Suicide in Young People

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The Hypotheses

Based on work with suicidal adolescents in four different settings:

- Adolescents committing suicide while doing their military service in the IDF
- Clinical work on an adolescent psychiatric inpatient unit
- Work in the ER
- Suicide prevention in schools
Suicide Spectrum

- Suicidal ideation
- Suicidal threats
- Suicidal gestures
- Deliberate self harm
- Suicide attempts
- Serious suicide attempt
- Interrupted attempt
Three Sets of Personality Constellations

- Narcissism, perfectionism and the inability to tolerate failure
- Impulsive and aggressive characteristics combined with oversensitivity
- Hopelessness often related to underlying depression
Case

Jonathan was a 20 year old officer when he killed himself. His family was achievement oriented and had high moral standards. Their ideals stressed controlling one's emotions and living up to high standards.

Jonathan was a natural leader and popular with his teachers and peers. In the army he excelled and was selected as an instructor for new recruits. His superior commended him for his ability to perform under stress.

He became totally involved in his new duties. His platoon of trainees did rather well, although their overall performance rating was only average. Following the course ceremony Jonathan went to his room and shot himself.
Features of Psychological Post Mortem Soldiers

- Strong narcissistic and perfectionist patterns
- Schizoid traits in personality
- The will to prove their worth
- High self-expectations and hopes
- Termed by being private/isolated people

These features are often complicated by strong isolative traits.
Completed vs. Attempted Suicide
Holon-Bat Yam (WHO-EURO)
### Many Attempts, Few Suicides

**UNITED STATES, AGES 15-19, 2007**

<table>
<thead>
<tr>
<th></th>
<th>Rates/100,000</th>
<th>DEATHS*</th>
<th>ATTEMPTS**</th>
<th>RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td></td>
<td>11.11</td>
<td>4,600</td>
<td>1:414</td>
</tr>
<tr>
<td>Females</td>
<td></td>
<td>2.49</td>
<td>9,300</td>
<td>1:3,735</td>
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</tbody>
</table>

*CDC, NCIPC 2005 (WISQARS) (cited 07/08/2010); **CDC MMWR (YRBS) 2008*
Pathways for SB in Adolescents

The primary pathway: Internalizing/interpersonal vulnerability

*There are also direct/other paths
The secondary (independent) pathway: impulsive self-harm/acting out vulnerability

*There are also direct/other paths
Suicide rates in the age group 15-19 years in WHO European region

- **High suicide rate**: 11 (Croatia) to 24 (Kazakhstan)
- **Lower-middle suicide rate**: 4 (United Kingdom) to 7.6 (Bulgaria)
- **Upper-middle suicide rate**: 8.1 (Czech Republic) to 10.8 (Switzerland)
- **Low suicide rate**: 0.01 (Malta) to 3.8 (Spain)
- **Data not available for 15-19 years**
The Impossible Situation


Severe mental pain
+
Communication difficulty
=
High risk for suicide
Predictors of Lethality

Main Predictor: Communication Element

• Specific predictors
Self disclosure, schizoid and loneliness contribute 30% to the explained variance in assessment of lethality rating scale

• Mental Pain Element (include BDI, BHS) did not contribute to the variance of lethality scale
Assessment of Suicide Intent

From the Suicide Intent Scale:

**Objective**
- Main Predictor - Self disclosure

**Subjective**
- Main Predictor - Depression

More results:
- Strong relation between Lethality and Objective SIS
- Weak relation between Lethality and Subjective SIS
Mental Pain
  e.g. Depression, Hopelessness

Suicidal Behavior

Communication Difficulties
  e.g. Self Disclosure, Schizoid P., Loneliness, Avoidance Attach

“The Impossible Situation”

Medically Serious Suicidal Behavior
Parasuicide

“Parasuicidal or non-fatal suicidal behavior may be a form of communication” (Stangel Kreitman)
The Impulsive Aggressive Constellation
Case Material - case 1

Deborah had always been impulsive and oppositional from an early age. At about the age of 11 she developed anorexia nervosa probably as a result of her being an accomplished dancer in a ballet troop. With the onset of adolescence she developed very severe bulimia.

Her first admission to a psychiatric unit was occasioned by a suicide note, which she wrote to her teacher at school. In the unit she was “an impossible patient”. By the time she was 22 she had made over 100 suicide attempts. She received all kinds of psychosocial and biological therapies but to no avail, although with age (now 25) there is some tempering of her emotional instability.
Personality Constellation

There are certain individuals who, when faced with relatively minor life stressors will react with anger and anxiety and then develop a secondary depression which is often accompanied by suicidal behavior.

Van Praag and Apter (1997) have termed this as "serotonin-related anxiety/aggression stressor precipitated depression"
Understanding Personality Traits

- A tendency towards impulsive aggression may predispose suicidal behavior
- The risk increases when psychiatric disorder and impulsive aggressive personality traits co-occur
- The wish to die; the wish to kill and the wish to be killed (Freud’s “death instinct”)
Adults vs. Youngsters

There is now substantial evidence that suicide in younger people is a somewhat different phenomenon than among adults.

Specifically, there is more impulsivity, substance abuse and other personality disorders in younger completed suicides.
Genetics of Suicidal Behavior

- Impulsivity and aggression are likely to be involved in the genetics of suicidal behavior.
- Higher familial loading for suicidal behavior was found in those attempters and completers who made more dangerous attempts and who were more aggressive.
Case Material - case 2 ("The case of Ellen West")

Ellen West was the daughter of wealthy Jewish parents who had great control over her. Her father interfered twice when she became engaged, and when she finally married it was to a cousin.

From age 19 she developed the fear of becoming fat and by 21 had developed Anorexia Nervosa. She was hospitalized but this only increased her suicidal thoughts. She was discharged from the sanatorium at the request of her family.

On the third day after returning home she appeared to be a changed person; she ate and enjoyed a walk with her husband. That evening she took a lethal dose of poison.
Methods in Suicide Research

Who to study?

- Suicide attempters in general (Parasuicide/DSH)?
- Suicide completers (psychological autopsies)?
- MSSA: Medically serious suicide attempts
Why to Study Medically Serious Suicide Attempts (MSSA)

- Has been found to resemble completers fairly closely
- MSSA’s are twice as likely as other suicide attempters to complete suicide and...
  - Allowing to gather psychological details of the suicidal process (e.g., cognitive processes)
  - Allowing to gather personal characteristics such as subjective feelings and thoughts of the attempters (Hawton, 2001)
Definition of MSSA

A suicide attempt that required hospital admission for longer than 24 hours

Treatment either in
(a) a specialized unit (including the intensive care or burn unit) or
(b) surgery under general anesthesia (e.g., for tendon repair, stabbing injuries)
(Beautrais, 2003)
Multiple Hierarchical Regression Analysis For Lethality Rating Scale

Table 1. Findings of multiple hierarchical regression analysis for lethality rating scale in suicide attempters (N=336)

<table>
<thead>
<tr>
<th>Model steps</th>
<th>Predictor variables</th>
<th>R²</th>
<th>ΔR²</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mental Pain variables (Total) BDI, BHS, OMMP</td>
<td>.02</td>
<td>.02</td>
<td>.127</td>
</tr>
<tr>
<td>2</td>
<td>Communication Difficulties variables (Total) SDQ, Schizoid, UCLA Loneliness</td>
<td>.19</td>
<td>.17</td>
<td>.011**</td>
</tr>
<tr>
<td>3</td>
<td>Interaction Mental Pain total * Communication Difficulties total</td>
<td>.22</td>
<td>.03</td>
<td>.050*</td>
</tr>
</tbody>
</table>
Medical Lethality of Suicide Attempt as Function of Mental Pain and Communication Difficulties Component
Prediction of Suicide Intent Among MSSAs

Mental pain contributed to prediction of the subjective intent

Communication difficulties variables had significant contribution for medical lethality and objective suicide intent

Figure 1. Severity levels of suicide intent subscales as function of mental pain and communication difficulties components (N=102).
Prediction Over Time

In a recent follow-up study on psychiatric inpatients, we demonstrated that neither mental pain or communication difficulties predict a follow-up suicide attempt over time. Only hopelessness and depression were predictors of a follow-up attempt at suicide and the medical severity of the follow-up attempt.

Effect of interaction of age and depression on medical severity of follow-up suicide attempt

Why Communication Difficulties Have Such an Effect on Medical Severity?

distressed people with communication difficulties cannot ask for assistance and therefore do not receive any support.

Social communication may play a central role in organizing the intrapsychic response to perceived stress and anguish, helping the person to acquire a relative perspective regarding his/her situation.

The loneliness and lack of social support consequent to communication difficulties may further aggravate underlying psychopathology, which is often the major risk factor for suicide.

The lack of disclosing information to others can decrease dramatically the possibility for early detection and intervention.
The Psychological Mechanism of a Medically Serious Suicide Attempt

Taken together, our findings highlight the importance of the combination of clinical and interpersonal variables in the process leading to severe suicidal behavior

Severe mental pain + Communication difficulty = High risk for suicide
What is the best case-finding option?
The SEYLE Project Participating Countries
Why Start in Schools?

• Highest likelihood of exposure to a prevention program for adolescents

• Effects larger community connected to the school

• Teachers are inadequately trained on issues regarding adolescent suicide

Lazear, Roggenbaum & Blase, 2003
### Study Design

**Random selection of schools (40-48 classes)**

| Arm I (10-12 classes; n=250) | Gatekeeper Training with referral (QPR) |
| Arm II (10-12 classes; n=250) | Awareness program with self-referral |
| Arm III (10-12 classes; n=250) | Professional Screening with referral (ProfScreen) |
| Arm IV (10-12 classes; n=250) | Control Group (Minimal intervention) |

\[ N_{\text{country}} = 1000 \]
\[ N_{\text{total}} = 11000 \]

**Table 3.** This table represents the general study design. In every country 1000 subjects will be recruited and will undergo baseline and two follow-up evaluations. Subjects will be randomised into four arms (250 subjects in each arm). Subjects in the first three arms will undergo different kinds of interventions evaluated in the research project. Subjects in the fourth arm will undergo a minimal intervention and will be considered as control group. For randomization procedures please see the corresponding section of the procedures manual. Only one type of intervention will be performed in one school in order to avoid confounding effects.
Comparisons of Interventions

• Empowerment of teachers
  – Question, Persuade and Refer (QPR)

• Empowerment of professionals
  – Professional Screening (Prof Screen)

• Empowerment of pupils
  – Awareness increasing intervention (YAM)
Main Outcomes of SEYLE-RCT

- Incident cases of suicide attempts
- Incident cases of severe suicidal ideation, including having a suicidal plan
- Incidence and prevalence of moderate or severe depression
Youth Aware of Pupil Empowerment Mental Health (YAM) Intervention

• Results in RCT:
  ▪ Incident suicide attempts
  ▪ Incident suicide thoughts/plans
  ▪ Incidence of depression
  ▪ Prevalence of depression

• Effects of YAM:
  ▪ Incident suicide attempts
    • (OR: 0.45 [0.24 - 0.85]; p=0.014)
  ▪ Incident severe suicidal ideation/plans
    • (OR: 0.50 [0.27 - 0.92]; p=0.025)
  ▪ Incident moderate/severe depression
    • (OR: 0.71 [0.52 - 0.97]; p=0.031)
Youth Aware of Mental Health (YAM) Intervention

• The observed reduction in incident suicide attempts was more than 50%.

• This effect is higher than those seen in other successful universal public health interventions regarding:
  - Bullying and bully victimization (17-23%)
  - Certain types of school-based interventions addressing smoking cessation (14%)

Wasserman D. et al., 2015
SEYLE Baseline Results (Israel)

**Life time attempts (10%) (n=13)**

"Have you ever spoken to anyone about your attempt"

- To parent 12%
- To sibling 8%
- To friend 31%
- To no one 27%

(vs. 30 - 60% - Shaffer, 2010)

14-17 year olds; Total N=1285
SEYLE Results: Referral of high risk for suicide subjects in Israel (n=111)

- Referred to emergency treatment—unknown to school system: 35.14% (n=39)
- False positive: 53.15% (n=59)
- Already known to school system and in treatment: 5.41% (n=6)
- Other: 6.31% (n=7)
Screening: Two-question Approach

- Have you ever tried to kill yourself?
- Have you thought about killing yourself in last three months?

(Similar to Emergency cases in SEYLE)

Scott et al. 2009
Shaffer 2010
Conclusions

- Adolescent suicide is a major public health problem
- Adolescent suicide is a heterogeneous problem depending on context and setting
- Dramatic epidemiological shifts may provide clues for understanding suicide in young people
- Inability to ask for help may be an important factor in lethality and a potential focus for prevention
- Classroom interventions may be helpful