“JUST TALK TO YOUR NEIGHBOR”

How Our Socially Anxious Students Perceive Active Learning Classrooms

Steven G. Buzinski, Matt Cohen, Allie Day, Emma Armstrong-Carter
University of North Carolina
Society for the Teaching of Psychology | SPSP 2018
SOCIAL DETERMINANTS OF LEARNING
Active Learning
Man’s Heart Stops As Speaker Asks Audience To Turn To Person Next To Them
ACTIVE LEARNING

“Active learning engages students in the process of learning through activities and/or discussion in class... it often involves group work.”

-Freeman et al. 2014

Active Learning Techniques

Think-Pair-Share  Discussion Questions  Peer Instruction
Sequence Strips  Teach-Reteach  See 1, Do 1, Teach 1
Inquiry Guided  Flipped Classroom  Socratic Questioning
ACTIVE LEARNING

“Lecture...allowed socially anxious students to avoid cues associated with their anxiety responses, whereas active learning generally does not.”

-Jon Abramowitz, President of ABCT (personal communication)
Social Anxiety
ONE DOES NOT SIMPLY

-Distress & excessive self-consciousness
-Embarrassed or humiliated by own actions

ENTER A ROOM AND INTERACT WITH PEOPLE
SOCIAL ANXIETY

Social Anxiety
Maintenance Model

(Hofmann, 2007)
SOCIAL ANXIETY

Apprehensive about Social Situations

- Perceive *high social standards* (Hofmann, 2007)
- *Doubt ability* to meet (Leary, 2001)
  - Underestimate *social skills* (Strauman, 1989)
  - Social achievement *strategies* (Hiemisch, et al. 2002)
- Exaggerate prob. of *negative outcome* (Foa et al. 1996)

Danger of acting in inept & unacceptable manner

![Pie chart showing phrases that cause fear](chart.png)
SOCIAL ANXIETY

Attention Shifts to Self

- Detailed self-monitoring (Clark & Wells, 1995)
  - Awareness of feared responses (Clark & Wells, 1995)
  - Perceive little control (Hofmann & Barlow, 2002)
- Miss positive cues (Wells & Papageorgiou, 1998)
# FEARED ANXIETY RESPONSES

Symptoms of Social Anxiety Scale (Mattick & Clarke, 1998)

<table>
<thead>
<tr>
<th>Heart palpitations</th>
<th>Trouble expressing self</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blushing</strong></td>
<td>Shortness of breath</td>
</tr>
<tr>
<td>Chest pain</td>
<td>General tension</td>
</tr>
<tr>
<td>Hot/cold flashes</td>
<td>Dizziness</td>
</tr>
<tr>
<td>Stammering</td>
<td>“Butterflies”</td>
</tr>
<tr>
<td>Dry throat</td>
<td>Sweating</td>
</tr>
<tr>
<td>Shaky voice</td>
<td>Shaking hands</td>
</tr>
<tr>
<td>Smiling uncontrollably</td>
<td>Wobbly legs</td>
</tr>
<tr>
<td>Wanting to escape</td>
<td>Nausea</td>
</tr>
</tbody>
</table>

Purdon et al. (1999) – Most frequent in college student sample
Safety Behaviors and Rumination

- Remove self or safety behaviors (Wells et al. 1995)
  - Ex. Drinking; talking fast; “wingman”; inaccessible seat
  - Reduces habituation (Hofmann, 2007)
- Ruminate on “failure” (Mellings & Alden, 2000)
  - Enhances encoding (Clark & Wells, 1995)

Maintains & exacerbates anxiety
Social Anxiety in Active Learning Classes
ACTIVE LEARNING

- Hesitant about interaction — Most AL involves Interaction
- Unrealistic standards — Social & Understanding
- Self-focus & safety behaviors — Interference | Not Engaging
- Rumination — Self instead of Discussion

**Active Learning Techniques**

<table>
<thead>
<tr>
<th>Think-Pair-Share</th>
<th>Discussion Questions</th>
<th>Peer Instruction</th>
</tr>
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<tr>
<td>Sequence Strips</td>
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<td>Inquiry Guided</td>
<td>Flipped Classroom</td>
<td>Socratic Questioning</td>
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</tbody>
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RESEARCH QUESTIONS

- Study 1ab: Are students socially anxious? Is anxiety associated with quiz performance?

- Study 2: Is social anxiety associated with specific anxieties about AL classrooms?

- Study 3: Do the results from study 2 replicate in a non-introductory sample?
Are students socially anxious? Is anxiety associated with quiz performance?
MEASURING SOCIAL ANXIETY

- 1A: Fall 2015 (N = 101) Social Psychology
- 1B: Spring 2016 (N = 90) Social Psychology

- Administered week 02
- Bitlink to Qualtrics on phone
  - Social Interaction Anxiety Scale ($\alpha = .86$)
  - Social Phobia Scale ($\alpha = .87$)
  - “I have skipped class before…” (0 – 4 Likert scale)
  - Post-Class Quiz
### SIAS-6 and SPS-6

**Instructions:** For each question, please circle a number to indicate the degree to which you feel the statement is characteristic or true of you. The rating scale is as follows:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all characteristic or true of me</td>
<td>Slightly characteristic or true of me</td>
<td>Moderately characteristic or true of me</td>
<td>Very characteristic or true of me</td>
<td>Extremely characteristic or true of me</td>
<td></td>
</tr>
<tr>
<td>1. I have difficulty making eye contact with others.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I find it difficult mixing comfortably with the people I work with.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I tense up if I meet an acquaintance on the street.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I feel tense if I am alone with just one person.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I have difficulty talking with other people.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I find it difficult to disagree with another’s point of view.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I get nervous that people are staring at me as I walk down the street.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I worry about shaking or trembling when I’m watched by other people.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I would get tense if I had to sit facing other people on a bus or train.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I worry I might do something to attract the attention of other people.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. When in an elevator, I am tense if people look at me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. I can feel conspicuous standing in a line.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

*Note.* Items 1–6 are from the Social Interaction Anxiety Scale (SIAS), and Items 7–12 are from the Social Phobia Scale (SPS).
SOCIAL ANXIETY

To what extent are our students socially anxious?

**Study 1A**

<table>
<thead>
<tr>
<th>SIAS</th>
<th>SPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.17</td>
<td>5.73</td>
</tr>
</tbody>
</table>

**Study 1B**

<table>
<thead>
<tr>
<th>SIAS</th>
<th>SPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.72</td>
<td>8.01</td>
</tr>
</tbody>
</table>
Does extent of social anxiety relate to having skipped class?

**STUDY 1A**

Social Anxiety Inventory (SIAS) vs. Skipped Class

- SIAS: 1st Quartile, 2nd Quartile, 3rd Quartile, 4th Quartile
- Skipped Class: 0, 0.5, 1, 1.5, 2, 2.5, 3

Correlation: $r = 0.31^{**}$

**STUDY 1B**

Social Phobia Scale (SPS) vs. Skipped Class

- SPS: 1st Quartile, 2nd Quartile, 3rd Quartile, 4th Quartile
- Skipped Class: 0, 0.5, 1, 1.5, 2, 2.5, 3

Correlation: $r = 0.34^{**}$

Significance: $p < 0.001$
Does extent of social anxiety relate to post-class quiz performance?

STUDY 1AB (DATA BELOW COMBINES CLASSES)

$r = -0.05$

$r = -0.17^*$

* $p = 0.018$
Does social anxiety relate to specific concerns about active learning classes?
MEASURING SOCIAL ANXIETY

- Spring 2017 General Psychology \((N = 256)\)

- Administered week 02

- Bitlink to Qualtrics on phone
  - Social Interaction Anxiety Scale \((\alpha = .86)\)
  - Social Phobia Scale \((\alpha = .87)\)
  - Internal Responses in Active Learning Class \((\alpha = .89)\)
  - Behavioral Responses in Active Learning Class \((\alpha = .80)\)
  - Effort to Learn \((\alpha = .75)\)
# Internal & Behavior Responses (ST.2)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Strongly Agree</th>
</tr>
</thead>
</table>

### Internal Responses

1. I feel uncomfortable when I am asked to turn to someone sitting near me to discuss class material.

2. It's difficult for me to work collaboratively with classmates in class because it makes me feel nervous.

3. I find it difficult to concentrate when I know that I will have to interact with my peers during class.

4. I have felt dread or anxiety about attending class when I knew that I would have to interact with my classmates.

5. I have a hard time thinking clearly when I'm interacting with other students during class.

6. I often worry that what I have to share in class discussions isn’t worth saying or isn’t right.

7. Discussing class material with other students during class can be exhausting.

### Behavioral Responses

1. I try to avoid picking a partner or joining a group when my professors ask students to work together.

2. I don’t always listen to fellow students while we’re working together.

3. I find it hard to participate in group work unless I’m working with people that I already know.

4. I only speak up in group discussion if I know exactly what I’m going to say.

5. I’m not good at articulating my thoughts when discussing things with other students during class.

6. I don't participate often during class discussions or group work.

7. I sometimes miss out on things in class because I am practicing what I'm going to say during discussions.
EFFORT TO LEARN (ST. 2)

1. I prefer class work that is challenging so I can learn new things.

2. I often choose project or paper topics that I will learn something from, even if they require more work.

3. It is important to me that I actually learn what is being taught in my classes.

4. Compared with other students, I put high levels of effort into learning.

5. I always try to understand what the teacher is saying, even if it doesn’t make sense.
To what extent are our students socially anxious?

**Study 2**

<table>
<thead>
<tr>
<th>Total Scale Score</th>
<th>SIAS</th>
<th>SPS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>14.14</td>
<td>14.08</td>
</tr>
</tbody>
</table>
Does extent of social anxiety relate to specific concerns about AL classes?

**STUDY 2**

- **SIAS** vs. **Internal**: $r = 0.65^{**}$
- **SIAS** vs. **Behavior**: $r = 0.61^{**}$
- **SPS** vs. **Internal**: $r = 0.59^{**}$
- **SPS** vs. **Behavior**: $r = 0.54^{**}$

**Internal scores** vs. **Behavior scores**

**SA 1st Quartile** vs. **SA 2nd Quartile** vs. **SA 3rd Quartile** vs. **SA 4th Quartile**

$**p<.001$
Does extent of social anxiety relate to specific concerns about AL classes?

**STUDY 2**

- **Uncomfort discussing**: Lowest SA Quartile = 3.4, Highest SA Quartile = 5.44
- **Nervous collaborate**: Lowest SA Quartile = 3.82, Highest SA Quartile = 6.02
- **Diff concentrate interact**: Lowest SA Quartile = 4.19, Highest SA Quartile = 6.25
- **Felt dread when interact**: Lowest SA Quartile = 3.75, Highest SA Quartile = 6.27
- **Hard to think interacting**: Lowest SA Quartile = 4.12, Highest SA Quartile = 6.21
- **Worry what to share**: Lowest SA Quartile = 2.78, Highest SA Quartile = 5.09
- **Discussing exhausting**: Lowest SA Quartile = 3.46, Highest SA Quartile = 5.32
- **Avoid pick partner**: Lowest SA Quartile = 3.68, Highest SA Quartile = 5.53
- **Don't always listen**: Lowest SA Quartile = 4.66, Highest SA Quartile = 5.4
- **Ppl I already know**: Lowest SA Quartile = 3.16, Highest SA Quartile = 5.09
- **Only speak if know**: Lowest SA Quartile = 2.51, Highest SA Quartile = 4.35
- **Not articulate**: Lowest SA Quartile = 3.13, Highest SA Quartile = 5.21
- **Don't participate often**: Lowest SA Quartile = 3.63, Highest SA Quartile = 5.67
- **Miss things practicing**: Lowest SA Quartile = 3.32, Highest SA Quartile = 5.05
Does extent of social anxiety relate to effort to learn?

**STUDY 2**

* $r = -0.15^*$

* $r = -0.09$

* $p = 0.011$
STUDY 3

Do the results from study 2 replicate in a non-introductory sample?
MEASURING SOCIAL ANXIETY

- Spring 2018 Social Psychology ($N = 139$)

- Administered **week 04**

- Bitlink to Qualtrics on phone
  - *Social Interaction Anxiety Scale* ($\alpha = .72$)
  - *Social Phobia Scale* ($\alpha = .76$)
  - *Internal States in Active Learning Class* ($\alpha = .92$)
  - *Anxious Behaviors in Active Learning Class* ($\alpha = .82$)
<table>
<thead>
<tr>
<th>Strongly Disagree</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>Strongly Agree</th>
</tr>
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<td><strong>Internal Responses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>7. I sometimes miss out on things in class because I am practicing what I’m going to say during discussions.</td>
</tr>
</tbody>
</table>
Social anxiety related to internal states or behaviors?

**STUDY 3**

Social Anxiety Scale (SIAS) and Social Phobia Scale (SPS) Total Scale Scores:

- SIAS: 2.17
- SPS: 2.24
Does extent of social anxiety relate to specific concerns about AL classes?

**STUDY 3**

- SIAS vs. Internal (r = .56**)
- SPS vs. Internal (r = .40**)
- SIAS vs. Behavior (r = .48**)
- SPS vs. Behavior (r = .23*)

*Significance levels: *p<.01, **p<.001
Does extent of social anxiety relate to specific concerns about AL classes?

**STUDY 3**

- Uncomfort discussing: Lowest SA Quartile 1.98, Highest SA Quartile 3.39
- Nervous collaborate: Lowest SA Quartile 1.65, Highest SA Quartile 3.29
- Diff concentrate interact: Lowest SA Quartile 1.44, Highest SA Quartile 3
- Felt dread when interact: Lowest SA Quartile 1.63, Highest SA Quartile 3.29
- Hard to think interacting: Lowest SA Quartile 1.51, Highest SA Quartile 2.96
- Worry what to share: Lowest SA Quartile 2.68, Highest SA Quartile 4.25
- Discussing exhausting: Lowest SA Quartile 2.15, Highest SA Quartile 3.29
- Avoid pick partner: Lowest SA Quartile 1.85, Highest SA Quartile 3.18
- Don't always listen: Lowest SA Quartile 1.75, Highest SA Quartile 2.14
- Ppl I already know: Lowest SA Quartile 2.02, Highest SA Quartile 3.36
- Only speak if know: Lowest SA Quartile 2.75, Highest SA Quartile 3.93
- Not articulate: Lowest SA Quartile 2.25, Highest SA Quartile 3.36
- Don't participate often: Lowest SA Quartile 2.08, Highest SA Quartile 3.07
- Miss things practicing: Lowest SA Quartile 2.21, Highest SA Quartile 3.21
SUMMARY & CONCLUSIONS

What does this mean? What do we do now?
SUMMARY & CONCLUSIONS

Study 1a

- SIAS to Skip Class: \( r = .31^{**} \)
- SPS to Skip Class: \( r = .41^{**} \)

Study 1b

- SIAS to Skip Class: \( r = .37^{**} \)
- SPS to Skip Class: \( r = .34^{**} \)

Study 2

- SIAS to Internal: \( r = .68^{**} \)
- SPS to Internal: \( r = .59^{**} \)

Study 3

- SIAS to Internal: \( r = .56^{**} \)
- SPS to Internal: \( r = .40^{**} \)

- SIAS to Behavior: \( r = .48^{**} \)
- SPS to Behavior: \( r = .23^{**} \)
WHAT DO WE DO?

How many students are SA? *I have no clue.*
Is SA related to internal and behavioral responses in AL class? *Seems so.*
Does interference influence learning? *Maybe not (more research).*

What do we do?

Option 1: Give up active learning techniques.
Option 2: Intervention for AL
Option 3: Your thoughts?
“JUST TALK TO YOUR NEIGHBOR”

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