

# The Association between

# **Adolescent Exposure to Suicide Attempts** and Depressive Symptoms in Adulthood



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## Introduction

- Exposure to Suicidal Behavior (ESB) has been identified as a risk factor and possible predictor of attempted suicide
- Adolescents whose close family or friends attempt suicide or display suicidal tendencies may be indirectly taught to deal with their own emotional distress via similar suicidal behaviors. (Abrutyn & Mueller 2014)
- Roughly 4.5% of U.S. High School students report having attempted suicide in the past 12 months, but that rate increases nearly 150% among students who are aware that a friend has attempted suicide. (Zimmerman et al. 2016)

## Methods

### Sample

- Adolescents (ages 11-21) who were surveyed again 24 years later (n=4196) were drawn from waves 1 and 5 of the National Longitudinal Study of Adolescent to Adult Health (AddHealth).
- AddHealth is a nationally representative sample of adolescents who were in grades 7-12 during the 1994-95 school year.

#### Measures

Participants were categorized based on responses to two yes/no questions:

- The majority of research on ESB in adolescents focuses on its short-term or immediate effects on an adolescent's mental health. Additionally, the majority of research on suicidality in adults focuses on the impact of significant life events that occur during adulthood. (Zhang & Zhou 2011)
- Recent research has employed self-report surveys to score depressive symptoms, weighing positive and negative behaviors against each other. It was found that these behaviors were not neither antagonistic nor mutually exclusive. (Nanayakkara et al. 2013)
- "Have any of your friends tried to kill themselves during the past 12 months?"
- "Have any of your family tried to kill themselves in the past 12 months?".
- A selection of wave 5 survey questions were used to generate "Sum Positive" and "Sum Negative" scores for each individual, representative of the presence of certain positive life outlooks and depressive symptoms respectively. Participants responded to each question on a scale of 1 (Strongly Disagree) to (Strongly Agree), from which sum scores were generated separately for 6 positive and 6 negative behaviors.
- Responses for each question were collapsed into a binary response of "Disagree" (1-3) or "Agree" (4-5). These 6 binary responses were summed to generate the SumPositive and SumNegative scores, both ranging from 0-6.

### **Research Questions**

- Is adolescent Exposure to a suicide attempt associated with the presence of depressive symptoms in adulthood?
  - How does that association vary as the degree of relation to the individuals who attempted suicide changes?
  - Does the association between ESB type and Depressive Symptoms differ for individuals who were exposed at the youngest ages?

### Hypotheses

- Adult depressive symptoms will be significantly higher among those who were exposed to a suicidal attempt in adolescence.
- Depressive Symptoms will highest in those exposed to the suicidality of both a family member and friend.



**Univariate:** 

Results

- 80.92% of participants didn't report any exposure to a suicide attempt in the past 12 months during wave 1
- 1.97% of participants reported exposure to a suicide attempt by both a friend and family member within the past 12 months at the time of wave 1.





Degree of Exposure to Suicide Attempt										
Family	Friend	Both	None							
1.83%	15.27%	1.97%	80.92%							

### **Depressive Symptoms:**

**Bivariate:** 

- Analysis of variance (ANOVA) revealed that the expected increase in depressive symptoms and decrease is positive behaviors in adulthood was demonstrated among individuals of whom a family member had attempted suicide.
- The Sum Score of depressive symptoms (Beta=0.838 p<0.0001) is significantly associated with ESB Group. On average, individuals of whom a family member attempted suicide scored 0.535 higher on the scale than individuals who had not been exposed to suicidal behavior
- Notably, the Sum Score of depressive symptoms did not significantly differ between the control and those of whom a friend had attempted suicide.

#### **Positive Behaviors:**

(Fig.

• Similarly, the Sum Score of positive behaviors and outlooks in adulthood is

- Exposure to suicide attempts by a family member during adolescence, successful or not, has significant long-term effects on the prevalence of depressive symptoms in adulthood.
- The relationship between Adolescent ESB and Adult Depressive Symptoms is more dramatic among women, consistent with recent findings (Miranda-Mendizabal et al 2019)
- This relationship does not significantly change with the age of adolescent exposure.
- Longitudinal analysis of the AddHealth dataset is compromised, as only 64.51% of Wave 1 participants responded to the Wave 5 Survey
- Further research should is needed to investigate how rising teen suicide rates in the U.S. since 1994 have affected this association.
  - Recent research is suggestive that adolescent exposure to the suicide behavior of a friend is strongly associated with immediate depressive symptoms. Research should investigate the persistence of this effect into adulthood

#### **Multivariate:**

- The interaction between Adolescent Exposure to Suicidal Behavior and Depressive Symptoms in adulthood was not found to be significantly associated with the age of adolescent exposure.
- Success of suicide attempt was also not found to significantly modify the relationship between ESB and Depressive Symptoms.

significantly associated with ESBGroup (Beta=4.661 p<0.001)

		ESBO	Group –	—————————————————————————————————————	v oth ——⊖	vave1_Ag — Famil	e y — ↔	- Friend		None	
		12		14		16	_	18		20	
0 -	0	0	0	<u> </u>	0	0	0	0	0	<u> </u>	0
1 -		0	0	0	0	0	0	0	0	0	
2 -		0	0	0	0	0	0	0	0	0	0
3 -		0	0	0	0	0	0	0	0	0	
4 -		0	0	0	0	0	0	0		0	
5 -			0	0	0	0	0	0	0		
6 -			0		0	0	0		-		
3)	ESBGro	oup Ass	ociation	with Depr	essive Sy	mptoms b	y Age at <sup>-</sup>	Time of Ex	posure		

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