The current study was part of a large epidemiological study of completed suicide over the life span. The study was divided into three parts:

1. Adolescent suicide
2. Adult suicide
3. Geriatric suicide

This part of the study focused on all adolescent suicides in Ontario from ages 11 to 20 for three consecutive years; a total of 267.

### Percent by Gender

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 - 15</td>
<td>22(73.3%)</td>
<td>8(26.7%)</td>
<td>2.7:1</td>
</tr>
<tr>
<td>16-20</td>
<td>198(83.5%)</td>
<td>39(16.5%)</td>
<td>5:1</td>
</tr>
</tbody>
</table>

### Suicide Rates by Locale

<table>
<thead>
<tr>
<th>Locale</th>
<th>% of population</th>
<th>% of suicides</th>
<th>No. of suicides</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>60%</td>
<td>48%</td>
<td>127</td>
<td>5.1</td>
</tr>
<tr>
<td>Rural</td>
<td>39%</td>
<td>42%</td>
<td>113</td>
<td>6.9</td>
</tr>
<tr>
<td>Reserve</td>
<td>1%</td>
<td>10%</td>
<td>27</td>
<td>65.9</td>
</tr>
</tbody>
</table>
Differences in Gender Ratios as a Function of Locale

<table>
<thead>
<tr>
<th>Locale</th>
<th>Male</th>
<th>Female</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>99(78.6%)</td>
<td>27(21.4%)</td>
<td>3.7:1</td>
</tr>
<tr>
<td>Rural</td>
<td>97(87.4%)</td>
<td>14(12.6%)</td>
<td>6.9:1</td>
</tr>
<tr>
<td>Reserve</td>
<td>22(81.5%)</td>
<td>5(18.5%)</td>
<td>4.4:1</td>
</tr>
</tbody>
</table>

There were no significant differences found between those who wrote suicide notes and the total sample. None of the adolescent who left notes were in special education classes nor were they identified as being learning disabled.

Adolescent Suicides

It has been assumed that an average or above average I Q score precludes the possibility of the victim having had a learning disability (Shaffer, 1974).

This has resulted in learning disabilities being under investigated as a risk factor in adolescent suicide.

Learning Disabilities

An individual with a learning disability has difficulty learning despite average to above average intelligence.
Many children and adults with learning disabilities have significant deficits in written language including difficulty in forming letters, grammar and syntax, punctuation and spelling. The presence of such errors in suicide notes would be strong presumptive evidence of learning disabilities in their authors.

**Rationale**

**Definition of Learning Disabilities**
- A variety of disorders that affect the acquisition, retention, understanding and organization or use of verbal and/or non-verbal information.
- Not the same as having low intelligence.
- Range in severity.

**Learning Disabilities Interfere with…**
- Oral language (listening, speaking, understanding);
- Reading (decoding, comprehension);
- Written language (spelling, written expression);
- Mathematics (computation, problem solving);
- Organizational skills, social perception and social interaction

**Spelling, Handwriting, and Learning Disabilities**
- Writing is the most complex language task.
- Those with learning difficulty frequently have severe and persistent problems in mastering basic writing skills.
- These problems include difficulty with fine motor integration that can affect handwriting and perceptual dysfunction that may result in spelling errors.

**Components of the Spelling and Handwriting Process**

**Typical Errors Found in Adolescent Suicide Notes**
- know = now
- shot gun = shotgun
- clif = cliff
- every body = everybody
- new = knew
- your = you’re
- attrative = attractive
- alot = a lot
- I’am = I’m
- pice = piece
- too = to
- seemingly = seemingly
Method

All available suicide notes (n = 27) from 267 consecutive adolescent suicides were analyzed for spelling and handwriting errors.

The original suicide notes were dictated to non-learning disabled adolescents (NLD) and to learning disabled adolescents (LD) matched by age (± 2 years) to the adolescents who had committed suicide (AS).

Four raters, who were blind to group membership, rated all the writing samples on spelling errors and handwriting errors.

Results

There were no significant differences found between the adolescent suicides (AS) and the learning disabled adolescents (LD).

There were no significant differences found between the non learning disabled adolescents (NLD) and the geriatric suicides (GS).

There were significant differences on all measures between the the adolescent suicides (AS) and the learning disabled adolescents (LD) and the non learning disabled adolescents (NLD) and the geriatric suicides (GS).

LD = AS
NLD = GS
LD and AS

The LD Control Group (LD)
Adolescents (n = 28) previously diagnosed and formally identified as learning disabled attending local schools where they received special education help.

The Non-LD Control Group (NLD)
Adolescents (n = 41) attending local schools, who had no identified learning problems, and who were normally achieving students in school.

The Geriatric Suicide Control Group (GS)
Sixteen suicide notes, 10 of which were usable, of older (ages 65+) adults who had committed suicide (GS) in Ontario in 1989 were available for comparison.

Percent Spelling Errors

Test of Written Language Scores
Conclusions

- Some deficits associated with learning disabilities:
  - Poor problem solving skills
  - Poor social skills
  - Difficulty in interpersonal relationships
  - Poor impulse control
  - Low frustration tolerance
  - Impaired ability to handle stress

may predispose some adolescents to commit suicide impulsively as a response to stress.

Conclusions

89% of the adolescents who left suicide notes had significant deficits in spelling and handwriting similar to learning disabled adolescent of the same age. Since this sub group did not differ significantly from the whole sample, it suggests that 89% of adolescents who commit suicide have learning disabilities.

Many, if not most, of these adolescent suicides could have been prevented if there were better screening, identification and intervention programs in place in schools.