

Obesity and Bullying: Weighing the Issues

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INTRODUCTION

- Bullying has been conceptualized as a subset of aggression with frequent world-wide occurrence (Gianluca, 2004; Beatriz et al., 2004).

- Incidence rates of bullying in the U.S. range between 8.4% (Nansel et al., 2001) to 20% (Limber et al., 2000) of students reporting being victimized several times per week.

- Investigations have found that involvement in bullying is related to negative psychological outcomes. Research suggests that victims experience internalizing problems (Swearer et al., 2001; Craig et al., 1998), high rates of depression (Biggam & Power, 1999; Kaltiala-Heino et al., 2000) and both physical and mental distress (Rigby, 1999; Juvonen & Graham, 2001). Bullies have also reported high rates of depression and suicidal behavior (Kaltiala-Heino et al., 1999).

- Although bullying has occurred for decades, empirical investigations have only begun to explore risk factors predictive of engagement in and psychological sequelae of bullying.

- One factor that has received little attention in the literature is the relationship between obesity and bullying.

- A recent study conducted in Canada found that overweight and obese school-age children are more likely to be victims and bullies than their normal-weight peers (Janssen et al. 2004). Empirical evidence also suggests that students who are teased about their weight are more likely to develop poor body image (Womble et al., 2001; Lieberman et al., 2001), eating disorders (Neumark-Sztainer et al., 2002; Jackson et al., 2002), and low self-esteem (Young-Hyman et al., 2003 & Gleason et al., 2000).

- Given the association between negative psychological outcomes and bullying, and the increased likelihood that overweight students may be involved in bullying, it is important to further examine additional contributing factors within relationship.

- This study sought to answer the following questions: 1) Are overweight children more likely to be involved in bullying than normal-weight peers? 2) What types of bullying do overweight students engage in or become victims of? 3) What are the reasons that overweight students bully or become victims? and 4) Is there an association between weight, bullying and self-reports of anxiety and depression?

METHODS

Participants

- Data were collected from sixth-, seventh-, eighth-, and ninth-grade students at three Midwestern middle schools.

- Active parental consent and youth assents were obtained for each participant in the study.

- 469 (204 male and 265 female) students participated in the study. The participants consisted of 35 sixth-graders, 189 seventh-graders, 151 eighth-graders, and 94 ninth-graders.

- Ages ranged from 11-13 years old ($M = 11.74$; $SD = .51$) for the sixth-grade participants; 11-14 years old ($M = 12.58$; $SD = .52$) for the seventh-grade participants; 13-15 years old ($M = 13.57$; $SD = .54$) for the eighth-grade participants, and 13-15 years old ($M = 14.44$; $SD = .52$) for the ninth-grade participants.

- Participants were grouped according to status (i.e., bully, bully-victim, victim, bystander or no status) based on their responses on the Bully Survey (Swearer, 2001). Bully/victim status distribution for the 469 students who participated was: 7% bullies ($n = 35$), 35% victims ($n = 162$), 24% bully-victims ($n = 113$), 22% bystanders ($n = 105$), and 12% no status (i.e., don't endorse bullying or victimization; $n = 54$). See Figure 1.

- An integrity check of the status groups was conducted in order to validate participants' status as reported on the Bully Survey. Office referral data were examined across the five status groups. Students in the three schools received office referrals for insubordination, violation of school rules, physical aggression, and verbal aggression. Bullies showed higher numbers of office referrals ($M = 1.58$; $SD = 3.49$) compared to victims ($M = .72$; $SD = 2.36$).

- Racial distribution for the 469 students who participated was: 83.6% Caucasian, 4.7% African-American, 3.8% Asian, 3.8% Biracial, 1.9% Latino(a), 1.1% Native American, 0.6% Middle Eastern and 0.4% Eastern European.

- Participants were grouped according to BMI based on their height and weight. Weight class distribution was: 3.5% underweight ($n = 16$), 63.3% ideal weight ($n = 286$), 14.4% at risk for being overweight ($n = 60$), and 18.8% overweight ($n = 85$).

Measures

- Body Mass Index (BMI).** Students were categorized according to their Body Mass Index percentile as: a) underweight b) ideal weight c) at risk for overweight and d) overweight. BMI classifications were calculated according to National Center for Health Statistics (2000).

- The Children's Depression Inventory (CDI)** Kovacs, 1992, 2002 is the most commonly used self-report measure of depression for children 7 to 17 years of age. The CDI consists of 27 items designed to assess the overt symptoms of childhood depression. Participants are asked to rate the severity of each item on a three-point scale of 0 to 2 during the two weeks prior to testing. Total scores of 19 or greater are considered to indicate potential depression (Stark, 1990). The CDI has demonstrated acceptable internal consistency and test-retest reliability as well as convergent validity (Kovacs, 1992). In the present study, the internal consistency reliability using coefficient alpha was .87 for the total score.

- The Bully Survey-Student Version (BYS-S)** Swearer, 2001, is a four part survey that queries students regarding their experiences with bullying, perceptions of bullying, and attitudes toward bullying. Bullying is defined as: "Anything from teasing, saying mean things, or leaving someone out of a group to physical attacks (hitting, pushing, kicking) where one person or a group of people picks on another person over a long time. Bullying refers to things that happen in school but can also include things that happen on the school grounds or going to and from school." In part A, students answer questions about when they were victims of bullying during the past year. Part B of the survey addresses questions about the participants' observations of bullying behavior among their peers during the past year (bystander). Part C requests information from the participants about when they have bullied other students.

- The Multidimensional Anxiety Scale for Children (MASC)** March, 1997, is a self-report measure used to assess dimensions of anxiety in children ages 8 to 19. Individuals are asked to rate the severity of each item based upon a four-point Likert scale. T-scores greater than 65 differentiate youth with an anxiety disorder diagnosis from youth without an anxiety disorder diagnosis (March, 1997). The MASC has demonstrated acceptable internal consistency reliability for all main factors and subsactors, including a total score coefficient alpha of .90 (March, Parker, Sullivan, Stallings, & Conners, 1997). Additionally, the MASC has demonstrated satisfactory to excellent test-retest reliability (March, Sullivan, & Parker, 1999). In the present study, the internal consistency reliability using Cronbach's alpha was .92 for the total score.

RESULTS

- A contingency table analysis was performed to examine weight by bully/victim status. An odds ratio comparing average weight victims to overweight victims indicated that overweight victims were 3.1 times more likely to be victimized than average weight victims ($p < .05$; 95% CI = 1.05-7.02).

- A contingency table analysis comparing average weight youth to overweight youth revealed that average weight youth were 2.15 times more likely to engage in bullying behavior compared to overweight youth ($p > .05$; 95% CI = .74 - 6.23).

- Descriptive analyses revealed that overweight victims ($n = 31$) reported to be victimized by means of direct verbal aggression such as name calling (47%, $n = 14$) or being made fun of (50%, $n = 15$).

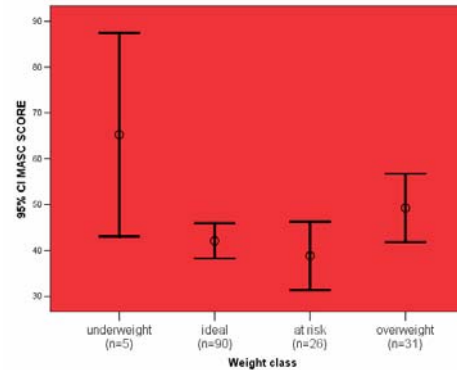
- The most frequent reasons for victimization that overweight victims (total $n = 31$) identified include: 88% "they think I'm fat" ($n = 27$), 59% "because of the clothes I wear" ($n = 18$), and 55% "they think I'm a wimp" ($n = 17$).

- Of the overweight victims (total $n = 31$), 73% identified the hallway ($n = 22$), 42% reported the gym ($n = 13$) and 39% reported after school ($n = 12$) as being the places they most often encountered bullying.

- Gender differences were found in overweight victims of bullying. An independent samples T-test revealed that overweight, female victims were significantly more anxious ($M = 49.87$, $SD = 21.43$) than overweight male victims ($M = 38.57$, $SD = 18.16$), $t(58) = 2.203$, $p < .05$.

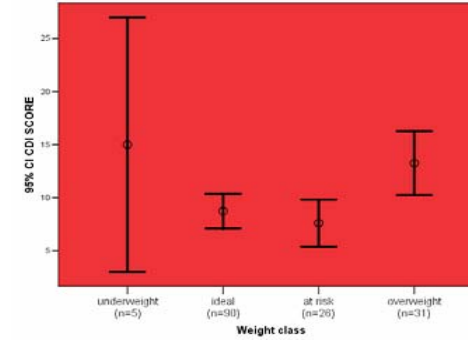
- An independent samples T-test revealed that overweight victims were significantly more anxious ($M = 51.23$, $SD = 18.69$) than ideal weight victims ($M = 41.50$, $SD = 16.86$), $t(98) = 2.46$, $p < .05$ (See Figure 1). Results reflect a medium effect size (Cohen's $d = .56$).

Figure 1. Victims: Anxiety by Weight Class



- An independent samples T-test indicated that overweight victims were significantly more depressed ($M = 13.19$, $SD = 8.37$) compared to ideal weight victims ($M = 8.38$, $SD = 7.55$), $t = 2.72$, $p < .05$ (See Figure 2). Results showed a medium effect size (Cohen's $d = .65$).

Figure 2. Victims: Depression by Weight Class



DISCUSSION

- The findings of this study add to the literature on psychological sequelae of obesity and bullying.

- Results revealed significant impairment in the forms of depression and anxiety in overweight victims of bullying compared to average weight victims of bullying.

- Consistent with previous research, overweight youth were more likely to be victims of bullying than their normal-weight peers. However, this study did not support previous findings that overweight youth are more likely to be bullies than their normal-weight peers (Janssen et al. 2004).

- The results also add to the obesity and bullying literature by examining related psychosocial factors of bullying. Overweight youth reported frequent victimization through verbal aggression in hallways because the bully stated they "are fat."

- Future research should examine additional psychosocial factors that may be related to obesity and victimization such as aggression, loneliness, and school achievement.

LIMITATIONS

- This study examined self-report measures of victimization and bullying behavior. Future research should utilize multi-informant methods to reflect the complexity of this phenomenon.

- Given that the sample used in this study was a community sample, few subjects endorsed clinically significant levels of depression and anxiety.

- Due to the low subject number of participants in this study who were categorized as underweight, analysis could not examine differences in depression and anxiety in this group. Future research with larger sample sizes should examine these variables in relation to bullying of youth who are underweight.

- Future research with larger sample sizes should further examine the mediating relationship of victimization between overweight youth and psychosocial outcomes. Analysis such as a mediational path model would provide a better understanding of the directional relationships among these three variables.