using the adapted and validated Chinese version of Olweus Bully/Victim Questionnaire [46]. For example, the adapted instrument did not investigate cyberbullying victimization, number of peers being involved, and length and place of the incident occurrence. The scale for responses was also

simplified in 3-level terms of 'never', 'sometimes' and 'often', instead of the original 5-level one, 'it hasn't happened to me in the past couple of months', 'only once or twice', '2 or 3 times a month', 'about once a week', and 'several times a week', in the original Olweus Bully/Victim Questionnaire. In addition, in the absence of a consensus on recall time frame with regards to bullying experience, we used the conventional time frame of 'in the past 30 days'. Specifically speaking we used the instrument 'in the past 30 days, have you been subjected to any of the following forms of bullying at or around school?' with a three-level 'never/sometimes/often' answer to six behaviors of bullying victimization, 'being maliciously teased', 'being blackmailed for money', 'being intentionally excluded from friends or from activities', 'being threatened or intimidated', 'being hit, kicked, pushed, shoved or locked in the house', or 'being teased for physical defects or appearance'. We defined adolescents who answered 'sometimes' or 'often' for any of the aforementioned behaviors as bullying victimization, and those who answered 'never' for all behaviors as free of bullying victimization. The Cronbach's alpha value for this instrument was 0.759, indicating good reliability. In addition, we categorized these six behaviors into three types of bullying victimization, including physical, verbal and relational bullying victimization. 'Being blackmailed for money' [47] and 'being hit, kicked, pushed, shoved or locked in the house' were classified as physical bullying victimization. 'Being maliciously teased', 'being threatened or intimidated', and 'being teased for physical defects or appearance' were classified as verbal bullying victimization. 'Being intentionally excluded from friends or from activities' were classified as relational bullying victimization. Adolescents who experienced more than one type of bullying were defined as poly-bullying victimization.

2.2.2. Depression

We used the adapted and validated Chinese version of Center for Epidemiological Survey Depression Scale (CES-D), which contained 20 items and a total score range between 0 and 60 [48]. Adolescents with a total score of 20 and above were categorized as having depressive symptoms [49]. The validity of the Chinese version of the scale has been validated in Chinese adolescents [50]. The Cronbach's alpha for CES-D scale in the current study was 0.861, indicating good reliability.

2.2.3. Internet Addiction

We used an adapted and validated Chinese version of Kimberly S. Young's ten-item Internet Addiction Test [51], and categorized adolescents who spent 4 h or more every day on the internet for non-work and non-study purposes as well as those exhibiting 4 or more symptoms of internet addiction as having internet addiction. The Cronbach's alpha for this scale in our study was 0.802, indicating good reliability.

2.2.4. Characteristics of Interest

We categorized rurality of residence as urban or rural areas according to the 'Provisional Regulations on Statistical Classification of Urban and Rural Areas' [52]; sex was categorized as boys or girls. We categorized the age groups as <15 or $\geq$15 years old based on previous findings that identified the age of 15 as the critical cut-off indication for adopting different anti-bullying intervention strategies in adolescents [53]; in addition, 15 years old is typically the age at which students transit from junior high school to senior high school, serving as a natural division point in the educational system. We recorded school boarding as yes or no; family structure was recorded as nuclear (defined as living with parents only) or non-nuclear family; parental educational attainment was recorded as primary school or below, middle or high school, or college and above; and being overweight or having obesity was recorded according to the age- and sex-specific body mass index (BMI) cutoff values recommended by the Chinese 'screening for overweight and obesity among school-age children and adolescent' [54].

2.3. Statistical Analysis

Numbers and proportions were calculated to describe the distribution of categorical variables. Age–sex adjusted rate ratios (RRs) for bullying victimization and their 95% confidence intervals (CIs) were calculated using Poisson regression, with the total sample population as an offset and a scaled deviance parameter [55]. We further modelled the three-way interactions for rurality of residence, internet addiction, and depressive symptoms to determine the joint association of internet addiction and depressive symptoms with the observed rural–urban disparities in bullying victimization. We repeated the analyses for verbal and poly-bullying victimization using the same modeling strategies, respectively.

We used the SAS version 9.4 (SAS Institute, Inc., Cary, NC, USA) to perform all data analyses. A *p*-value less than 0.05 was set as statistically significant. Results were interpreted based on effect size and statistical significance allowing for the current large sample size.

3. Results

Of 25,377 participants, there were 15,898 (62.6%) adolescents from urban areas and 9479 (37.4%) from rural areas. Slightly more boys (*n* = 13,275; 52.3%) than girls (*n* = 12,102; 47.7%) were included in this study. Approximately 51.7% students were aged 15 years and above, 36.8% were boarding at school, and 54.4% came from non-nuclear families. Students having depressive symptoms and internet addiction accounted for 18.9% and 2.6% of the study population, respectively. Almost one in five adolescents (*n* = 4543; 17.9%) experienced bullying victimizations, of which verbal bullying victimization accounted for the majority (*n* = 2494; 9.8%) followed by relational (*n* = 274; 1.1%) and physical (*n* = 124; 0.5%) bullying victimization. The prevalence rate of bullying victimization was 20.26% (95% CI: 16.11–25.47%) among rural adolescents and 16.50% (12.65–21.52%) among urban adolescents, with 14% elevated risk in rural adolescents (RR:1. 14, 95%CI: 1.03–1.26) (Table 1). The observed rural–urban disparities were more apparent in boys, older adolescents aged 15 years and above, those boarding at school, living in a non-nuclear family, having lower parental educational attainments, and overweight or obese adolescents (Table 1). Similar patterns were observed with respect to verbal bullying victimization (Tables S1 and S2), although the overall rural–urban disparity in verbal bullying victimization was not statistically significant (RR: 1.11; 95%CI: 0.99–1.26).

Table 1. Rate of bullying victimization on campus among students with different characteristics according to different areas. Age–sex adjusted rate ratios (RR) [a] comparing rural and urban students are also indicated.

Variables	Urban		Rural		Adjusted RR (95%CI) [b]
	n (%)	Rate (95%CI)	*n* (%)	Rate (95%CI)	
Sex					
Boys	8172 (61.6)	19.11 (14.04–26.01)	5103 (38.4)	23.79 (20.42–27.72)	1.17 (1.01–1.36) *
Girls	7726 (63.8)	13.73 (9.59–19.66)	4376 (36.2)	16.13 (14.53–17.92)	1.09 (0.85–1.39)
Age group (years)					
<15	6145 (50.1)	20.03 (14.94–26.86)	6117 (49.9)	21.22 (14.34–31.39)	1.05 (0.95–1.17)
≥15	9753 (74.4)	14.27 (10.13–20.11)	3362 (25.6)	18.50 (13.15–26.02)	1.28 (1.27–1.28) ***
Boarding					
Yes	6259 (67.0)	16.46 (12.63–21.44)	3084 (33.0)	22.76 (17.64–29.37)	1.23 (1.08–1.40) **
No	9639 (60.1)	16.53 (12.45–21.95)	6395 (39.9)	19.05 (15.19–23.89)	1.09 (0.99–1.20)
Family structure					
Nuclear family	7664 (66.3)	15.75 (11.95–20.75)	3903 (33.7)	18.70 (14.16–24.71)	1.09 (0.97–1.22)
Non-nuclear family	8234 (59.6)	17.20 (13.35–22.16)	5576 (40.4)	21.34 (17.46–26.09)	1.17 (1.05–1.29) **

Table 1. *Cont.*

Variables	Urban		Rural		Adjusted RR (95%CI) [b]
	n (%)	Rate (95%CI)	*n* (%)	Rate (95%CI)	
Paternal education attainment					
Primary school or below	1175 (63.3)	20.94 (16.08–27.26)	680 (36.7)	24.12 (18.22–31.93)	1.10 (0.99–1.22)
Middle or high school	11,996 (61.5)	16.16 (12.13–21.53)	7515 (38.5)	20.29 (16.16–25.48)	1.16 (1.04–1.30) **
College or above	2727 (68.0)	16.06 (13.60–18.97)	1284 (32.0)	17.99 (13.94–23.22)	1.05 (0.91–1.21)
Maternal education attainment					
Primary school or below	2353 (61.8)	19.46 (14.44–26.23)	1457 (38.2)	25.88 (20.44–32.75)	1.26 (1.10–1.44) ***
Middle or high school	11,365 (61.9)	15.89 (12.15–20.78)	7001 (38.1)	19.41 (15.27–24.67)	1.13 (1.00–1.27)
College or above	2180 (68.1)	16.47 (13.45–20.17)	1021 (31.9)	18.02 (14.21–22.86)	1.01 (0.89–1.14)
Depression					
Yes	3008 (62.7)	34.71 (29.20–41.25)	1793 (37.3)	40.99 (34.45–48.77)	1.12 (1.11–1.13) ***
No	12,890 (62.6)	12.25 (8.33–18.00)	7686 (37.4)	15.42 (11.15–21.32)	1.12 (0.99–1.27)
Internet Addiction					
Yes	476 (70.4)	36.34 (27.73–47.64)	200 (29.6)	44.00 (40.07–48.31)	1.15 (1.04–1.27) **
No	15,422 (62.4)	15.89 (12.13–20.80)	9279 (37.6)	19.74 (15.70–24.82)	1.07 (0.78–1.48)
Overweight and Obesity					
Yes	5132 (63.2)	19.35 (16.42–22.81)	2986 (36.8)	23.95 (20.63–27.79)	1.17 (1.03–1.33) *
No	10,766 (62.4)	15.14 (11.06–20.73)	6493 (37.6)	18.56 (14.28–24.11)	1.12 (1.00–1.26) *
Total	15,898 (62.6)	16.50 (12.65–21.52)	9479 (37.4)	20.26 (16.11–25.47)	1.14 (1.03–1.26) *

[a] RR is the ratio of the rates in rural versus urban students after adjusting for age and sex. [b] * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3.1. Poly-Bullying Victimization

A total of 1651 (6.5%) adolescents experienced poly-bullying victimization, with a 23% elevated risk in rural areas than urban areas (RR: 1.23, 95%CI: 1.05–1.44) (Table 2). Similar to the bullying victimization scenario, the observed rural–urban disparities in poly-bullying victimization were also more apparent in boys, older adolescents aged 15 years and above, those not boarding at school, living in a nuclear family, and overweight or obese adolescents (Table 2).

Table 2. Rate of poly-bullying victimization on campus among students with different characteristics according to different areas. Age–sex adjusted rate ratios (RR) [a] comparing rural and urban students are also indicated.

Variables	Urban Rate (95% CI)	Rural Rate (95% CI)	Adjusted RR (95% CI) [b]
Sex			
Boys	6.95 (5.30–9.11)	9.72 (8.58–11.01)	1.33 (1.15–1.53) ***
Girls	4.61 (3.19–6.66)	5.28 (5.27–5.29)	1.07 (0.74–1.55)
Age group (years)			
<15	6.98 (4.94–9.86)	7.88 (4.25–14.61)	1.12 (0.85–1.48)
≥15	5.08 (3.27–7.88)	7.29 (4.45–11.94)	1.41 (1.32–1.50) ***
Boarding			
Yes	5.99 (4.10–8.75)	8.33 (5.95–11.67)	1.22 (0.91–1.64)
No	5.70 (4.35–7.45)	7.35 (5.21–10.36)	1.23 (1.09–1.39) **
Family structure			
Nuclear family	5.19 (3.90–6.92)	7.30 (5.08–10.50)	1.29 (1.15–1.44) ***
Non-nuclear family	6.39 (4.79–8.52)	7.93 (5.70–11.02)	1.18 (0.96–1.44)
Paternal education attainment			
Primary school or below	8.26 (5.57–12.23)	8.68 (5.69–13.24)	0.99 (0.70–1.39)
Middle or high school	5.46 (4.04–7.38)	7.65 (5.71–10.25)	1.31 (1.14–1.51) ***
College or above	6.31 (4.96–8.02)	7.24 (4.01–13.07)	1.09 (0.76–1.57)

Table 2. *Cont.*

Variables	Urban Rate (95% CI)	Rural Rate (95% CI)	Adjusted RR (95% CI) [b]
Maternal education attainment			
Primary school or below	7.35 (5.35–10.11)	9.68 (7.49–12.51)	1.26 (1.09–1.45) **
Middle or high school	5.46 (4.01–7.43)	7.40 (5.23–10.48)	1.25 (1.03–1.51) *
College or above	6.01 (4.90–7.37)	6.66 (4.17–10.63)	1.08 (0.84–1.40)
Depression			
Yes	16.79 (12.54–22.47)	19.13 (14.12–25.92)	1.06 (0.90–1.24)
No	3.25 (2.12–4.98)	5.00 (3.19–7.81)	1.37 (1.24–1.52) ***
Internet Addiction			
Yes	17.86 (12.00–26.58)	23.50 (18.37–30.06)	1.26 (1.08–1.47) **
No	5.44 (4.08–7.25)	7.33 (5.28–10.18)	1.07 (0.71–1.60)
Overweight and Obesity			
Yes	6.88 (5.54–8.54)	9.28 (7.04–12.22)	1.29 (1.05–1.59) *
No	5.30 (3.88–7.26)	6.93 (4.82–9.96)	1.20 (1.03–1.41) *
Total	5.81 (4.34–7.78)	7.67 (5.48–10.74)	1.23 (1.05–1.44) **

[a] RR is the ratio of the rates in rural versus urban students after adjusting for age and sex. [b] * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3.2. Joint Association with Internet Addiction and Depressive Symptoms

Table 3 indicated that the risk of bullying or poly-bullying victimization was more apparent in the presence of internet addiction and depressive symptoms, with a ninefold increase than that in the absence of both (RR: 9.65; 95%CI: 6.68–13.95). The RRs for bullying or poly-bullying victimization related much more strongly to having depressive symptoms than to internet addiction (Table 3). When further adjusted for internet addiction, the observed rural–urban disparities in bully and poly-bullying victimization remained large although not statistically significant among those with depressive symptoms (bullying victimization: from 1.09 (0.94–1.27) to 1.07 (0.67–1.72); poly-bullying victimization: from 1.04 (0.89–1.22) to 1.13 (0.72–1.77), whereas such rural–urban disparities almost diminished among those without depressive symptoms (bullying victimization: from 1.16 (1.03–1.30) to 0.87 (0.45–1.70); poly-bullying victimization: from 1.44 (1.23–1.68) to 0.88 (0.42–1.88).

Table 3. Rate ratios (RR) and rural–urban disparities (RUD in terms of RR) for bullying victimization and poly-bullying victimization among students in Jiangsu according to area, internet addiction and depression.

Category	RR (95%CI) [a]	RUD (95%CI) [b]
Bullying victimization		
Urban + non-internet addiction + non-depression	1.00	**1.16 (1.03–1.30)**
Rural + non-internet addiction + non-depression	**1.16 (1.03–1.30)**	
Urban + non-internet addiction + depression	**2.93 (2.59–3.31)**	1.09 (0.94–1.27)
Rural + non-internet addiction + depression	**3.20 (2.79–3.66)**	
Urban + internet addiction + non-depression	**2.21 (1.54–3.18)**	0.87 (0.45–1.70)
Rural + internet addiction + non-depression	**1.93 (1.09–3.40)**	
Urban + internet addiction + depression	**4.03 (3.00–5.41)**	1.07 (0.67–1.72)
Rural + internet addiction + depression	**4.33 (2.95–6.34)**	
Poly-bullying victimization		
Urban + non-internet addiction + non-depression	1.00	**1.44 (1.23–1.68)**
Rural + non-internet addiction + non-depression	**1.44 (1.23–1.68)**	
Urban + non-internet addiction + depression	**5.42 (4.68–6.27)**	1.04 (0.89–1.22)
Rural +non-internet addiction + depression	**5.64 (4.80–6.62)**	
Urban + internet addiction + non-depression	**3.31 (2.18–5.04)**	0.88 (0.42–1.88)
Rural + internet addiction + non-depression	**2.93 (1.53–5.58)**	
Urban + internet addiction + depression	**8.53 (6.34–11.48)**	1.13 (0.72–1.77)
Rural + internet addiction + depression	**9.65 (6.68–13.95)**	

[a] RR is the ratio of the rates in rural versus urban students after adjusting for age and sex. [b] Rate ratios of statistical significance were in bold.

4. Discussion

Based on this large population-based sample, our study was the first to examine the rural–urban differences in poly-bullying victimization among Chinese adolescents, and added to the literature novel findings concerning urban–rural differences in the rate of bullying or poly-bullying victimization in the presence of different sociodemographic and health characteristics. We found that adolescents in rural areas of Jiangsu Province are at a higher risk of being bullied than those in urban areas, and the similar pattern of rural–urban disparities was found in the scenario of poly-bullying victimization. The differences in bullying victimization between rural and urban areas among students may be attributed to factors such as socioeconomic disparities, variations in community and school environments, cultural and social norms, and limited access to resources and interventions. In addition, differences in sociodemographic and health characteristics between urban and rural areas may also be another potential reason for the disparities in bullying occurrence. These rural urban disparities were also observed in population groups with various characteristics, which was consistent with previous findings [5,33,37,38,40,56,57]. Our study further reinforced the necessity to close the gap of rural–urban disparities in bullying and poly-bullying victimization among adolescents.

Currently, various studies have indicated the consequences of internet addiction on cyberbullying victimization [58] as well as other forms of bullying victimization in Lebanese adolescents [32], Hungarian adolescents [33] and Chinese adolescents [59]. As association does not equal causation, whether internet addiction disrupts their participation in social networks thereby making these adolescents more vulnerable to be bullied, or whether these adolescents have personalities that make them more likely to play video games and are more likely to be bullied, could all become testable hypotheses. A growing body of literature highlighted the linkage between internet addiction and bullying victimization through adult attachment, deficiency in social competency, attentional bias, hyperactivity, and social isolation [34–36,60,61], and provided cues for actions. Multiple countermeasures were feasible, for example, improving coping strategies for adolescents has demonstrated its utility to reduce bullying victimization [62]. In addition, teacher-facilitated cooperative learning programs to enhance positive peer interaction through carefully structured and group-based activities at schools, have shown a reduction in bullying victimization in adolescents [63]. Moreover, cognitive behavioral skills building programs for adolescents and parents, including emotional regulation and social skills practice, were also effective in decreasing bullying victimization [64]. From the policy perspective, the National Press and Publication Administration in China has recently released the guidelines for online game companies to provide restricted services to children and adolescents, and to encourage relevant government authorities to improve supervision and inspection [65]. However, lacking appropriate school and family support responding to excess use of the internet would affect the vulnerability of bullying victimization in adolescents [66]. Collaborative efforts from families, schools, authorities, and the wider communities are expected to establish and nurture a supportive environment for adolescents vulnerable to bullying victimization.

Consistent with previous reports that internet addiction and depressive symptoms were individually associated with bullying victimization [33,37], rural adolescents in the presence of internet addiction or depressive symptoms experienced an elevated burden of bullying or poly-bullying victimization than their urban counterparts. We also found the joint contribution of internet addiction and depressive symptoms to risk of bullying or poly-bullying victimization in adolescents. However, when controlling for internet addiction, the observed rural–urban disparity disappeared among those without depressive symptoms, in sharp contrast with an increased disparity among those with depressive symptoms. On one hand, these findings highlighted the importance of integrating prevention components of internet addiction into the anti-bullying programs in rural areas, which might have been overlooked allowing for the conventional knowledge that internet addiction was more prevalent in urban adolescents than their rural counterparts [67,68]. On the other hand, the provision of mental health services would have a more paramount marginal

gains to close the rural–urban gaps of bullying and poly-bullying victimization, which unfortunately were not integrated well in the anti-bullying programs particularly in rural areas of China [69]. Despite recent investment on anti-bullying programs in schools [70], continuous efforts to overcome the accessibility limitation are warranted, for example, to establish facilities of rapid psychosocial first aids and convenient professional mental health services for individual adolescents and their parents.

School-based anti-bullying programs are one of the fundamental and effective approaches to provide a safer growing-up environment among adolescents [71–73]. However, resource constraints in rural areas may lead to deficiencies in surveillance cameras to cover school playgrounds and hidden corners, supervision patrols to cover school dormitories, school doctors and psychologists to cover unmet psychosocial needs in adolescents, and relevant anti-bullying curricula [74], which would perhaps lead to the impairment of implementation and monitoring of anti-bullying programs in rural schools. In addition, effective parent–child communication, warm and close relationships, and a high parental involvement and support would also facilitate the prevention of bullying victimization in adolescents [75–77]. However, in rural China, many parents might have left their hometowns to work in distant places, resulting in more than 61 million children being left behind [78]. Rural adolescents lacking close parental supervision and protection were more vulnerable to bullying victimization due in part to their lack of self-esteem, sense of security, or unhealthy lifestyles [66,79–81]. Furthermore, the current study indicated that rural adolescents living in a nuclear family and not boarding at school experienced a higher risk of poly-bullying victimization than their urban counterparts, which to some extent was not surprising because poly-bullying victimization was associated with paternal problematic behaviors such as excessive alcohol consumption [82]. Previous literature also indicated that rural parents were more likely to have mental disorders and problematic behaviors, and even abuse their children [22,83,84]. We speculated such a parental influence around the family environment would perhaps have severely impaired the aforementioned self-esteem and sense of security in adolescents who lived with them and therefore, become more vulnerable to poly-bullying victimization; although this has not been observed in the current study. Hence, countermeasures against bullying victimization among adolescents should be developed and reinforced largely through joint efforts from schools, families, and mental health providers.

The current study indicated that rural–urban difference of bullying victimization in adolescents increased with age. This finding had twofold implications. First, risk of bullying victimization might not be constant across age, highlighting the urgent need of bullying prevention and intervention in rural older adolescents. They might experience physical, cognitive, and emotional changes, which are more stressful during their transition to adulthood than in their early teens [85]. For example, the influence of hormonal changes would become more prominent in late teens, leading to problematic psychosocial and violent behaviors [86]. Second, rural high schools might lack anti-bullying resources, highlighting the urgent need of investment. Considering that adolescent bullying victims would have signs of psychosocial problems, it would be prudent to embed any anti-bullying components into the routine mental wellbeing program at schools and the wider communities. Although several national policy drivers, such as 'Healthy China Child and Adolescent Mental Health Initiatives, 2019–2022′ and 'National Child Development Guidelines', have set out the anti-bullying objectives and approaches, more relevant learning, teaching, and evaluation resources are expected to be invested in rural high schools in the current settings. For example, activities targeting enhanced social media boundaries would help older adolescents maintain their integrity, protect mental well-being, and stay safe online.

The current study also found rural–urban disparity of bullying victimization in overweight and obese adolescents. We speculated difference in cultural context would perhaps explain the observed difference in spite of that social stigma of being overweight and having obesity existed in rural and urban areas. Schroeder et al. (2021) indicated that rural residents would face more stigma than their urban counterparts, due in part to a

smaller-size community and lack of supportive environment in rural area [87]. Earnshaw et al. (2018) pointed out that overweight and obese youths living with socially devalued identities, characteristics, and attributes would experience frequent stigma-based bullying from their peers [88]. Allowing for the evident reduction in bullying behaviors among adolescents by improved social norms and awareness of bullying victimization [89], anti-bullying programs may consider culture sensitive components to encourage overweight and obese adolescents to talk openly about their experience and provide their peers, parents, teachers, and mental health practitioners educational guidance on addressing how to prevent stigma-based bullying and reduce levels of isolation that overweight and obese adolescents probably had encountered.

This population-based study provided the reliable evidence of the excess burden of bullying and poly-bullying victimization in adolescents from one of the populous provinces in China. Adding to the existing literature, the observed rural–urban disparities demonstrated a persistent pattern across different population groups of various characteristic groups, and related more in the presence of depressive symptoms than internet addiction, which has not been adequately discussed in previous studies. However, there were several limitations. First, the nature of a cross-sectional design restricted our ability from determining the causal-effect relationships between any potential influencing factors and bullying victimization, which warranted the interpretation of current findings with care when making inferences. Furthermore, as a cross-sectional study, the current research is vulnerable to potential reverse causation that is prevalent in internet addiction and technology research [90]. Second, the current study used self-reported questionnaire, which might result in recall bias. Nevertheless, we used the validated survey instruments and further evaluated the reliability of these measures, and hence our findings were somewhat robust in the current settings. Third, bullying victims might not be willing to reveal their experiences, therefore the estimates of corresponding prevalence rates could be underestimated. Assuming such misclassification would be perhaps non-differential across rural or urban adolescents, the estimates of rural–urban disparities might be biased towards null. Fourth, the cyber bullying data were not available, and hence results should be interpreted with caution. Although a very high degree of overlap for cyber and physical bullying was observed with the incremental negative impacts of additional cyber bullying on children being negligible [91], long term effects in future adulthood should not be ignored. Fifth, self-esteems and other person-centered factors were not collected in the present study, which prevented us from further investigation of the observed rural–urban disparities. Anti-bullying programs with better targeting should comprehend the psychosocial needs from the bullying victims in favor of provision and delivery of aids that matter to these adolescents. Sixth, it is important to note that the participants included in this study were solely from Jiangsu province, which may not be representative of all adolescents in China, so that there might be certain regional and cultural biases. In addition, our measurements for key variables (such as bullying victimization, depression, and internet addiction) were in line with the adapted Chinese versions of the conventional survey instruments employed in the previous literature [46,49,51]. Although these tools have already been used and validated in Chinese population, they were not the original English versions, and their validity or reliability could still vary due to social, cultural and linguistic differences. The use of such indicators may thus not be entirely sufficient to fully prove the reliability of its current version being used. Therefore, the results must be taken with caution. Last but not the least, there is a huge population of left-behind children in China; however, we were unable to quantify how many left-behind rural adolescents were included in the current study. While left-behind children and adolescents in rural China were at high risk of bullying victimization [92], shared responsibilities involving families, schools, authorities, and the wider communities to strength legal framework, build professional capacity, and provide appropriate care, should be reinforced.

5. Conclusions

Our findings provided insights into identification of priority groups that warrant further targeted research and prevention. The anti-bullying strategies to close the rural–urban disparities should include some practical aspects on reduction in excess internet use and provision of mental health support for adolescents.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/future2010001/s1, Table S1. Rate of verbal bullying victimization on campus among students with different characteristics according to different areas. Age–sex adjusted rate ratios (RR)[a] comparing rural and urban students are also indicated; Table S2. Rate ratios (RR) and rural–urban disparities (RUD in terms of RR) for verbal bullying victimization and among students in Jiangsu according to area, internet addiction and depression.

Author Contributions: Conceptualization, W.D., L.F. and J.Y.; funding acquisition, W.D. and L.F. investigation, X.Z.; supervision, W.D., L.F. and J.Y.; validation, F.H., Y.W., H.X. and Y.T.; writing—original draft, F.H. and Y.W.; writing—review and editing, F.H., Y.W., H.X., X.Z., Y.T., W.D., L.F. and J.Y. All authors have read and agreed to the published version of the manuscript.

Funding: This study was supported by the National Social Science Foundation of China (Grant no. 23CGL072), the Ministry of Science and Technology (Grant no. G2023141005L), the Ministry of Education (Grant no. 1125000172), the Fundamental Research Funds for the Central Universities (Grant no. 3225002002A1), and the Jiangsu Provincial Department of Science and Technology.

Institutional Review Board Statement: This project was approved by the Institutional Review Board of the Ethics Committee of the Jiangsu Provincial Center for Disease Control and Prevention. There is no ethic code for the approval. Reasons can be listed as follows: our study had no patients, did not involve the extraction of biological materials such as blood, pleural effusion, and cerebrospinal fluid (CSF) sampling, and had no experimental design. Next, this is our daily monitoring task to ensure students' health (Specific content could be acquired by landing on the URL: http://www.moe.gov.cn/jyb_xxgk/gk_gbgg/moe_0/moe_8/moe_25/tnull_285.html, accessed on 1 November 2022).

Informed Consent Statement: Written informed consent was obtained from all participants and/or their guardians.

Data Availability Statement: All relevant data are shown within the manuscript, but original datasets cannot be shared because of involving students' personal privacy.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Craig, W.; Harel-Fisch, Y.; Fogel-Grinvald, H.; Dostaler, S.; Hetland, J.; Simons-Morton, B.; Molcho, M.; De Mato, M.G.; Overpeck, M.; Due, P.; et al. A cross-national profile of bullying and victimization among adolescents in 40 countries. *Int. J. Public Health* **2009**, *54* (Suppl. S2), 216–224. [CrossRef] [PubMed]
2. Gini, G.; Pozzoli, T. Association between bullying and psychosomatic problems: A meta-analysis. *Pediatrics* **2009**, *123*, 1059–1065. [CrossRef] [PubMed]
3. Kochel, K.P.; Ladd, G.W.; Rudolph, K.D. Longitudinal associations among youth depressive symptoms, peer victimization, and low peer acceptance: An interpersonal process perspective. *Child. Dev.* **2012**, *83*, 637–650. [CrossRef] [PubMed]
4. O'Reilly, L.M.; Pettersson, E.; Quinn, P.D.; Klonsky, E.D.; Baldwin, J.R.; Lundström, S.; Larsson, H.; Lichtenstein, P.; D'Onofrio, B.M. A Co-Twin Control Study of the Association between Bullying Victimization and Self-Harm and Suicide Attempt in Adolescence. *J. Adolesc. Health* **2021**, *69*, 272–279. [CrossRef] [PubMed]
5. Zhang, H.; Zhou, H.; Cao, R. Bullying Victimization among Left-Behind Children in Rural China: Prevalence and Associated Risk Factors. *J. Interpers. Violence* **2021**, *36*, Np8414–Np8430. [CrossRef] [PubMed]
6. UNESCO. School Violence and Bullying: Global Status and Trends, Drivers and Consequences. 2018. Available online: http://wizney.com/hbscengland/wp-content/uploads/2018/11/UNESCO-2018.pdf (accessed on 20 October 2022).
7. Richardson, D.; Hiu, C.F. Developing a Global Indicator on Bullying of School-Aged Children. Innocenti Working Papers. 2018. Available online: https://www.unicef-irc.org/publications/pdf/WP%202018-11.pdf (accessed on 20 October 2022).
8. National Center for Educational Statistics. Student Reports of Bullying: Results from the 2017 School Crime Supplement to the National Victimization Survey. *US Department of Education*. 2019. Available online: https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015056 (accessed on 20 October 2022).

9. Freeman, J.G.; King, M.; William Pickett WITH Wendy Craig; Elgar, F.; Janssen, I.; Klinger, D. The Health of Canada's Young People: A Mental Health Focus. 2011. Available online: https://www.canada.ca/en/public-health/services/health-promotion/childhood-adolescence/publications/health-canada-young-people-mental-health-focus.html (accessed on 25 January 2023).
10. Zhang, H.; Zhou, H.; Tao, T. Bullying Behaviors and Psychosocial Adjustment among School-Aged Children in China. *J. Interpers. Violence* **2019**, *34*, 2363–2375. [CrossRef]
11. Rana, M.; Gupta, M.; Malhi, P.; Grover, S.; Kaur, M. Prevalence and correlates of bullying perpetration and victimization among school-going adolescents in Chandigarh, North India. *Indian J. Psychiatry* **2020**, *62*, 531–539. [CrossRef]
12. Shawki, B.; Al-Hadithi, T.; Shabila, N. Association of bullying behaviour with smoking, alcohol use and drug use among school students in Erbil City, Iraq. *East. Mediterr. Health J.* **2021**, *27*, 483–490. [CrossRef]
13. Ngo, A.T.; Nguyen, L.H.; Dang, A.K.; Hoang, M.T.; Nguyen, T.H.T.; Vu, G.T.; Do, H.T.; Tran, B.X.; Latkin, C.A.; Ho, R.C.M.; et al. Bullying experience in urban adolescents: Prevalence and correlations with health-related quality of life and psychological issues. *PLoS ONE* **2021**, *16*, e0252459. [CrossRef]
14. Pengpid, S.; Peltzer, K. Bullying and its associated factors among school-aged adolescents in Thailand. *Sci. World J.* **2013**, *2013*, 254083. [CrossRef]
15. Leadbeater, B.J.; Sukhawathanakul, P.; Smith, A.; Thompson, R.S.Y.; Gladstone, E.J.; Sklar, N. Bullying and Victimization in Rural Schools: Risks, Reasons, and Responses. *J. Rural Community Dev.* **2013**, *8*, 31–47.
16. Wang, H.; Bragg, F.; Guan, Y.; Zhong, J.; Li, N.; Yu, M. Association of bullying victimization with suicidal ideation and suicide attempt among school students: A school-based study in Zhejiang Province, China. *J. Affect. Disord.* **2023**, *323*, 361–367. [CrossRef] [PubMed]
17. Zhu, Y.; Chan, K.L. Prevalence and Correlates of School Bullying Victimization in Xi'an, China. *Violence Vict.* **2015**, *30*, 714–732. [CrossRef] [PubMed]
18. Nguyen, A.J.; Bradshaw, C.; Townsend, L.; Bass, J. Prevalence and Correlates of Bullying Victimization in Four Low-Resource Countries. *J. Interpers. Violence* **2020**, *35*, 3767–3790. [CrossRef] [PubMed]
19. Garmy, P.; Vilhjálmsson, R.; Kristjánsdóttir, G. Bullying in School-aged Children in Iceland: A Cross-sectional Study. *J. Pediatr. Nurs.* **2018**, *38*, e30–e34. [CrossRef] [PubMed]
20. Zaborskis, A.; Cirtautiene, L.; Zemaitiene, N. Bullying in Lithuanian schools in 1994–2002. *Medicina* **2005**, *41*, 614–620.
21. Yu, G.; Li, T.; Wang, Q. An investigation into mental health education at schools in central China. *Chin. J. Spec. Educ.* **2015**, *4*, 70–75. [CrossRef]
22. Crouch, E.; Radcliff, E.; Probst, J.C.; Bennett, K.J.; McKinney, S.H. Rural-Urban Differences in Adverse Childhood Experiences Across a National Sample of Children. *J. Rural Health* **2020**, *36*, 55–64. [CrossRef]
23. Wang, L.; Cheng, H.; Qu, Y.; Zhang, Y.; Cui, Q.; Zou, H. The prevalence of child maltreatment among Chinese primary and middle school students: A systematic review and meta-analysis. *Soc. Psychiatry Psychiatr. Epidemiol.* **2020**, *55*, 1105–1119. [CrossRef]
24. Yang, Y.; Zheng, C.; Xie, M.; Yuan, S.; Zeng, Y.; Zhou, M.; Huang, S.; Zhu, Y.; Ye, X.; Zou, Z.; et al. Bullying Victimization and Life Satisfaction among Rural Left-Behind Children in China: A Cross-Sectional Study. *Front. Pediatr.* **2021**, *9*, 671543. [CrossRef]
25. Wang, Y. A positive research on the legal service in the countryside. *LawSoc. Dev.* **2006**, *3*, 3–34.
26. Choo, W.-Y.; Dunne, M.P.; Marret, M.J.; Fleming, M.; Wong, Y.-L. Victimization experiences of adolescents in Malaysia. *J. Adolesc. Health* **2011**, *49*, 627–634. [CrossRef] [PubMed]
27. Fernández-Antelo, I.; Cuadrado-Gordillo, I. Moral Disengagement as an Explanatory Factor of the Polyivictimization of Bullying and Cyberbullying. *Int. J. Environ. Res. Public Health* **2019**, *16*, 2414. [CrossRef] [PubMed]
28. Fujikawa, S.; Mundy, L.K.; Canterford, L.; Moreno-Betancur, M.; Patton, G.C. Bullying Across Late Childhood and Early Adolescence: A Prospective Cohort of Students Assessed Annually from Grades 3 to 8. *Acad. Pediatr.* **2021**, *21*, 344–351. [CrossRef] [PubMed]
29. Hu, H.; Zhu, X.; Jiang, H.; Li, Y.; Jiang, H.; Zheng, P.; Zhang, C.; Shang, J. The association and mediating mechanism between poverty and poly-victimization of left-behind children in rural China. *Child. Youth Serv. Rev.* **2018**, *91*, 22–29. [CrossRef]
30. Michael, K.; Jameson, J.P. *Handbook of Rural School Mental Health*; Springer: New York, NY, USA, 2017.
31. Blinka, L.; Stašek, A.; Šablatúrová, N.; Ševčíková, A.; Husarova, D. Adolescents' problematic internet and smartphone use in (cyber)bullying experiences: A network analysis. *Child Adolesc. Ment. Health* **2023**, *28*, 60–66. [CrossRef] [PubMed]
32. Malaeb, D.; Awad, E.; Haddad, C.; Salameh, P.; Sacre, H.; Akel, M.; Soufia, M.; Hallit, R.; Obeid, S.; Hallit, S. Bullying victimization among Lebanese adolescents: The role of child abuse, Internet addiction, social phobia and depression and validation of the Illinois Bully Scale. *BMC Pediatr.* **2020**, *20*, 520. [CrossRef]
33. Zsila, Á.; Orosz, G.; Király, O.; Urbán, R.; Ujhelyi, A.; Jármi, É.; Griffiths, M.D.; Elekes, Z.; Demetrovics, Z. Psychoactive Substance Use and Problematic Internet Use as Predictors of Bullying and Cyberbullying Victimization. *Int. J. Ment. Health Addict.* **2018**, *16*, 466–479. [CrossRef]
34. Kumar, N.; Kumar, N.; Kumar, A.; Mahto, S.K.; Kandpal, M.; Deshpande, S.N.; Tanwar, P. Prevalence of excessive internet use and its correlation with associated psychopathology in 11th and 12th grade students. *Gen. Psychiatry* **2019**, *32*, e100001. [CrossRef]
35. Li, X.; Luo, X.; Zheng, R.; Jin, X.; Mei, L.; Xie, X.; Gu, H.; Hou, F.; Liu, L.; Luo, X.; et al. The role of depressive symptoms, anxiety symptoms, and school functioning in the association between peer victimization and internet addiction: A moderated mediation model. *J. Affect. Disord.* **2019**, *256*, 125–131. [CrossRef]

36. Xiao, W.; Peng, J.; Liao, S. Exploring the Associations between Social Media Addiction and Depression: Attentional Bias as a Mediator and Socio-Emotional Competence as a Moderator. *Int. J. Environ. Res. Public Health* **2022**, *19*, 13496. [CrossRef] [PubMed]
37. Yang, P.; Zhao, S.; Li, D.; Ma, Y.; Liu, J.; Chen, X.; French, D. Bullying victimization and depressive symptoms in Chinese adolescents: A moderated mediation model of self-esteem and friendship intimacy. *J. Affect. Disord.* **2022**, *319*, 48–56. [CrossRef] [PubMed]
38. Yeager, D.S.; Fong, C.J.; Lee, H.Y.; Espelage, D.L. Declines in efficacy of anti-bullying programs among older adolescents: Theory and a three-level meta-analysis. *J. Appl. Dev. Psychol.* **2015**, *37*, 36–51. [CrossRef]
39. Xing, J.; Leng, L.; Ho, R.T. Boarding school attendance and mental health among Chinese adolescents: The potential role of alienation from parents. *Child. Youth Serv. Rev.* **2021**, *127*, 106074. [CrossRef]
40. Pont, S.J.; Puhl, R.; Cook, S.R.; Slusser, W. Section on obesity, & obesity society Stigma Experienced by Children and Adolescents with Obesity. *Pediatrics* **2017**, *140*, e20173034. [CrossRef] [PubMed]
41. Kapus, K.; Nyulas, R.; Nemeskeri, Z.; Zadori, I.; Muity, G.; Kiss, J.; Feher, A.; Fejes, E.; Tibold, A.; Feher, G. Prevalence and Risk Factors of Internet Addiction among Hungarian High School Students. *Int. J. Environ. Res. Public Health* **2021**, *18*, 6989. [CrossRef] [PubMed]
42. Hayat, A.A.; Kojuri, J.; Amini, M. Academic procrastination of medical students: The role of Internet addiction. *J. Adv. Med. Educ. Prof.* **2020**, *8*, 83–89. [CrossRef] [PubMed]
43. Bozkurt, H.; Özer, S.; Şahin, S.; Sönmezgöz, E. Internet use patterns and Internet addiction in children and adolescents with obesity. *Pediatr. Obes.* **2018**, *13*, 301–306. [CrossRef]
44. Wang, S.; Sun, Q.; Zhai, L.; Bai, Y.; Wei, W.; Jia, L. The Prevalence of Depression and Anxiety Symptoms among Overweight/Obese and Non-Overweight/Non-Obese Children/Adolescents in China: A Systematic Review and Meta-Analysis. *Int. J. Environ. Res. Public Health* **2019**, *16*, 340. [CrossRef]
45. Chen, S.; Zhang, X.; Du, W.; Fan, L.; Zhang, F. Association of insufficient sleep and skipping breakfast with overweight/obesity in children and adolescents: Findings from a cross-sectional provincial surveillance project in Jiangsu. *Pediatr. Obes.* **2022**, *17*, e12950. [CrossRef]
46. Chang PENG, Xiao-qun LIU, Meng-si YANG Reliability and validity of Olweus Bully/Victim Questionnaire-Chinese version for sibling bullying. *Chin. J. Public Health* **2020**, *36*, 381–384. [CrossRef]
47. Zhang, B. Four Type of School Bullying in Primary and Middle Schools and Related Factors. *J. Educ. Stud.* **2020**, *16*, 70–79. [CrossRef]
48. Radloff, L.S. The CES-D Scale: A Self-Report Depression Scale for Research in the General Population. *Appl. Psychol. Meas.* **1977**, *1*, 385–401. [CrossRef]
49. Jiang, L.; Wang, Y.; Zhang, Y.; Li, R.; Wu, H.; Li, C.; Wu, Y.; Tao, Q. The Reliability and Validity of the Center for Epidemiologic Studies Depression Scale (CES-D) for Chinese University Students. *Front. Psychiatry* **2019**, *10*, 315. [CrossRef] [PubMed]
50. Sun, X.Y.; Li, Y.X.; Yu, C.Q.; Li, L.M. Reliability and validity of depression scales of Chinese version: A systematic review. *Zhonghua Liu Xing Bing Xue Za Zhi* **2017**, *38*, 110–116. [CrossRef]
51. Shek, D.T.L.; Tang, V.M.Y.; Lo, C.Y. Internet addiction in Chinese adolescents in Hong Kong: Assessment, profiles, and psychosocial correlates. *Sci. World J.* **2008**, *8*, 776–787. [CrossRef]
52. National Bureau of Statistics. Provisional Regulations on Statistical Classification of Urban and Rural Areas. 2018. Available online: http://www.stats.gov.cn/xxgk/tjbz/gjtjbz/201310/t20131031_1758903.html (accessed on 20 October 2022).
53. Moon, S.S.; Kim, H.; Seay, K.; Small, E.; Kim, Y.K. Ecological Factors of Being Bullied among Adolescents: A Classification and Regression Tree Approach. *Child Indic. Res.* **2016**, *9*, 743–756. [CrossRef]
54. Ji, C.; Ma, G.; Zhang, L.; Chen, T.; Ma, J.; Li, Y.; Zhang, Y.; Du, S.; Zhu, G.; Ji, H. Screening for Overweight and Obesity among School-Age Children and Adolescents (WS/T 586-2018). 2018. Available online: http://www.nhc.gov.cn/ewebeditor/uploadfile/2018/03/20180330094031236.pdf (accessed on 20 May 2022).
55. Zelterman, D. *Advanced Log-Linear Models Using SAS®*; SAS Institute: Cary, NC, USA, 2002.
56. Kavanagh, A.; Priest, N.; Emerson, E.; Milner, A.; King, T. Gender, parental education, and experiences of bullying victimization by Australian adolescents with and without a disability. *Child. Care Health Dev.* **2018**, *44*, 332–341. [CrossRef]
57. Turner, H.A.; Finkelhor, D.; Hamby, S.L.; Shattuck, A. Family structure, victimization, and child mental health in a nationally representative sample. *Soc. Sci. Med.* **2013**, *87*, 39–51. [CrossRef]
58. Vessey, J.A.; Difazio, R.L.; Neil, L.K.; Dorste, A. Is There a Relationship between Youth Bullying and Internet Addiction? An Integrative Review. *Int. J. Ment. Health Addict.* **2022**, *21*, 2450–2474. [CrossRef]
59. She, Y.; Yang, Z.; Xu, L.; Li, L. The association between violent video game exposure and sub-types of school bullying in Chinese adolescents. *Front. Psychiatry* **2022**, *13*, 1026625. [CrossRef] [PubMed]
60. Guo, J.; Zhu, Y.; Fang, L.; Zhang, B.; Liu, D.; Fu, M.; Wang, X. The Relationship between Being Bullied and Addictive Internet Use among Chinese Rural Adolescents: The Mediating Effect of Adult Attachment. *J. Interpers. Violence* **2022**, *37*, NP6466–NP6486. [CrossRef] [PubMed]
61. Kochel, K.P.; Rafferty, D. Prospective associations between children's depressive symptoms and peer victimization: The role of social helplessness. *Br. J. Dev. Psychol.* **2020**, *38*, 15–30. [CrossRef] [PubMed]

62. Sapouna, M.; Wolke, D.; Vannini, N.; Watson, S.; Woods, S.; Schneider, W.; Enz, S.; Hall, L.; Paiva, A.; André, E.; et al. Virtual learning intervention to reduce bullying victimization in primary school: A controlled trial. *J. Child. Psychol. Psychiatry* **2010**, *51*, 104–112. [CrossRef] [PubMed]
63. Van Ryzin, M.J.; Roseth, C.J. Cooperative Learning in Middle School: A Means to Improve Peer Relations and Reduce Victimization, Bullying, and Related Outcomes. *J. Educ. Psychol.* **2018**, *110*, 1192–1201. [CrossRef] [PubMed]
64. Hutson, E.; Mazurek Melnyk, B. An Adaptation of the COPE Intervention for Adolescent Bullying Victimization Improved Mental and Physical Health Symptoms. *J. Am. Psychiatr. Nurses Assoc.* **2022**, *28*, 433–443. [CrossRef] [PubMed]
65. National Press and Publication Administration. Notice of the National Press and Publication Administration on Further Strict Management and Practically Preventing Minors from Indulging in Online Games. 2021. Available online: http://www.gov.cn/zhengce/zhengceku/2021-09/01/content_5634661.htm (accessed on 14 January 2023).
66. Cai, J.; Wang, Y.; Wang, F.; Lu, J.; Li, L.; Zhou, X. The Association of Parent-Child Communication with Internet Addiction in Left-Behind Children in China: A Cross-Sectional Study. *Int. J. Public Health* **2021**, *66*, 630700. [CrossRef] [PubMed]
67. Sowndarya, T.A.; Pattar, M. Pattern of internet addiction among urban and rural school students, Mangaluru, India: A comparative cross-sectional study. *Int. J. Contemp. Pediatr.* **2018**, *5*, 10–18203. [CrossRef]
68. Dhawan, V.; Kang, T.; Sharma, S. Pattern of internet addiction among rural and urban adolescents. *Indian J. Health Wellbeing* **2021**, *11*, 508–514.
69. Peng, Z.; Li, L.; Su, X.; Lu, Y. A pilot intervention study on bullying prevention among junior high school students in Shantou, China. *BMC Public Health* **2022**, *22*, 262. [CrossRef]
70. The State Council. National Program of Action for Child Development in China (2021–2030). 2018. Available online: http://www.gov.cn/zhengce/content/2021-09/27/content_5639412.htm (accessed on 6 November 2022).
71. Smith, J.D.; Schneider, B.H.; Smith, P.K.; Ananiadou, K. The Effectiveness of Whole-School Antibullying Programs: A Synthesis of Evaluation Research. *Sch. Psychol. Rev.* **2004**, *33*, 547–560. [CrossRef]
72. Smith, P. School-based interventions to address bullying. *Eest. Haridusteaduste Ajakiri Est. J. Educ.* **2016**, *4*, 142. [CrossRef]
73. Vreeman, R.C.; Carroll, A.E. A systematic review of school-based interventions to prevent bullying. *Arch. Pediatr. Adolesc. Med.* **2007**, *161*, 78–88. [CrossRef] [PubMed]
74. Midgett, A.; Doumas, D.M.; Myers, V.H.; Moody, S.; Doud, A. Technology-Based Bullying Intervention for Rural Schools: Perspectives on Needs, Challenges, and Design. *Rural Ment. Health* **2021**, *45*, 14–30. [CrossRef] [PubMed]
75. Bowes, L.; Maughan, B.; Caspi, A.; Moffitt, T.E.; Arseneault, L. Families promote emotional and behavioural resilience to bullying: Evidence of an environmental effect. *J. Child. Psychol. Psychiatry* **2010**, *51*, 809–817. [CrossRef] [PubMed]
76. Georgiou, S.; Stavrinides, P. Parenting at home and bullying at school. *Soc. Psychol. Educ.* **2013**, *16*, 165–179. [CrossRef]
77. Lereya, S.T.; Samara, M.; Wolke, D. Parenting behavior and the risk of becoming a victim and a bully/victim: A meta-analysis study. *Child. Abuse Negl.* **2013**, *37*, 1091–1108. [CrossRef] [PubMed]
78. All-China Women's Federation. Research report on the situation of rural left-behind China, rural-urban migration children in China. *Chin. Women's Mov.* **2013**, *6*, 30–34.
79. Chilcoat, H.D.; Dishion, T.J.; Anthony, J.C. Parent monitoring and the incidence of drug sampling in urban elementary school children. *Am. J. Epidemiol.* **1995**, *141*, 25–31. [CrossRef]
80. Liang, K.; Chen, S.; Chi, X. Care Their Diet and Mind: Association between Eating Habits and Mental Health in Chinese Left-behind Children. *Nutrients* **2022**, *14*, 524. [CrossRef]
81. Yu, B.L.; Li, J.; Liu, W.; Huang, S.H.; Cao, X.J. The Effect of Left-Behind Experience and Self-Esteem on Aggressive Behavior in Young Adults in China: A Cross-Sectional Study. *J. Interpers. Violence* **2022**, *37*, 1049–1075. [CrossRef] [PubMed]
82. Meng, Y.; Yang, Y.; Lin, P.; Xiao, Y.; Sun, Y.; Qian, Y.; Gu, J.; Fei, G.; Sun, Q.; Jiang, X.; et al. School Bullying Victimization and Associated Factors among School-Aged Adolescents in China. *J. Interpers. Violence* **2023**, *38*, NP1787–NP1814. [CrossRef] [PubMed]
83. Chan, G.C.K.; Leung, J.; Quinn, C.; Kelly, A.B.; Connor, J.P.; Weier, M.; Hall, W.D. Rural and Urban Differences in Adolescent Alcohol Use, Alcohol Supply, and Parental Drinking. *J. Rural Health* **2016**, *32*, 280–286. [CrossRef] [PubMed]
84. Zhang, L.; Mersky, J.P.; Topitzes, J. Adverse childhood experiences and psychological well-being in a rural sample of Chinese young adults. *Child. Abuse Negl.* **2020**, *108*, 104658. [CrossRef] [PubMed]
85. Park, S.; Jang, H.; Lee, E.-S. Major Stressors among Korean Adolescents According to Gender, Educational Level, Residential Area, and Socioeconomic Status. *Int. J. Environ. Res. Public Health* **2018**, *15*, 2080. [CrossRef] [PubMed]
86. Rudolph, K.D.; Monti, J.D.; Modi, H.; Sze, W.Y.; Troop-Gordon, W. Protecting Youth Against the Adverse Effects of Peer Victimization: Why Do Parents Matter? *J. Abnorm. Child Psychol.* **2020**, *48*, 163–176. [CrossRef] [PubMed]
87. Schroeder, S.; Tan, C.M.; Urlacher, B.; Heitkamp, T. The Role of Rural and Urban Geography and Gender in Community Stigma Around Mental Illness. *Health Educ. Behav. Off. Publ. Soc. Public Health Educ.* **2021**, *48*, 63–73. [CrossRef]
88. Earnshaw, V.A.; Reisner, S.L.; Menino, D.D.; Poteat, V.P.; Bogart, L.M.; Barnes, T.N.; Schuster, M.A. Stigma-Based Bullying Interventions: A Systematic Review. *Dev. Rev.* **2018**, *48*, 178–200. [CrossRef]
89. Naidoo, S.; Satorius, B.K.; de Vries, H.; Taylor, M. Verbal Bullying Changes among Students Following an Educational Intervention Using the Integrated Model for Behavior Change. *J. Sch. Health* **2016**, *86*, 813–822. [CrossRef]
90. Hartanto, A.; Quek, F.Y.X.; Tng, G.Y.Q.; Yong, J.C. Does Social Media Use Increase Depressive Symptoms? A Reverse Causation Perspective. *Front. Psychiatry* **2021**, *12*, 641934. [CrossRef]

91. Olweus, D. Cyberbullying: An overrated phenomenon? *Eur. J. Dev. Psychol.* **2012**, *9*, 520–538. [CrossRef]
92. Zhang, H.; Chi, P.; Long, H.; Ren, X. Bullying victimization and depression among left-behind children in rural China: Roles of self-compassion and hope. *Child. Abuse Negl.* **2019**, *96*, 104072. [CrossRef] [PubMed]