

## Overview of Adolescent Suicide

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### Risk Factors

- Most of what we know about the characteristics of adolescents who commit suicide is obtained from psychological autopsy studies. **A 1996 study** using this method found that 90% of suicide victims < 20 years of age had a diagnosable psychiatric disorder at the time of their death, and > ½ of these individuals had experienced significant symptoms for longer than 2 years.

**Table 1. Psychiatric Diagnoses in Completed Suicide\***

Diagnosis	Males			Females		
	Completers		Controls	Completers		Controls
	All (N = 94)	P (N = 81)	P (N = 116)	All (N = 25)	P (N = 19)	P (N = 31)
Substance or alcohol abuse	42%	25%	4%	12%	...	3%
Any disruptive	54%	31%	12%	36%	11%	7%
Any anxiety	27%	24%	9%	28%	16%	21%
Any mood	60%	38%	5%	68%	47%	3%
Schizophrenia	3%	1%	...	4%	...	...
Any diagnosis	90%	59%	23%	92%	58%	24%

\*Data from reference 1. All = all informants; P = parent informants only.

The principal psychiatric risk factors were a past suicide attempt (~ 1/3 of victims), symptoms of a mood Disorder (~ 40% of victims suffered from an affective disorder), and substance abuse – which frequently coexisted with a mood disorder (~ ¼ of victims). Conduct disorder was also common in victims but was also present in many controls, and therefore wasn't considered a significant risk factor. About ½ of the victims had been in contact with a mental health professional prior to committing suicide. But in most cases, this contact was for a suicide attempt and not for the treatment of mood symptoms.

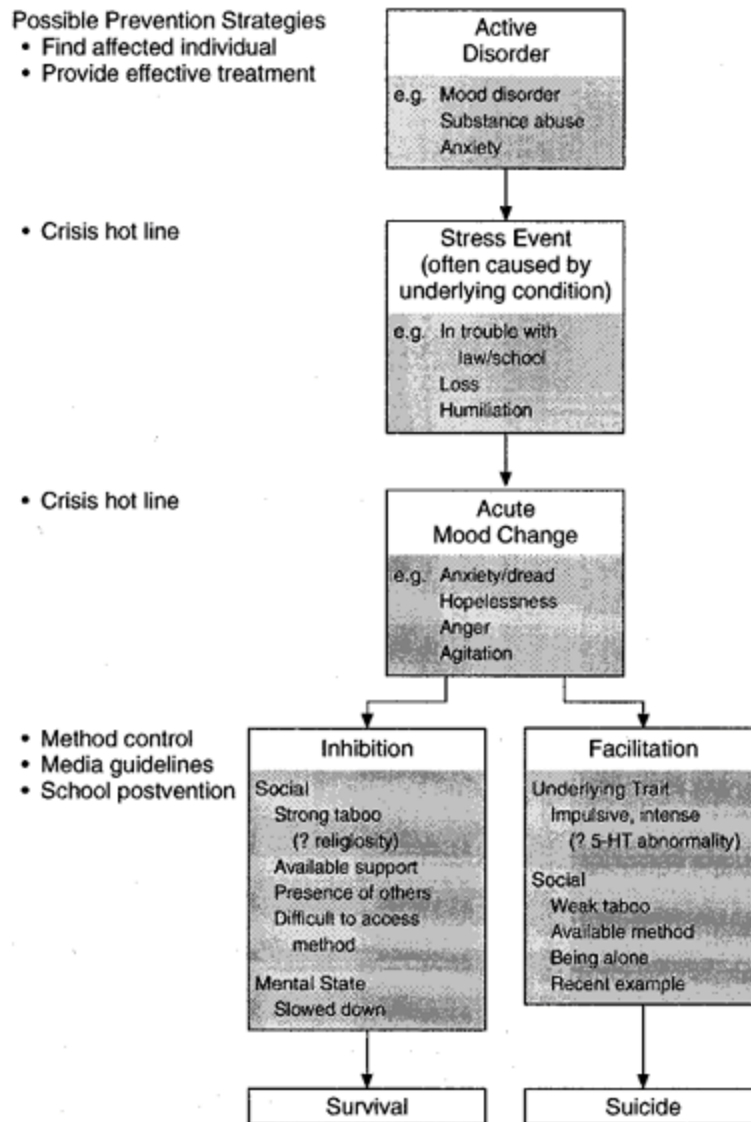
The study also looked at risk factors in the family environment, such as conflict between parents and children. The only consistent finding was that of a low level of parent-child communication in the families of suicide victims. No significant differences were found in socioeconomic status between victims and controls. So overall, this particular study concludes that a mood disorder and/or prior suicide attempt are far more important risk factors for suicide than family factors.

- Some evidence exists that knowing about one suicide may increase suicidal behavior in others. A study by a man named Gould looked at the number of attempted & completed suicides made by adolescents in NY after 3-4 movies involving suicide were shown on TV – they found that the rate significantly increased compared with a baseline measurement. When a 2<sup>nd</sup> study tried this in 3 other cities, only one of the cities showed a significant increase.
- Increased risk for suicide in a subpopulation of adolescents is also associated with abnormally low levels of serotonin metabolites (5-HIAA & HVA), enzymes (in the prefrontal cortex), and receptors.

### Prevention

- The big question is how do we prevent kids from committing suicide? A paper by Schaffer et al. presented a model for prevention (below) that proposes that, in order to commit suicide, an underlying condition, such as a mood disorder, substance abuse, and/or aggressive traits, must be present.

**Figure 1. How Does a Suicide Occur?**



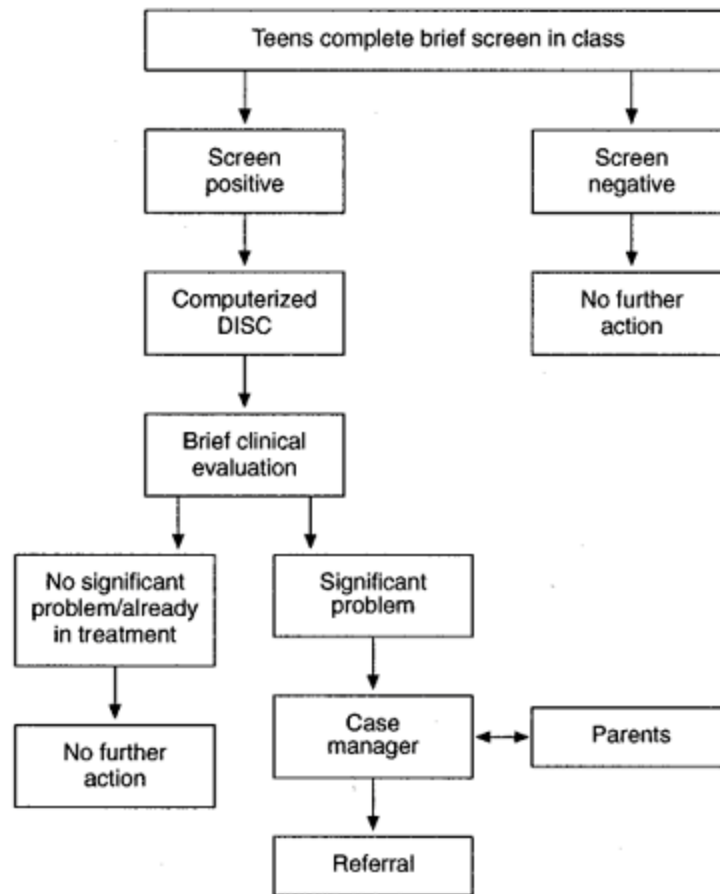
The suicide act itself will usually be preceded by a stress event that will often have been a result of the underlying condition. Common stress events for adolescents include: Disciplinary crises, being in trouble with the law or at school, or the loss of a relationship. Schaffer states that “psychological autopsy studies suggest that the stress commonly leads to extreme anticipatory anxiety, and it seems that suicide is in some cases an avoidant response to this effect.” In the model, Schaffer states that there are inhibitory and facilitating factors which come into play after the precipitating event and it is the balance between these which will determine whether the outcome is fatal or not. Inhibiting factors which make suicide less likely include living in a culture in which suicide is strongly taboo, having available support or the presence of others, and having a slowed-down mental state. Factors which may facilitate suicide include living in a culture in which taboos about suicide are weak, having ready access to weapons or drugs, learning of a recent example of suicide by hearsay or in the media, being in an agitated or excited state, and being alone.

Looking at the model it makes sense to say that if we could only employ some type of prevention strategy on the side of the facilitating factors – we’d be able to decrease the number of suicides. Let’s take weapons for example. The only way that we could realistically work to lower the availability of weapons

to kids is to pass some type of legislation. A 1997 study by Cummings looked at the impact of gun-safe storage laws in 12 states on the gun-related deaths of children under the age of 15. While the rate of accidental shooting deaths decreased by 23% after the laws went into effect, neither the gun-related homicide nor suicide rates showed statistically significant declines. We can also look at the effectiveness of hot lines and crisis services in terms of trying to decrease the facilitating half of the model. Surprisingly research suggests that they have little impact on suicide rates. Several papers have found that hot lines fail to reach those at greatest risk. Suicide is a predominantly male behavior, but most hot line callers are female and not suicidal. Also suicide is often an impulsive act – so many victims don't take the time or are not in a state of mind to think about the alternatives. It was also found that crisis services often give inappropriate advice – with a tendency to give generic advice regardless of the callers problems.

One way to prevent suicide is to actively search for kids who are having suicidal ideations. There are 3 common case-finding strategies used for this. The first, which is commonly used in the United States, educates high school students about suicide in a way that is designed to reduce the stigma and to promote self-referral. Another study by Schaffer looked at the first strategy of reducing the stigma. He examined the impact of school based suicide prevention programs and found that although most students found the suicide prevention programs to be helpful and informative, the programs didn't significantly increase knowledge, self-identification, or help-seeking behavior. The second strategy is to educate those who encounter kids such as teachers, parents, or other teens – and teach them how to identify kids at risk and how to then make a connection with an appropriate source of help. This also has it's problems. Often, there are no external signs of suicidal ideation or depression and the "warning signs" such as poor grades, social withdrawal, and loss of interest are very non-specific. The third is direct screening, in which kids and teens are asked to indicate their mood and whether or not they are suicidal. One common methodology used to do this is a 3 stage screening process seen in Figure 2 of the handout.

**Figure 2. Suicide Prevention Screening Method\***



**\*Abbreviation: DISC = Diagnostic Interview Schedule for Children.**

In the first stage, students complete a brief self-report questionnaire called the Columbia Teen Screen during health class. Based on their answers, students who may have an increased risk are advanced to the second phase and assessed further via a computerized diagnostic interview called the DISC (Diagnostic Interview Schedule for Children). The advantage of the first 2 stages of this process is that it reduces the number of students who have to be seen by a doctor by screening out students who are not at risk. At the end of the DISC interview the computer produces a diagnostic report that is reviewed by a doctor who personally interviews students in the third stage of the screening process. The doctor determines whether the or not the identified student needs to be referred for further evaluation or treatment. High risk students are those who admit to a suicide attempt or recent ideation, have either major depressive disorder or dysthymic disorder, or have an alcohol or substance abuse problem. The direct screening method was studied in 1996 by Wilcox, looking at 2004 teens. 546 had a + Columbia Teen Screen – which means that they met a least 1 of the positive-screening criteria for depression, dysthymia, substance or alcohol abuse, or recurrent suicide ideation or previous attempt. The sensitivity of the Columbia screen was 88% with a specificity of 76%. This resulted in only 3 students who tested negative but actually did have positive risk factors. There were also 257 false-positive screens – which emphasizes the importance of having a second and third phase to the whole process. The study also found that the problems of many of the teens who were at risk for suicide weren't known to others, and so these students had never received any treatment. Only 31% of those with major depressive disorder, 26% of those with suicidal ideation, and 50% of those who made past attempts were actually in treatment.