

The Journal of Early Adolescence

<http://jea.sagepub.com/>

An Association Between Bullying Behaviors and Alcohol Use Among Middle School Students

Neta Peleg-Oren, Gabriel A. Cardenas, Mary Comerford and Sandro Galea
The Journal of Early Adolescence 2012 32: 761 originally published online 14

November 2010

DOI: 10.1177/0272431610387144

The online version of this article can be found at:

<http://jea.sagepub.com/content/32/6/761>

Published by:



<http://www.sagepublications.com>

Additional services and information for *The Journal of Early Adolescence* can be found at:

Email Alerts: <http://jea.sagepub.com/cgi/alerts>

Subscriptions: <http://jea.sagepub.com/subscriptions>

Reprints: <http://www.sagepub.com/journalsReprints.nav>

Permissions: <http://www.sagepub.com/journalsPermissions.nav>

Citations: <http://jea.sagepub.com/content/32/6/761.refs.html>

>> [Version of Record](#) - Oct 28, 2012

[OnlineFirst Version of Record](#) - Nov 14, 2010

[What is This?](#)

An Association Between Bullying Behaviors and Alcohol Use Among Middle School Students

The Journal of Early Adolescence

32(6) 761–775

© The Author(s) 2012

Reprints and permission:

sagepub.com/journalsPermissions.nav

DOI: 10.1177/0272431610387144

<http://jea.sagepub.com>



Neta Peleg-Oren¹, Gabriel A. Cardenas¹,
Mary Comerford¹, and Sandro Galea²

Abstract

Although a high prevalence of bullying behaviors among adolescents has been documented, little is known about the association between bullying behaviors and alcohol use among perpetrators or victims. This study used data from a representative two-stage cluster random sample of 44, 532 middle school adolescents in Florida. We found a high prevalence of bullying behaviors (30% physical, 52% verbal, 12% cyber). A higher proportion of students (21%) who were involved in any type of bullying behavior used alcohol than students who were not involved (13%). Students involved in bullying behaviors as perpetrators or victims were significantly more likely to have used alcohol in the past-30-days than students who were not involved in bullying. Results suggest that bullying behaviors may be associated with alcohol use and that early evaluation of bullying behavior may be important as part of alcohol-use prevention programs among young adolescents.

Keywords

physical bullying, verbal bullying, cyber bullying, perpetrator, victim, alcohol use

¹University of Miami

²Columbia University

Corresponding Author:

Neta Peleg-Oren, L. Miller School of Medicine, Department of Epidemiology and Public Health, University of Miami, 1120 NW 14 Street, Miami, FL 33136

E-mail: npelegoren@med.miami.edu

Both bullying and alcohol use are relatively common adolescent experiences and are of public health concern. Bullying is commonly defined as aggression that is intentional, repeated, and involves a disparity of power between the perpetrator and the victim (Michaud, 2009; Olweus, 1993; Wang, Iannotti, & Nansel, 2009). Bullying appears to be an international phenomenon among adolescents. Studies from Canada, Europe, and Africa showed a wide prevalence range of bullying behaviors from 5.1% to 56.5%, depending on the definition of bullying, the study design, the nature of the sample (age, gender, etc.), the measurement, and the type of bullying behaviors investigated (Aalsma & Brown, 2008; Analitis et al., 2009; Due et al., 2005; Gini, Albiero, Benelli, & Altoè, 2008; Haynie et al., 2001; Jankauskiene, Kardelis, Sukys, & Kardeliene, 2008; Janssen, Craig, Boyce, & Pickett, 2004; Liang, Flisher, & Lombard, 2007; Olweus, 1991; Sawyer, Bradshaw, & O'Brennan, 2008; Scheithauer, Hayer, Petermann, & Jugert, 2006; Wolke, Woods, & Schultz, 2001). Fewer studies had been conducted about the prevalence of bullying behaviors among adolescents in the United States (e.g., Bauman, 2009; Bosworth, Espelage, & Simon, 1999; Haynie et al., 2001). In a national sample of students in Grades 6 through 10 in the United States, the prevalence of frequent involvement in school bullying in the past 2 months was 29.9% (13.0% perpetrators, 10.6% victims, and 6.3% both; Nansel et al., 2001). In a convenience sample of 454 seventh and eighth graders, Seals and Young (2003) reported that 24% of the students were involved in bullying behaviors (10% perpetrators, 13% victims, and 1% both).

There are several types of bullying behaviors: physical (hitting, kicking, shoving, or pushing), verbal (taunting, teasing, and name-calling), and, recently, cyber (posting of hurtful information on the Internet or sending mean e-mails, text messages, or instant messages (IM) through computers and cell phones) with the intent to harm others. As a new type of bullying, less is known about cyber bullying than about physical and verbal bullying behaviors (Bauman, 2009; Kowalski & Limber, 2007; Kowalski et al., 2005; Olweus, 1996; Willard, 2006; Williams & Guerra, 2007). Studies have generally reported that verbal bullying is the most prevalent bullying behavior, followed by physical bullying, and less commonly, cyber/internet bullying (Craig & Pepler, 1997; Demaray & Malecki, 2003; Williams & Guerra, 2007).

Bullying or being bullied may be associated with an increased risk of experiencing social and psychological problems (Cleary, 2000; David-Ferdon & Feldman Hertz, 2007; Fekkes, Pijpers, & Verloove-Vanhorick, 2005; Gini & Pozzoli, 2009; Glew, Fan, Katon, Rivara, & Kernic, 2005; Jankauskiene et al., 2008; Sourander et al., 2007; Verlinden, Hersen, & Thomas, 2000), including alcohol use. Alcohol is the most prevalent drug used by adolescents

in the United States. According to the 2008 Monitoring the Future survey, 15.9% of eighth-grade students in the United States reported alcohol use in the past 30 days. The 2007-2008 School-Based Pride Survey estimated 4.6% alcohol use in the past 30 days among sixth graders and 7.5% among seventh graders. Alcohol consumption by middle school adolescents may lead to developing alcohol dependency as well as a range of negative outcomes such as delinquent behavior, vehicle accidents, unwanted sexual experiences, and poor school performance (French & Maclean, 2006; Kuperman et al., 2005; Palmer & Liddle, 1996; Peleg-Oren, Saint-Jean, Cardenas, Tamara, & Colbert, 2009). Experience with alcohol use in adolescence is particularly problematic in light of the rapid physical growth, pubertal development, and psychological and social maturation that are hallmarks of the developmental period (Morris & Wagner, 2007).

Despite the high prevalence of both bullying behaviors and alcohol use among adolescents, the literature on their relationship is limited and little is known about the relationship between involvement in bullying behaviors and alcohol use across different types of bullying behaviors (physical, verbal, and cyber). Studies done in United States have shown that alcohol use was positively associated with physical and verbal bullying behaviors of perpetrators and with aggression and was negatively associated with victims (Carlyle & Steinman, 2007; Nansel et al., 2001). The same trend was found in international studies. Results from a nationally representative sample of students in 25 countries (Nansel, Craig, Overpeck, Saluja, & Ruan, 2004) and from other studies revealed that perpetrators and perpetrators-victims reported significantly more frequent alcohol use than did bullied students (Alikasifoglu, Erginoz, Ercan, Uysal, & Albayrak-Kaymak, 2007; Kaltiala-Heino, Rimpelä, Rantanen, & Rimpelä, 2000). By contrast, recent studies have found a high prevalence of drinking among victimized bullied students (Fleming & Jacobsen, 2010; Tharp-Taylor, Haviland, & D'Amico, 2009). In light of existing studies that have concentrated mainly on the relationship between victims of physical and verbal bullying behaviors and psychological and social difficulties (Michaud, 2009), the purpose of the present study was, first, to estimate the prevalence of bullying behaviors, and second, to investigate the association of three types of bullying behaviors—physical, verbal, and cyber—by involvement as perpetrator, victim, and both (perpetrator-victim) and alcohol use in middle school students.

Materials and Methods

Data for the study were derived from the 2008 Florida Youth Substance Abuse Survey (FYSAS) conducted among students in public middle school.

FYSAS is conducted annually as a modified version of the Communities That Care Youth Survey (CTC; Arthur et al., 2007; Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002; Hawkins, Catalano, & Miller, 1992) and measures substance use, risk, and protective factors that are predictors of adolescent health and behavior outcomes.

The FYSAS sampling methodology was a two-stage cluster consisting of schools and students. All public middle schools in Florida were included in the sampling frame for each county. In the first selection stage a random sample of public middle schools were selected for participation in the survey. The probability of selection for each school was proportional to the size of the school's enrollment. Accordingly, larger schools had a higher chance of being selected than smaller schools. In the second sampling stage, survey coordinators randomly selected classrooms to fulfill the survey quota for each school. Special education and ESOL (English for Speakers of Other Languages) classes were not included in the classroom selection list for each school due to language barriers and other learning difficulties.

All students within selected classes were asked to participate in the survey. To ensure that each student has the same probability of being selected to participate, classes were selected from a list of all classes in a single period (e.g., third period) or from a list of a single mandatory subject (e.g., science classes). The FYSAS was administered in 50 minutes within one class time period, using a paper-and-pencil method. Students were assured that participation in the survey was voluntary and that the answers would be anonymous. A passive consent procedure was used for the FYSAS administration. Complete methodology can be found elsewhere (FYSAS, 2008). A total of 44,532 middle school students participated in the 2008 study. School response rate was 95.5%, and student response rate was 78.5%.

Measures

Different types of bullying behaviors that occurred in the past 30 days were assessed by involvement as perpetrator (3 items), victim (3 items), and both (perpetrator-victim; answered to all the items as perpetrator and victim). Physical bullying behaviors were measured in the following manner: (a) perpetrator—frequency of repeatedly hitting, kicking, or shoving someone or taking money or belongings without permission, and (b) victim—frequency of repeatedly being hit, kicked, or shoved by someone or having money or belongings taken without permission. Verbal bullying behaviors were measured by (a) perpetrator—frequency of repeatedly taunting, teasing, name-calling, excluding or ignoring a person in a mean way,

and (b) victim—frequency of being taunted, teased, called names, or being excluded or ignored in a mean way. Cyber bullying behaviors were measured by (a) perpetrator—frequency of repeatedly sending mean e-mails, text messages, IMs, or posting hurtful information on the Internet about another person, and (b) victim—frequency of receiving mean e-mails, text messages, IMs, or having hurtful information posted on the Internet. The possible responses for each item were *not at all*, *somewhat*, and *a whole lot*. A new variable was created for each of the three bullying types coded as follows: 0 (*no bullying involvement as victim*), 1 (*somewhat or a whole lot involved as victim*), 2 (*involved somewhat or a whole lot as perpetrator*), and 3 (*involved as both victim and perpetrator*).

Thirty-day alcohol use was measured by number of occasions participants drank beer, wine, or hard liquor. The variable was coded as 0 = *on no occasion* and 1 = *one or more times*.

Statistical Analyses

Weighted analyses were conducted to account for stratification by school grade, gender, ethnicity, and geographic region in order to obtain results that are representative of the Florida middle school population. First, we used univariate descriptive statistics to assess the characteristics of the sample and bullying behaviors by involvement.

Second, we used nonlinear bivariate analysis to estimate the prevalence of types of bullying behaviors by involvement and past 30 days alcohol use. Third, we performed one weighted logistic regression to evaluate the association between the bullying behavior types by involvement and alcohol use in the past 30 days. The logistic regression model was adjusted for participants' demographic characteristics (gender, ethnicity, and grade) that were suspected to be potential confounders in extant literature. Female was the reference group for gender, African Americans/Blacks for ethnicity/race, and sixth grade for grade. For each type of bullying behavior, the reference group consisted of students who reported no involvement in the specific investigated bullying behaviors.

Results

One half of the students were males (Table 1). Ethnic/race make-up included White (42%), Hispanic (24%), and Africa -American (19%). Thirty-three percent were in sixth grade, 34% in seventh grade, and 32% in eighth grade. Seventeen percent of the students reported alcohol use in the past 30 days.

Table 1. Demographic, Bullying Behaviors, and Alcohol Use Characteristics of the Study Sample

Categories	Sample <i>n</i>	Weighted %
Gender		
Female	22,294	48.7
Male	21,394	51.3
Ethnicity		
Non-Hispanic White	23,287	42.0
Hispanic	7,277	24.1
African American	7,472	19.0
Others	6,496	14.9
Grade		
6	15,256	33.4
7	14,897	34.1
8	14,379	32.4
Overall involvement in bully behavior	26,355	59.0
Physical bullying	13,131	29.7
Perpetrators	3,855	9.0
Victims	6,225	13.9
Both (perpetrator-victim)	3,051	6.8
Verbal bullying	23,019	52.0
Perpetrators	4,742	10.7
Victims	10,485	23.9
Both (perpetrator-victim)	7,792	17.3
Cyber bullying	5,104	11.6
Perpetrators	1,477	3.5
Victims	2,344	5.2
Both (perpetrator-victim)	1,283	2.9
Alcohol use past 30 days	7,618	17.3

Overall, 59% of the students reported involvement in any type of bullying behavior. Verbal bullying was the most prevalent bullying behavior (52%), followed by physical bullying (30%) and then by cyber bullying (12%). Sixteen percent were perpetrators of more than one type of bullying behaviors, and 26% were victims of more than one type of bullying behaviors (data not shown in tabular form).

Table 2. Bullying Behaviors and Alcohol Use in the Past 30 Days Among Middle School Students

Categories	Alcohol, past 30-day use, sample <i>n</i>	Alcohol, past 30-day use; weighted %
Involvement in any bullying behaviors	5,323	20.7
No involvement in any bullying behaviors	2,198	12.7
Physical bullying	3,050	23.8
No bully	4,462	14.6
Perpetrators	1,330	35.6
Victims	908	14.7
Both (perpetrator-victim)	812	26.9
Verbal bullying	4,590	20.4
No bully	2,926	14.0
Perpetrators	1,437	31.4
Victims	1,389	13.3
Both (perpetrator-victim)	1,764	23.5
Cyber bullying	1,632	32.0
No bully	5,877	15.4
Perpetrators	571	38.3
Victims	593	25.2
Both (perpetrator-victim)	468	37.2

Note: No bullying reflects only no bullying behavior under the specific investigated type. An adolescent might be involved in different types of bullying behaviors; hence, the sample size of each of the bullying behavior types (physical, verbal, and cyber) is not exclusive.

Twenty one percent of the students who were involved in any bullying behaviors compared to 13% the students who were not involved in any bullying behaviors had used alcohol in the past 30 days. Alcohol use was higher among those involved in each bullying behavior than among those not involved (physical bullying, 24% vs. 15%; verbal bullying, 20% vs. 14%; cyber bullying, 32% vs. 15%). Higher prevalence of past 30 days alcohol use by perpetrators was found in all types of bullying behaviors (36% in physical bullying, 31% in verbal bullying, and 38% in cyber bullying) compared to victims or both. Findings are presented in Table 2.

Table 3 shows the results of the logistic regression. After adjusting for sociodemographic differences in all types of bullying behaviors (physical, verbal, and cyber), perpetrators had more than twice the odds of alcohol use

Table 3. Weighted Multivariable Logistic Regression Models Predicting Alcohol Use in the Past 30 Days

Categories	Alcohol use past 30 days, OR (95% CI), sample <i>n</i> = 41,007
Gender ^a	
Female (ref.) ^a	1.00
Male ^a	0.85 (0.78, 0.92) ^b
Ethnicity ^a	
African American/Black (ref.) ^a	1.00
White ^a	1.51 (1.33, 1.72) ^b
Hispanic ^a	1.65 (1.40, 1.97) ^b
Other ^a	1.17 (0.98, 1.41)
Grade ^a	
6th (ref.)	1.00
7th	1.81 (1.61, 2.02) ^b
8th	2.92 (2.57, 3.31) ^b
Physical bullying, no (ref.)	
Perpetrators	2.44 (2.11, 2.81) ^b
Victims	1.04 (0.89, 1.22)
Both (perpetrator-victim)	1.77 (1.51, 2.07) ^b
Verbal bullying, no (ref.)	
Perpetrators	2.02 (1.76, 2.30) ^b
Victims	0.94 (0.82, 1.07)
Both (perpetrator-victim)	1.42 (1.24, 1.61) ^b
Cyber bullying, no (ref.)	
Perpetrators	2.13 (1.74, 2.60) ^b
Victims	1.64 (1.38, 1.95) ^b
Both (perpetrator-victim)	2.27 (1.87, 2.77) ^b

Note: ref. = reference group.

a. Forced into the model.

b. Statistically significant, $p < .000$.

in the past 30 days than did students with no involvement in bullying behaviors: in physical bullying behavior: Odds Ratio (OR) = 2.44, 95% Confidence Interval (CI) = 2.11, 2.81; in verbal bullying behavior: OR = 2.02, 95% CI = 1.76, 2.30; and in cyber bullying behavior: OR = 2.13, 95% CI = 1.74, 2.60. Similarly, in all types of bullying behaviors, those who were both perpetrators and victims had significantly greater odds of alcohol use in the past 30 days than was the case for students with no involvement in bullying

behaviors (in physical bullying behavior: OR = 1.77, 95% CI = 1.51, 2.07; in verbal bullying behavior: OR = 1.42, 95% CI = 1.24, 1.61; and in cyber bullying behavior: OR = 2.27, 95% CI = 1.87, 2.77). Victims had significantly greater odds of alcohol use in the past 30 days than those with no involvement in cyber bullying behavior (OR = 1.64, 95% CI = 1.38, 1.95).

Involvement in any type of bullying behavior as either perpetrator, victim, or both resulted in an almost twofold risk (OR = 1.96, 95% CI = 1.79, 2.14; data not shown in tabular form).

Discussion

The current study extends previous studies in the area. First, we used data from a random representative sample of 44,532 middle school students resulting in one of the largest assessments of three types of bullying behaviors and alcohol use of which we are aware to date. Second, the descriptive analyses showed an overall higher percentage (59%) of students' involvement in any type of bullying behavior (either as perpetrators or victims) than was reported in previous studies (Craig & Pepler, 1997; Demaray & Malecki, 2003; Nansel et al., 2001). The overall high prevalence of bullying documented in this study might be due to the specificity of bullying questions asked in this study in contrast to some of the more general questions posed in previous studies. Specific behavior-based reports of bullying behaviors are generally considered preferable assessments because of their ability to differentiate among different types of bullying and victimization (Crick & Grotpeter, 1995) and of differentiating between "bullying" and other types of violent behavior (Wang et al., 2009). Third, the current study is one of the few studies to examine the co-occurrence of involvement in bullying behaviors and past-30-day alcohol use among middle school students. Other studies have established a link between involvement in bullying behaviors and alcohol use (Alikasifoglu et al., 2007; Kaltiala-Heino et al., 2000; Nansel et al., 2004, 2001); however, our data extended previous studies by indicating that, even after adjustment for participants' demographic characteristics (gender, ethnicity, and grade), students in middle school who were involved in any type of bullying behaviors and involved as perpetrators or perpetrator-victim had significantly greater odds of alcohol use than students who were not involved. The current study revealed that higher prevalence of alcohol use was reported by perpetrators involved in any type of bullying behaviors compared to victims, both perpetrator and victim, or students who were not involved in any bullying behaviors. This suggests that adolescents who are perpetrators may be more vulnerable to alcohol use than adolescents who are not.

As a new type of bullying among adolescents, less is known about cyber bullying behavior. The current study explored the prevalence of cyber bullying among adolescents with specific questions about the use of electronic devices (cell phone and computer) with a wide range of electronic methods (e-mails, text messages, and IM). Our results showed a relatively low rate of cyber bullying (12%) compared to other studies (Kowalski et al., 2005; Willard, 2006). However, a higher prevalence of those who were involved in cyber bullying behaviors used alcohol (32%), compared to students involved in physical and verbal bullying behaviors. After taking into account demographic variables, victims of cyber bullying behavior, as opposed to victims of physical and verbal bullying behavior, had almost twice greater odds of alcohol use than were students not involved in any bullying behaviors. We do not know why the prevalence of alcohol use was higher in this group than in the other types of bullying. Additional studies are needed to investigate this phenomenon. The anonymity of cyber bullying behavior and the opportunities to attack at any time provided by new technology of computers and cell phones limit the victim's ability to confront with the perpetrator's aggressive behavior (David-Ferdon & Feldman Hertz, 2007).

Several limitations should be considered when interpreting these findings. First, the cross-sectional design of the study limits the ability to propose causal conclusions of any temporal relationship between the predictor variables (bullying behaviors) and the outcomes (alcohol use). Longitudinal studies are needed to better understand the mechanisms of the association between types of bullying behaviors by involvement and alcohol use in different periods in adolescence. Second, like most other studies in the field, the data used in this study were self-reported, which may have led to response biases due to social desirability. Third, focusing on middle school adolescents in public schools may not necessarily represent the general population of middle school adolescents; however, most of the children in Florida (84%) are enrolled in public schools (U.S. Census, 2000). Fourth, the study was not exclusive for certain types of bullying. For example, the "no involvement" group under each type of bullying behavior included students who were not involved in the specific investigated type but might be involved in other types of bullying behaviors; that is, a student who participated in physical bullying but not verbal bullying would be included in the 'no' or reference category for verbal bullying. In addition, some of the bullying situations reported in the study might not reach the level of bullying based on standard definitions. Fifth, the analyses included only demographic variables, but it is important to consider in future studies additional potential confounders, like parental monitoring or relationship with peers that might further influence adolescents' behavior.

Despite these limitations, the current study demonstrates that adolescent bullying behavior as perpetrator or perpetrator-victim in middle school is associated with alcohol use. Our findings provide strong support for the critical issue of early evaluation of bullying behaviors, in particular involvement as perpetrator or perpetrator-victim, as part of alcohol use prevention programs among young adolescents. Education and prevention programs on alcohol use should take into consideration bullying behaviors with attention to the differences in type of bullying behaviors and involvement. In addition, as the Internet and cell phones have started to play a major role in adolescents' communication and social life, important avenues for future research on the association between cyber bullying, and alcohol use should include other student characteristics such as mood change, depression, and relationships with peers that may give us more information on high-risk populations for bullying behaviors.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The authors received no financial support for the research and/or authorship of this article.

References

- Aalsma, M., & Brown, J. (2008). What is bullying. *Journal of Adolescent Health, 43*, 101-102.
- Alikasifoglu, M., Erginoz, E., Ercan, O., Uysal, O., & Albayrak-Kaymak, D. (2007). Bullying behaviours and psychosocial health: Results from a cross-sectional survey among high school students in Istanbul, Turkey. *European Journal of Pediatrics, 166*, 1253-1260.
- Analitis, M. K., Velderman, U., Ravens-Sieberer, S., Detmar, M., Erhart, M., Herdman, S., et al. (2009). Being bullied: Associated factors in children and adolescents 8 to 18 years old in 11 European countries. *Pediatrics, 123*, 569-577.
- Arthur, M. W., Briney, J. S., Hawkins, R. D., Abbott, R. D., Brooke-Weiss, B. L., & Catalano, R. F. (2007). Measuring risk and protection in communities using the Communities That Care Youth Survey. *Evaluation and Program Planning, 30*, 197-211.
- Arthur, M. W., Hawkins, J. D., Pollard, J. A., Catalano, R. F., & Baglioni, A. J. (2002). Measuring risk and protective factors for substance use, delinquency, and other

- adolescent problem behaviors: The Communities That Care Youth Survey. *Evaluation Review*, 26, 575-601.
- Bauman, S. (2009). Cyberbullying in a rural intermediate school: An exploratory study. *Journal of Early Adolescence*, doi:10.1177/0272431609350927.
- Bosworth, K., Espelage, D. L., & Simon, T. R. (1999). Factors associated with bullying behavior in middle school students. *The Journal of Early Adolescence*, 19, 341-362.
- Carlyle, K. E., & Steinman, K. J. (2007). Demographic differences in the prevalence, co-occurrence, and correlates of adolescent bullying at school. *Journal of School Health*, 77, 623-629.
- Cleary, S. D. (2000). Adolescent victimization and associated suicidal and violent behaviors. *Adolescence*, 35, 671-682.
- Craig, W. M., & Pepler, D. J. (1997). Observations of bullying and victimization in the schoolyard. *Canadian Journal of School Psychology*, 13, 41-59.
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66, 710-722.
- David-Ferdon, C., & Feldman Hertz, M. (2007). Electronic media, violence, and adolescents: An emerging public health problem. *Journal of Adolescent Health*, 41(Suppl. 1), 1-5.
- Demaray, M. K., & Malecki, C. K. (2003). Perceptions of the frequency and importance of social support by students classified as victims, bullies, and bully/victims in an urban middle school. *School Psychology Review*, 23, 471-490.
- Due, P., Holstein, B. E., Lynch, J., Diderichsen, F., Gabhain, S. N., Scheidt, P., et al. (2005). Bullying and symptoms among school-aged children: International comparative cross sectional study in 28 countries. *The European Journal of Public Health*, 15, 128-132.
- Fekkes, M., Pijpers, F. I. M., & Verloove-Vanhorick, S. P. (2005). Bullying: Who does what, when and where? Involvement of children, teachers and parents in bullying behavior. *Health Education Research*, 20(1), 81-91.
- Fleming, L. C., & Jacobsen, K. H. (2010). Bullying among middle school students in low and middle income countries. *Health Promotion International*, 25(1), 73-84.
- Florida Youth Substance Abuse Survey. (2008). Retrieved October 20, 2009, from <http://www.dcf.state.fl.us/mentalhealth/publications/fysas/08Survey/2008FYSA SStatewideTablesFinal.pdf>
- French, M. T., & Maclean, J. C. (2006). Underage alcohol use, delinquency, and criminal activity. *Health Economics*, 15, 1261-1281.
- Gini, G., Albiero, P., Benelli, B., & Altoè, G. (2008). Determinants of adolescents' active defending and passive by standing behavior in bullying. *Journal of Adolescence*, 31, 93-105.
- Gini, G., & Pozzoli, T. (2009). Association between bullying and psychosomatic problems: A meta-analysis. *Pediatrics*, 123, 1059-1065.

- Glew, G. M., Fan, Y., Katon, W., Rivara, F. P., & Kernic, M. A. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics and Adolescent Medicine, 159*, 1026-1031.
- Haynie, D. L., Nansel, T., Eitel, P., Crump, A. D., Saylor, K., Yu, K., et al. (2001). Bullies, victims, and bully/victims: Distinct groups of at-risk youth. *The Journal of Early Adolescence, 21*, 29-49.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*, 64-105.
- Jankauskiene, R., Kardelis, K., Sukys, S., & Kardeliene, L. (2008). Associations between school bullying and psychosocial factors. *Social Behavior and Personality, 36*, 145-162.
- Janssen, I., Craig, W. M., Boyce, W. F., & Pickett, W. (2004). Associations between overweight and obesity with bullying behaviors in school-aged children. *Pediatrics, 113*, 1187-1194.
- Kaltiala-Heino, R., Rimpela, M., Rantanen, P., & Rimpela, A. (2000). Bullying at school—an indicator of adolescents at risk for mental disorders. *Journal of Adolescence, 23*, 661-674.
- Kowalski, R. M., & Limber, S. P. (2007). Electronic bullying among middle school students. *Journal of Adolescents Health, 41*(Suppl.), 22-30.
- Kowalski, R., Limber, S. P., Scheck, A., Redfearn, M., Allen, J., Calloway, A., et al. (2005). *Electronic bullying among school-aged children and youth*. Paper presented at the annual meeting of the American Psychological Association. Washington, DC: American Psychological Association.
- Kuperman, S., Chan, G., Kramer, J. R., Bierut, L., Bucholz, K. K., Fox, L., et al. (2005). Relationship of age of first drink to child behavioral problems and family psychopathology. *Alcoholism: Clinical and Experimental Research, 29*, 1869-1876.
- Liang, H., Flisher, A. J., & Lombard, C. J. (2007). Bullying, violence, and risk behavior in South African school students. *Child Abuse and Neglect, 31*, 161-171.
- Michaud, P. A. (2009). Editorial bullying: We need to increase our efforts and broaden our focus. *Journal of Adolescent Health, 45*, 323-325.
- Monitoring the Future survey*. (2008). Retrieved September 1, 2009, from <http://www.monitoringthefuture.org/>
- Morris, S. L., & Wagner, E. F. (2007). *Adolescent substance use: Developmental considerations* (Florida Certification Board/Southern Coast ATTC Monograph Series No. 1). Miami: Florida Certification Board.
- Nansel, T. R., Craig, W., Overpeck, M. D., Saluja, G., & Ruan, W. J. (2004). Cross-national consistency in the relationship between bullying behaviors and psychosocial adjustment. *Archives of Pediatrics and Adolescent Medicine, 158*, 730-736.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with

- psychosocial adjustment. *Journal of the American Medical Association*, 285, 2094-2100.
- Olweus, D. (1991). Bully/victim problems among schoolchildren: Basic facts and effects of a school based intervention program. In D. J. Pepler & K. H. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 441-448). Hillsdale, NJ: Lawrence Erlbaum.
- Olweus, D. (1993). Victimization by peers: Antecedents and long-term outcomes. In K. H. Rubin & J. B. Asendorf (Eds.), *Social withdrawal, inhibition and shyness in children* (pp. 315-341). Hillsdale, NJ: Lawrence Erlbaum.
- Olweus, D. (1996). *The revised Olweus bully/victim questionnaire*. Research Center for Health Promotion (HIMIL). Bergen, Norway: University of Bergen, Patent N-5015.
- Palmer, R. B., & Liddle, H. A. (1996) Adolescent drug abuse: Contemporary perspectives on etiology and treatment. In G. M. Blau & T. P. Gullotta (Eds.), *Adolescent dysfunctional behavior: Courses, Interventions, and Prevention* (pp. 114-138). Thousand Oaks, CA: Sage.
- Peleg-Oren, N., Saint-Jean, G., Cardenas, G.A., Tammara, H., & Pierre, C. (2009). Drinking alcohol before Age 13 and negative outcomes in late adolescence. *Alcoholism: Clinical & Experimental Research*, 33(11), 1966-1972.
- Sawyer, A. L., Bradshaw, C. P., & O'Brennan, L. M. (2008). Examining ethnic, gender, and developmental differences in the way children report being a victim of "bullying" on self-report measures. *Journal of Adolescent Health*, 43, 106-114.
- Scheithauer, H., Hayer, T., Petermann, F., & Jugert, G. (2006). Physical, verbal and relational forms of bullying among German students: Age trends, gender differences, and correlates. *Aggressive Behavior*, 32, 261-275.
- Seals, D., & Young, J. (2003). Bullying and victimization: Prevalence and relationship to gender, grade level, ethnicity, self-esteem, and depression. *Adolescence*, 38, 735-747.
- Sourander, A., Jensen, P., Rönning, J. A., Elonheimo, H., Niemelä, S., Helenius, H., et al. (2007). Childhood bullies and victims and their risk of criminality in late adolescence. *Achieves of Pediatrics and Adolescent Medicine*, 161, 546-552.
- Tharp-Taylor, S., Haviland, A., & D'Amico, E. J. (2009) Victimization from mental and physical bullying and substance use in early adolescence. *Addictive Behaviors*, 34, 561-567.
- The School-Based Pride survey 2007-2008*. (2008). Retrieved October 20, from <http://www.pridesurveys.com/Reports/index.html>
- U.S. Census. (2000) *2005-2007 American Community Survey 3-year estimates*. Retrieved January 15, 2009, from http://factfinder.census.gov/servlet/STTable?_bm=y&-geo_id=04000US12&-qr_name=ACS_2007_3YR_G00_S0901&-ds_name=ACS_2007_3YR_G00_-&-redoLog=false

- Verlinden, S., Hersen, M., & Thomas, J. (2000). Risk factors in school shootings. *Clinical Psychology Review, 20*(1), 3-56.
- Wang, J., Iannotti, R. J., & Nansel, T. R. (2009). School bullying among adolescents in the United States: Physical, verbal, relational, and cyber. *Journal of Adolescent Health, 45*, 368-375.
- Willard, N. E. (2006). *Cyber bullying and cyber threats*. Eugene, OR: Center for Safe and Responsible Internet Use.
- Williams, K. R., & Guerra, N. G. (2007). Prevalence and predictors of Internet bullying. *Journal of Adolescent Health, 41*, 14-21.
- Wolke, D., Woods, S., & Schultz, H. (2001). Bullying and victimization of primary school children in England and Germany: Prevalence and school factors. *British Journal of Psychology, 92*, 673-696.

Bios

Neta Peleg-Oren, PhD, is an assistant professor (voluntary) at University of Miami, Miller School of Medicine Department of Epidemiology and Public Health. Her interests and research are in the area of co-occurrence of violence, posttrauma and underage alcohol and other drug use, substance use prevention and treatment programs for at-risk populations, and the impact of parental substance use on the children.

Gabriel A. Cardenas, MPH, is a Lead Analyst at University of Miami, Miller School of Medicine, Department of Epidemiology and Public Health. He currently serves as a biostatistician and database manager on two HIV Prevention grants, an HIV Surveillance grant with the CDC, and on manuscripts preparation.

Mary Comerford, MSPH, is a Senior Research Associate at University of Miami, Miller School of Medicine, Department of Epidemiology and Public Health. She has 30 years of experience as analyst and data manager on several NIDA-funded grants.

Sandro Galea, MD, MPH, DrPH, is a chair of the Department of Epidemiology, Mailman School of Public Health at Columbia University, and a professor of epidemiology at the Anna Cheskis Gelman and Murray Charles Gelman at Columbia University. His research has been on the causes of mental disorders and substance abuse and on the role of traumatic events in shaping population health. His work involves data collection in many countries worldwide and analysis of large global datasets and theoretic development.