



Is There an Association Between Disordered Eating Behaviors & Suicide Ideation Among Adolescent Females Sampled in The National Longitudinal Study of Adolescent Health Wave II?



Mei Ling Ellis,^{1,4,5} Jane Rees,^{1,2,4} Elaine Thompson,^{1,3} & Lewayne Gilchrist⁵

¹Maternal & Child Health Program, ²School of Medicine, ³School of Nursing, ⁴School of Public Health & Community Medicine, and ⁵School of Social Work, University of Washington, Seattle

SCOPE OF THE PROBLEM



YOUTH SUICIDE

- 3rd leading cause of deaths, 15-19 y¹.
- 2004, 39% of 6th graders reported feeling depressed or sad most days in the year¹³.
- For this study, suicide ideation (SI) is defined as one's wish or threat to die¹³.

DISORDERED EATING BEHAVIORS

- 2003, 1/12 high school females reportedly vomited or took laxatives to lose or control their weight².
- 15% do not meet the clear DSM criteria for ED⁷ - important to examine disordered eating.
- For this study, disordered eating behavior (DEB) is defined as engaging in one or more following behaviors; excessive dieting and/or exercising, vomiting, ingesting diet pills, and ingesting laxatives.



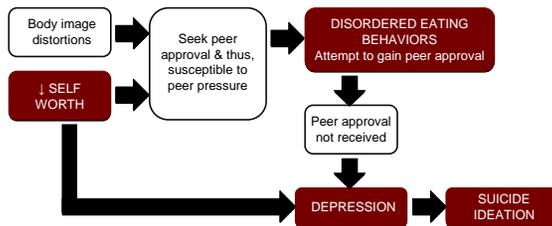
CO-MORBIDITY OF SUICIDE & EATING DISORDERS

- Greater risk of suicide ideation^{4,9}
- Suicide attempts are more prevalent among females with abnormal eating behaviors and strongly correlated with impulsiveness⁹.
- Strong associations between DEB, SI, and suicide attempts¹⁰.

STUDY AIMS

- **Primary** – Association between suicide ideation and disordered eating behaviors among adolescent females?
- **Secondary aim** – Association between an index of suicide and disordered eating behaviors among adolescent females?
- Previously addressed, however prior studies had not controlled for depression and self-worth, or their sample was not a representative sample of US adolescents¹⁰.

EMPIRICAL MODEL – BASED ON JESSOR'S PROBLEM BEHAVIOR THEORY



Jessor's problem-behavior theory suggests all behavior is the result of person-environment interaction³.

METHODS

DATA SOURCE

- National Longitudinal Study of Adolescent (Add Health).
- Examines health-related behaviors of adolescents and their outcomes in young adulthood.
- Data collection: Wave I (baseline), II (2 years later), III (6 years later).
- Representative sample of 7th to 12th graders, 1994-2000.
- Weighted data set
- Data were collected via questionnaires administered in schools and by in-home interviews.
- Audio-CASI software used for suicide and other sensitive questions.

STUDY PARTICIPANTS

- Wave II
- 6,963 adolescent females, 15-17 y
- Have all Wave II weights available
- Linked Wave I and Wave II variables for: race/ethnicity, and parental education

DESIGN

- Cross-sectional study uses Wave II Add Health data to examine for associations between suicide ideation and disordered eating behavior among adolescent females.

MEASURES

Suicide:

- Suicide ideation
 - Question: "During the past 12 months, did you ever seriously think about committing suicide?"
 - Responses: yes, no, don't know
- Index of suicidal behaviors
 - Based on a range of suicide behavior questions that reflected increasing suicide risk (ideation, # of attempts, medical attention sought out for attempt) (Thompson & Eggert, 1999).
 - Score range: 0-5 (5 = most severe)

Disordered eating behaviors: "Underlined responses included in the disordered eating behaviors variable"

Trying to lose weight:

- Question: "Are you trying to lose weight, gain weight, or stay the same weight?"
- Responses: lose weight, gain weight, stay the same weight, not trying to do anything about weight, don't know
- Weight controlling behavior:
 - Question: "During the past 7 days, which of the following things did you do in order to lose weight or to keep from gaining weight?"
 - Responses: dieted, exercised, made self vomit, took diet pills, took laxatives, other
- Extremely low body fat:
 - BMI < 17 + diet and/or exercise (Granillo et al., 2003)

STATISTICAL ANALYSIS

- Correlation coefficients and odds ratios ; multivariate logistic regression
- Correction for sample selection and design effects⁸
- Covariates (depression, self-worth, race/ethnicity, parental education, age, height, & weight)
- Comparison groups:

- Group I = Suicide ideation (SI) & disordered eating behaviors (DEB)
- Group II = SI only
- Group III = DEB only
- Group IV = Neither SI nor DEB

RESULTS

OVERALL SAMPLE OF FEMALES:

- Mean age – 16 years
- Mean height – 64 inches (5ft. 4in.)
- Mean weight – 132 pounds
- Suicide ideation – 13%
- Mean index suicide behaviors – 0.22
- Trying to lose/keep from gaining weight – 46%
 - Dieting – 78%
 - Exercise – 49%

COMPARISON GROUPS:

- Age:
 - Oldest females – DEB only (Group III)
 - Youngest females – SI only (Group II)
- Highest depression score – SI and DEB (Group I)
- Lowest self-worth score - SI and DEB (Group I)

ASSOCIATIONS:

- No significant association between suicide ideation and disordered eating behaviors
- Suicide ideation and depression – strongest prior to controlling for depression
- Significant correlations were found among:
 - Depression
 - Self-worth
 - African American

CONCLUSIONS

- Contrary to previous research, we found adolescent females who exhibit disordered eating behaviors were not at an increased risk for suicide ideation when depression and self-worth are controlled for.
- Females who reported suicide ideation and disordered eating behaviors had ↑depression and ↓self-worth scores.
- Unique role: depression and self-worth
- Weak association between DEB and suicide ideation, may be due to DEB not being severe enough to indicate a diagnosable eating disorder
- Unexpected finding – African American, protective factor

PUBLIC HEALTH IMPLICATIONS

- Professionals – should incorporate screening for depression into their assessment and care plans when working with adolescent females.
- Better understanding of adolescent suicide and disordered eating behaviors, informing policy and prevention models that address adolescent suicide and eating disorders.

ACKNOWLEDGEMENTS

- A special thanks to my outstanding thesis committee members, Jane Rees, Elaine Thompson, and Lewayne Gilchrist, for their patience, guidance, support, and direction on this project. This research was supported in part by Project #T76 MC 00011 from the Maternal and Child Health Bureau (Title V, Social Security Act), Health Resources and Services Administration, US Department of Health and Human Services.
- This research uses data from Add Health, a program project designed by J. Richard Udry, Peter S. Bearman, and Kathleen Mullan Harris, and funded by a grant P01-HD31921 from the National Institute of Child Health and Human Development, with cooperative funding from 17 other agencies. Special acknowledgment is due Ronald R. Rindutt and Barbara Entwisle for assistance in the original design. Persons interested in obtaining data files from Add Health should contact Add Health, Carolina Population Center, 123 W. Franklin Street, Chapel Hill, NC 27516-2524 (addhealth@unc.edu).

References

- ¹Center for Disease Control and Prevention. National center for health statistics. (2003). Death rates for suicide, according to sex, race, Hispanic origin, and age: United States, selected years 1995-2001. Retrieved January 5, 2006, from <http://www.cdc.gov/nchs/data/healthstats/2003/03su046.pdf>.
- ²Child Trends Database. (2004). Retrieved January 5, 2006, from <http://www.childtrends.org/>.
- ³Collin, P. (2006). Problem behavior theory: a total overview. Retrieved December 1, 2006, from http://www.cdc.gov/ncpc/dpdx/behavior3_theory.html.
- ⁴Granger, R. & Fernald, V.M (2005). A review of eating disorders and suicide risk in adolescents. Scientific World Journal. 2(8): 803-811.
- ⁵Department of Health and Human Services. Suicide statistics. Retrieved January 5, 2006, from <http://www.cdc.gov/ncpc/dpdx/SuicideDataSheet.pdf>.
- ⁶Granillo T., Jones-Rodriguez G., Cavalal SC. (2003). Prevalence of eating disorders in Latina adolescents: associations with substance use and other correlates. Journal of Adolescent Health, 36, 214-220.
- ⁷Holt, A., Gaudiani, K., Van den Berck, P.A., Rughani, F.J., McCluskey, SE, & Lacey, JH. (1997). Eating disorder in women admitted to hospital following deliberate self-poisoning. Acta Psychiatrica Scandinavica, 95(2): 140-4.
- ⁸Neumark-Sztainer, D., Berry, M., Duon, L.B., Murray, D.M. (1998). Adolescents engaging in Unhealthy weight control behaviors: Are they at risk for other health-compromising behaviors? American Journal of Public Health, 88(8): 952-955.
- ⁹Pelkonen, M. & Marttunen, M. (2003) Child and adolescent suicide: epidemiology, risk factors, and approaches to prevention. Paediatric Drugs, 5(4): 243-65.
- ¹⁰Thompson, EA, & Egger, LL. (1999). Using the suicide risk screen to identify suicide adolescents among potential high school dropouts. Journal of American Academy of Child and Adolescent Psychiatry, 38(12): 1506-1514.
- ¹¹Youth Suicide Prevention Program. (2004). Statistics. Retrieved January 5, 2006, from <http://www.ypp.org/about/SuicideStatistics.htm>.