How do we know the responses are authentic?

How do we check for this?

Joseph P. Robinson-Cimpian

- Inaccurate estimation of disparities due to mischievous responders: Several suggestions to assess conclusions

Evaluating Survey Response Sincerity

- 1997 Rosenblatt and Furlong
  - For example, student of the week (4 times in past month)
- 2001 Furlong et al. extreme response bias
- Roninson-Cimpian 2014

Factors influencing SAQ responses

- Anonymous v. non-Anonemous
- Attitudes formed from how previous surveys were managed and used
- Organization and administration (instructions and attitude of administrator)
- Presentation issues (e.g., generic response sheet forms)
- Social desirability
- Perceived rationale, meaning, and potential use
- Random carelessness
- Fatigue or other factors that limited time
- Extreme responders
- Mischievous responders

Invalid response patterns

- Can leads to potential problems with between group comparisons.
Example: Adopted Children

- Miller et al. 2000
  - Add Health 458 self-identified adopted youths
- Fan et al. (2002)
  - 88 (19%) of these 458 were later found to actually have biological parents
  - These “jokers” when compared to true adoptees:
    - 1.48, 1.67, 1.95 SDs higher on: drinking problem, physical problem, truancy problems
- Fan (2003)
  - Original findings (Miller et al., 2000) were retracted

ADD Health Artificial Limb

- Fan et al. (2006)
  - 253 youths reported using an artificial limb for 1+ years
  - In-person follow-up interviews found only 2 true cases!
  - Misrepresentation also associated with misrepresentation of immigration status, gender, age, race/ethnicity

Mischievous Responders

- “Although some misreporting may be due to confusion or error, the consistent pattern of misreporting...combine with patterns of extreme reporting of risk behavior, suggest that these youths intentionally misreported their data (Fan et al., 2006), hence the term mischievous responders
Mischievous Responders

• “Quite simply, mischievous responders can lead to biased estimates for a wide range of between-group disparities, particularly when studying under represented minorities.”

Related Research

• Cornell (2012)
• 12% reported that they did not answer honestly
• Polin et al. (1993) added a fictitious drug
  • Derbisol

Example of Screener Items Using a Local Minnesota (USA) survey

<table>
<thead>
<tr>
<th></th>
<th>Heterosexual</th>
<th>LGBQ</th>
<th>Transgender</th>
<th>Disabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visited Dentist 3+ years ago</td>
<td>3.4%</td>
<td>12.8%</td>
<td>30.9%</td>
<td>25.2%</td>
</tr>
<tr>
<td>Height top 2.5%</td>
<td>3.7%</td>
<td>13.5%</td>
<td>41.7%</td>
<td>31.9%</td>
</tr>
<tr>
<td>Family member in gang</td>
<td>1.9%</td>
<td>11.3%</td>
<td>35.3%</td>
<td>27.6%</td>
</tr>
</tbody>
</table>
Group Low Frequency Responses

<table>
<thead>
<tr>
<th>N infrequent responses</th>
<th>Heterosexual (11,698)</th>
<th>LGBQ (771)</th>
<th>Transgender (204)</th>
<th>Disabled (301)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>84.5%</td>
<td>62.8%</td>
<td>34.8%</td>
<td>56.5%</td>
</tr>
<tr>
<td>1</td>
<td>11.6%</td>
<td>19.8%</td>
<td>13.7%</td>
<td>11.0%</td>
</tr>
<tr>
<td>2</td>
<td>2.4%</td>
<td>5.7%</td>
<td>12.3%</td>
<td>4.3%</td>
</tr>
<tr>
<td>3</td>
<td>0.6%</td>
<td>1.3%</td>
<td>3.4%</td>
<td>6.3%</td>
</tr>
<tr>
<td>10</td>
<td>0.04%</td>
<td>2.3%</td>
<td>8.3%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Suicidal Ideation

Consequences

- Not addressing response sensitivity
  - inaccurate research
  - inefficient and possibly ineffective interventions
  - misdirected policy
Rum Raisin Study

Who is a Mischievous Responder?
"Jokesters" who provide extreme, potentially untruthful, responses that are associated with involvement in high-risk behaviors.

Research Questions
1. What proportion of sample endorsed items designed to detect mischievous responding?
2. What were impacts of mischievous responding on response honesty and survey relevance?
3. Did mischievous responders answer items differently than non-mischievous responders?
4. How did mischievous responding influence complete mental health screening? (Using a dual-factor mental health model)

Forthcoming
Effects of mischievous responding on the results of school-based mental health screening: I love rum raisin ice cream, really I do!
School Psychology Quarterly. doi:10.1037/spq0000168
Sample
Data from universal mental health screening at a comprehensive high school

- $N = 1,857$ students, central California, 86% participation
- Female: 51.2% other gender self-designation = 1.2%
- Grades: 9 (25.0%), 10 (29.0%), 11 (25.5%), and 12 (20.5%)
- Latino/a (45.2%), White (38.5%), Multiple group identification (11.0%), Asian (2.9%), Black (1.2%), American Indian (0.5%), Pacific Islander (0.3%), another group (0.4%)

Mischievous Response Items

- Do you have a disability?
  [1-2] hearing impairment/deafness and blindness
- When was the last time you were seen by a dentist?
  [3] three-four years and five or more years
- How much do you weigh without your shoes on?
  [4] ≤ 89 (bottom 2.5%) and ≥ 110 (top 2.5%)
- How many times have you been recognized as a student of the month?
  [5] 10+
- How many siblings do you have?
  [6] 6-10+
- If you had to choose one flavor of ice cream for a year, which one would you select?
  chocolate, vanilla, rum raisin, strawberry I’d go without ice cream: [7] rum raisin

(range = 1.2% [blindness] to 4.9% [weight]) met Robinson-Cimpian (2014) recommendations for mischievous items

Incidence of Mischievous Responding

- MR-0 = 83.5%
- MR-1 = 13.9%
- MR-2+ = 1.8%

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

ISPA_Mischievous - July 13, 2016
Results
School Connectedness

Results
Life Satisfaction

Results
SDQ Emotional Withdrawal
Results

SDQ Behavior/Conduct

<table>
<thead>
<tr>
<th>Mischievous Responder Group</th>
<th>SDQ Behavior/Conduct</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-0</td>
<td>2.2</td>
</tr>
<tr>
<td>MR-1</td>
<td>2.6</td>
</tr>
<tr>
<td>MR-2+</td>
<td>3.9</td>
</tr>
</tbody>
</table>

MR-2+ vs. MR-0 students

<table>
<thead>
<tr>
<th>Difference</th>
<th>Comparison</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>School Connectedness</td>
<td>0.40</td>
</tr>
<tr>
<td></td>
<td>Life Satisfaction</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>SDQ Internal</td>
<td>0.45</td>
</tr>
<tr>
<td></td>
<td>SDQ Behavior</td>
<td>0.60</td>
</tr>
</tbody>
</table>

Complete Mental Health Classifications by Mischievous Responder Group

<table>
<thead>
<tr>
<th>Average-Low Distress SDQ Emo or Behav T ≤ 60</th>
<th>Low BMDLSS SWB ≤ 30th percentile of sample</th>
<th>Average-High BMDLSS SWB ≥ 31st percentile of sample</th>
<th>Complete Mental Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-0</td>
<td>15.6% (238) x</td>
<td>64.7% (886) x</td>
<td>64.7% (886) x</td>
</tr>
<tr>
<td>MR-1</td>
<td>19.4% (49) x</td>
<td>55.7% (141) x</td>
<td>55.7% (141) x</td>
</tr>
<tr>
<td>MR-2+</td>
<td>18.4% (9) x</td>
<td>40.8% (20) x</td>
<td>40.8% (20) x</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>High Distress SDQ Emo or Behav T &gt; 60</th>
<th>Troubled</th>
<th>Symptomatic but Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-0</td>
<td>11.9% (181) x</td>
<td>7.8% (119) x</td>
</tr>
<tr>
<td>MR-1</td>
<td>16.6% (42) x</td>
<td>8.3% (21) x</td>
</tr>
<tr>
<td>MR-2+</td>
<td>18.4% (9) x</td>
<td>22.4% (11) x</td>
</tr>
</tbody>
</table>

Note: SDQ = Modified Strengths and Difficulties Questionnaire. BMDLSS = Brief Multidimensional Life Satisfaction Scale. *x* = Bonferroni-corrected. Each subscript letter denotes a subset of mischievous responder group categories whose column proportions do not differ significantly from each other. X 2 = 26.07 (6, 1826), p < .001, Cramer’s V = .084.
Answered Honestly?

<table>
<thead>
<tr>
<th>Mischievous Response (MR) Group</th>
<th>X²</th>
<th>effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>all</em> or <em>most</em> questions ¹</td>
<td>94.8%</td>
<td>90.1%</td>
</tr>
<tr>
<td><strong>Peers:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endorsed <em>all</em> or <em>most</em></td>
<td>48.5%</td>
<td>46.2%</td>
</tr>
</tbody>
</table>

(1) Self and Other-Student Response Honesty by Mischievous Response Group
(2) How many questions in this survey did YOU answer honestly?
(3) How many OTHER STUDENTS at your school do you think answered the questions in this survey honestly?

Note. Each subscript letter denotes a subset of mischievous response group categories whose column proportions do not differ significantly from each other at the .05 level. *** p < .001.

Authentic Responding
Did students respond with acceptable sincerity?

Answering Honestly by Number of Personal Strengths

<table>
<thead>
<tr>
<th>Number of SEHS-S Domain Strengths (range = 0–4)*</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Strengths</td>
<td>82</td>
</tr>
<tr>
<td>1 Strength</td>
<td>33</td>
</tr>
<tr>
<td>2 Strength</td>
<td>41</td>
</tr>
<tr>
<td>3 Strength</td>
<td>40</td>
</tr>
<tr>
<td>4 Strength</td>
<td>30</td>
</tr>
<tr>
<td><strong>Belief in Self</strong></td>
<td>94</td>
</tr>
<tr>
<td><strong>Belief in Others</strong></td>
<td>56</td>
</tr>
<tr>
<td><strong>Emotional Competence</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Engaged Living</strong></td>
<td></td>
</tr>
</tbody>
</table>

* Average item score of 4.2 or higher on the 12 domain items
Survey Relevance by Number of Personal Strengths

By Number of Personal Strengths

Percent

0
25
50
75
100

Number of SEHS-S Domain Strengths (range = 0-4)*

0 Strengths
1
2
3
4 Strengths

Belief in Self
Belief in Others
Emotional Competence
Engaged Living

Relevant to Student Experiences
Help School Support Students
Helped Me to Tell Adults

* Average item score of 4.3 or higher on the 12 domain items

Best Practice Recommendations
For schoolwide screening (or any school-based surveys)

- Include mischievous response or bogus items
  - see Robinson-Cimpian, Furlong et al. for example

Best Practice Recommendations
For schoolwide screening (or any school-based surveys)

- Include survey orientation items
  - "This survey included questions that are important to my life experiences."
    - see Furlong et al. for example
Best Practice Recommendations
For schoolwide screening (or any school-based surveys)

- **Include simple response honesty question**
  - “How many questions in this survey did YOU answer honestly?” with response options of all, most, some, hardly any, and none.
  - see Cornell, Furlong et al. for examples

- **In research, screen for outliers**

- **Strongly consider NON–anonymous survey procedures**
  - with appropriate consent
Key Studies


