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What Am I Thinking Right Now?: Social Anxiety Symptomology and Its Impact on Theory of Mind Ability

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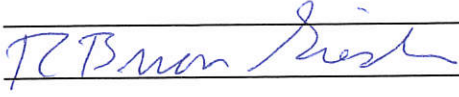
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**What Am I Thinking Right Now?: Social Anxiety Symptomology and Its Impact on
Theory of Mind Ability**

A Thesis

Presented to the Department of Psychology

College of Liberal Arts and Sciences

and

The Honors Program

of

Butler University

In Partial Fulfillment

of the Requirements for Graduation Honors

Shannon Ivy Reid

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ABSTRACT

Theory of Mind (ToM) is the ability to accurately read other peoples' minds, which includes their intentions, thoughts, and emotions (Buhlmann, Wacker, & Dziobek, 2015). Individuals with low ToM often experience anxiety in family and social life (Coupland, 2001; Ribeiro & Fearon, 2010), which is a common feature of social anxiety disorder (SAD). Because of this connection, the present study looks at the relationship between social anxiety and ToM. I hypothesized that individuals with greater SAD symptoms would exhibit decreased ToM ability, which was measured using the Hinting Task, the Story Comprehension Task, and the Reading the Mind with the Eyes Task. Furthermore, previous research has shown that individuals with SAD show an attentional bias towards negative facial expressions (Ribeiro & Fearon, 2010). Therefore, I hypothesized that individuals with greater SAD symptoms would exhibit attentional biases toward the negatively valenced expressions on the eyes task, resulting in decreased ToM ability. Results suggest that individuals with more avoidance of performance situations have difficulty understanding metaphorical expressions. This suggests that individuals with more social anxiety symptomology tend to exhibit decreased theory of mind ability in some aspects, partially confirming my hypothesis. Conversely, increased social anxiety symptoms were directly related to correctly identifying negatively valenced expressions on the Eyes task, suggesting that as SAD symptoms increased, so did the ability to identify negative emotions. This result, however, was only a trend. Together, the results suggest some support for the relationship between ToM and SAD and merit additional research.

What Am I Thinking Right Now?: Social Anxiety Symptomology and Its Impact on Theory of Mind Ability

Theory of Mind plays an important role in the understanding of emotions in social situations (Joorman & Gotlib, 2006). It has been found to be particularly important in situations such as avoiding conflict, determining the attitudes of others, and changing behavior based on the emotional reactions of others (Joorman & Gotlib, 2006). As defined by Buhlmann, Wacker, and Dziobek (2015), theory of mind (ToM) is the ability to correctly read other peoples' minds, including their intentions, thoughts, and emotions. Individuals have differing capacities of theory of mind. Those with low ToM have been found to possess difficulties with emotion regulation (Ribeiro & Fearon, 2010), social competence (Ribeiro & Fearon, 2010), and generalized anxiety in family and social life (Ribeiro & Fearon, 2010). This may lead them to struggle in social situations, which is a common feature of social anxiety disorder (SAD).

Social Anxiety Disorder is characterized by persistent, excessive fear or avoidance of social and performance situations (Hezel & McNally, 2014; American Psychiatric Association, 2013). A common feature of individuals with SAD is the biased interpretation of ambiguous social information (Buhlmann, Wacker, & Dziobek, 2015). These individuals also have the tendency to assume negative reactions from others, accompanied by the failure to absorb the actual social feedback when offered (Mathews & MacLeod, 2005). A reason that these individuals may exhibit this tendency is because they frequently classify neutral faces as angry (Bell et al, 2010). This supports the theory that individuals with SAD have a negative interpretation bias towards threat (Bell et al., 2010).

Research has been conducted to examine the possible relationship between social anxiety disorder and theory of mind. Hezel and McNally (2014) used the Reading-the-Mind-in-the-Eyes test (Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001), a common measure of ToM, and observed that individuals with SAD performed significantly worse than healthy individuals on this test. This suggested that SAD is associated with poor ToM. Therefore, in the present study, I hypothesize that individuals with greater symptoms of SAD would exhibit increased ToM impairment compared to those with fewer symptoms.

Additional research using the eyes task found that individuals with poor ToM showed an attentional bias towards negative faces (Ribeiro & Fearon, 2010). Individuals with SAD have been found to exhibit more attention towards fearful expressions (Blair et al, 2008). Additionally, research has shown that when participants are presented with expressions of a certain emotion, individuals with SAD need less intense valence of expressions to correctly identify anger (Joormann & Gotlib, 2006). Therefore, in the present study, I hypothesize that individuals with greater symptoms of SAD would display attentional biases towards negative expressions on the eyes task, resulting in decreased ToM ability, moreso than other stimuli and to a greater extent than individuals with fewer SAD symptoms.

Many of the studies mentioned previously have used individuals who were diagnosed with SAD. Relatively unexplored in the literature, however, is whether individuals with less severe social anxiety symptoms may also demonstrate decreased ToM ability. Given that psychological disorders represent extreme points on a continuum of symptomology (van Os, Linscott, Myin-Germeys, Delespaul, & Krabbendam, 2009),

examination of individuals who have varying intensities of social anxiety may prove useful. A research study conducted by Tibi-Elhanany and Shamay-Tsoory (2011) assessed participants and divided them into high symptomology or low symptomology of SAD. Participants ($n = 87$), ages 19 to 53 underwent a basic theory of mind task which assessed their affective and cognitive mental inferences. This computerized task consisted of a cartoon face and four pictures in each corner of the computer screen. The task measured the participants' ability to judge the face's mental state based upon its verbal cues and eye gaze. Participants were also assessed for their affective and cognitive empathic abilities, which could be seen as an interrelated aspect of ToM.

These researchers found that individuals with high symptomology showed a higher accuracy for the affective empathy task than their low symptomology counterparts. Participants with high symptoms of SAD also exhibited higher accuracy on the affective ToM task, while participants with low symptoms of SAD exhibited higher accuracy on the cognitive ToM task. The high performance on the affective task from the high symptomology individuals could be explained by the simplistic nature of the specific ToM task used. This ToM task poses a problem because it is rather easy to infer the mental state of the face, which results in the unusually high performance by both groups of participants. In the present study, more difficult ToM tasks, including the Hinting Task, the Story Comprehension Task, and the Reading the Mind in the Eyes Task, will be used. These tasks should provide a more accurate measurement of the ToM abilities of each of the participants.

My research focuses on the relationship between SAD and ToM. While most of the past research has looked into perceptual ToM, my research will focus on both

perceptual and cognitive ToM. Different tasks can measure different forms of theory of mind. The Hinting Task and Story Comprehension Task are used as cognitive measures of theory of mind, while the Eyes Task is commonly used as a perceptual measure of theory of mind. Although some previous research examined social-perceptual ToM in individuals with symptoms of SAD, there was no research looking at the potential relationship between the more social-cognitive ToM and the continuum of SAD symptomology. The present study attempts to fill this gap:

Hypothesis 1: Individuals with greater symptoms of social anxiety disorder will exhibit impairment in theory of mind.

Hypothesis 2: Individuals with greater symptoms of social anxiety disorder will display attentional biases toward negative expressions on the eyes task, resulting in decreased theory of mind ability.

Method

Participants

In this study, 27 participants were recruited from the campus of Butler University. Participants were enrolled in psychology classes and had the opportunity to sign up for this study to earn extra credit through the online psychology department system (SONA). Demographic information about the participants is reported in Table 1.

Table 1. Demographic information of participants (n=27).

Variable	Frequency/Range	Mean/SD
Gender	20 Females 7 Males	
Age	18-22	$M=20.04, s.d=.98$
Race	21 White 4 Asian 1 Black 1 Multiracial	
Year In School	4 First Year 8 Sophomore 14 Junior 1 Senior	
GPA	2.7-4.0	$M=3.55, s.d=.35$

Materials

Hinting Task (Greig, Bryson, & Bell, 2004). The Hinting Task, originally developed by Corcoran, Mercer, & Frith (1995) and adapted for North American use by Greig et al., is a very commonly used Theory-of-Mind measure (Bora et al., 2009) and requires participants to make inferences about someone's intended meaning. The Hinting task measures the social-cognitive domain of ToM (Tager-Flusberg & Sullivan, 2000). The original Hinting task consisted of 10 brief vignettes describing interactions between two characters where one character provides a fairly obvious hint to the other character. Participants heard each vignette and were asked by the experimenter what the main character "really means." A correct answer at this point received a score of 2. If the participant offered an answer other than the correct one, the experimenter offered a second prompt and a correct answer received a score of 1. An incorrect response received

a score of 0. The first 10 items of the measure we intend to use are the original Corcoran/Greig Hinting task; the remaining items were constructed by members of our research team or adapted from the items other researchers have appended to the original Hinting task. The new Hinting task will be comprised of 42 items.

Reading the Mind in the Eyes Test-Revised (Eyes; Baron-Cohen et al., 2001). The Eyes test is one of the most widely used Theory of Mind measures (Bora, Yucel, & Pantelis, 2009) and requires participants to decode complex mental states in others. Consisting of 36 photos, cropped to include only a person's eyes, it measures the social-perceptual domain of ToM (Tager-Flusberg & Sullivan, 2000). Participants are asked to choose from four adjectives surrounding each photo the one that best describes the mental state of the individual in the photo. Participants' answers are coded either correct=1 or incorrect=0, yielding a possible range of 0-36. The Eyes test has good reliability (KR-20 = .55 [Baron-Cohen et al., 2001]; test-retest $r = .60$ [Hallerback, Lugnegard, Hjarthag, & Gillberg, 2009]) and validity (Cohen's d distinguishing patients from controls = .90 [Bora et al., 2009]; correlation with autism questionnaire scores = -.53 [Baron-Cohen et al., 2001]).

Story Comprehension Task (SCT; Langdon & Coltheart, 2004). The Story task taps a different dimension of ToM than either the Eyes or the Hinting tasks: the perception of sarcasm or ironic communication. This measure is comprised of 96 brief (2-3 sentence) vignettes where the participant is asked to indicate whether one of the characters in the vignette says "something that a person might say in that situation." "Yes" responses may be either ironic, a figure of speech, or literally appropriate, while "no" responses are

nonsense. The number of correct responses are summed to yield a total score and scores on each of the dimensions (ironic, metaphor, literal).

Social Phobia Scale (Mattick & Clarke, 1998). The Social Phobia Scale is a valid and reliable measure of social anxiety (Mattick & Clarke, 1998). This self-report scale was derived from a collection of questions from preexisting fear surveys and social anxiety inventories (Mattick & Clarke, 1998). The Social Phobia Scale measures one's fear of being criticized doing everyday activities (Mattick & Clarke, 1998). It is a 20 item scale with a Likert scale of 0-4, with a possible range of 0-60. This scale has good reliability (Cronbach's $\alpha = .94$ [Mattick & Clarke, 1998]).

Liebowitz Social Anxiety Scale – Self Report (Fresco et al, 2001). What was originally created as an interview measure (Liebowitz, 1978) has been converted into a self-report measure in recent years. The Liebowitz Social Anxiety Scale is meant to measure fear and avoidance in certain social or performance situations. It is a 24 item self-report measure with fear and avoidance being measured individually on a Likert scale ranging from 0-3, yielding a possible range of 0-72 for each variable measured. An investigation by Fresco et al (2001) discovered that the interview version of the LSAS and the LSAS-SR had similar subscale and full-scale reliabilities (Fresco et al, 2001). The means produced were also similar, none of which were significantly different from each other (Fresco et al, 2001). This self-report scale has good reliability (Cronbach's $\alpha = .95$ [Fresco et al, 2001]).

Center for Epidemiologic Studies – Depression Scale (CES-D; Radloff, 1977). The CES-D is a well-validated and widely used measure of depressive symptoms. It is a 20

item self-report measure with each Likert scale ranging from 0-3, yielding a possible range of 0-60. It is particularly useful for identifying a range of depressive symptoms in non-clinical samples (Edwards, Cheavens, Heiy, & Cukrowicz, 2010) and has shown strong reliability (Cronbach alpha = .85; Radloff, 1977). It was included in the present study because depressive symptoms are commonly correlated with ToM and with SAD.

Demographic Questionnaire. To describe the sample and to account for possible covariates, participants were asked to report age, gender, race, religion, year in school, academic major, psychiatric and family history, estimated G.P.A., and marital status.

Procedure

Following informed consent, participants began by completing the Hinting Task. The researcher dictated each question to the participant and recorded their answer, prompting them with the follow up question when necessary. The Reading the Mind in the Eyes Task - Revised was presented afterwards. Participants were given a packet of the 36 set of eyes, each with four adjectives to choose from. They were provided with a glossary of the adjectives used, in case a word was unfamiliar. Participants then completed the Story Comprehension Task. Afterwards, the Social Phobia Scale and Liebowitz Social Anxiety Scale – Self Report were given to participants to measure their symptomology of social anxiety disorder. Participants then received the depression scale (CES-D) and finished the study with the demographics sheet. Participants were debriefed about the purpose of the study and were given another opportunity to ask any questions.

RESULTS

Preliminary Analyses

The demographic characteristics of the sample (including level of depression as measured by the CES-D) were examined to test for covariation. A series of correlation analyses and ANOVA were conducted, but no significant relationships were detected between these demographic variables and the main IVs or DVs in this study. Therefore, no covariates were required when examining the relationship between ToM and social anxiety symptomology.

Main Analyses

A series of correlation analyses were performed to analyze the relationship between social anxiety symptomology scores and theory of mind ability. A significant negative correlation was found that partially supported Hypothesis 1; scores on the metaphor portion of the SCT were negatively correlated with the scores on the avoidance performance section of the LSAS (Table 2). This suggests that individuals who reported more avoidance of performance related tasks (e.g. working or writing while being observed, speaking up in a meeting, or eating/drinking in public places) performed worse on the theory of mind task that measured their ability to understand metaphoric expressions. Further, a negative trend was found between scores on the metaphor subtest of the SCT and scores of general avoidance from the LSAS (Table 2). This suggests that individuals who avoid more social (e.g. going to a party, being the center of attention, or returning goods to a store) and performance situations tended to experience a deficit in the ability to detect and comprehend metaphorical communication. There was also a negative trend observed in the scores of the LSAS avoidance performance and the total

score of the Hinting Task (Table 2). This finding suggests that when one reported more avoidance of performance situations, they tended to experience more trouble “reading between the lines” of a conversation. No other significant correlations were found that pertained to Hypothesis 1.

Table 2. Correlation analyses of ToM Measures and SAD Measures

ToM Measure	LSAS-SR Scores						
	Fear Performance	Avoidance Performance	Fear Social	Avoidance Social	Fear	Avoidance	Total
Hinting Tot	.037	-.332*	.043	-.095	.042	-.137	-.039
SCT Tot	.087	.003	.131	.106	.115	.066	.096
SCT Literal	.034	-.132	.158	.121	.105	.014	.066
SCT Metaphor	-.310	-.406**	-.140	-.274	-.224	-.348*	-.288
SCT Sarcasm	.010	-.115	.053	.058	.035	-.017	.012
SCT Nonsense	.214	.249	.161	.179	.191	.220	.210
Eyes Tot	.130	.088	.191	.143	.161	.126	.155

SCT = Story Comprehension Task; LSAS = Leibowitz Social Anxiety Scale; ** = $p < .05$; * = $p < .10$

Hypothesis 2 stated that individuals with more symptoms of social anxiety disorder will display an attentional bias toward the negatively valenced expressions on the eyes task, which will result in decreased theory of mind ability. No significant correlations were found when analyzing this data, but a trend was observed. The score on the negatively valenced eyes portion of the eyes task was positively correlated with the total score of the SPS (Table 3). This finding suggests that higher amounts of correctly identified negative expressions tended to occur with higher levels of social anxiety. There was no relationship between ToM and any LSAS subscale.

Table 3. Correlation analysis of Eyes Task Scores and SAD Measures

Eyes Task	Social Anxiety Measures							
	SPS Tot	LSAS Fear Avoid.	LSAS Avoid. Perf.	LSAS Fear Social	LSAS Avoid. Social	LSAS Fear	LSAS Avoidance	LSAS Tot
Positively Valenced Eyes Score	.023	.068	.127	-.010	-.073	.026	.013	.021
Negatively Valenced Eyes Score	.334*	.114	.017	.250	.235	.194	.150	.180

SPS = Social Phobia Scale; LSAS = Leibowitz Social Anxiety Scale – Self Report;
* = $p < .10$

DISCUSSION

The main objective of this study was to determine whether a relationship existed between social anxiety disorder symptomology and theory of mind ability. It was hypothesized that participants with more symptoms of social anxiety would exhibit decreased theory of mind ability. My data supported this hypothesis, albeit in a limited and preliminary way. A negative relationship was found between scores on the metaphor subtest of the SCT and avoidance performance of the LSAS. Some trending correlations also supported this hypothesis, including a negative relationship between scores on the metaphor subtest of the SCT and general avoidance scores of the LSAS as well as a negative relationship between total score on the Hinting Task and avoidance performance scores of the LSAS. These results suggest that individuals with either more general avoidance or avoidance of performance situations in particular tend to have more difficulty understanding the thoughts and beliefs of others or more specifically, have an impaired ability to understand metaphorical expressions in conversation.

It was also hypothesized that individuals with more symptoms of social anxiety disorder would have an attentional bias towards negatively valenced expressions on the eyes task, signifying impaired theory of mind. This hypothesis was not supported – in fact, the opposite relationship emerged. Scores on the negatively valenced emotions of the eyes task were positively correlated with total score on the SPS, though this correlation was only significant at the trend level. No relationship between SAD symptomology and positively valenced emotions emerged. This suggests that individuals with more social anxiety symptoms tend to focus more on the negative emotions of others (Ribeiro & Fearon, 2010), but also suggests that this focus may enhance rather than impair their ability to understand the thoughts and beliefs of others.

Despite the positive relationship between SAD and the recognition of negative emotional states, the results from this study suggest that more symptoms of social anxiety disorder may impair theory of mind (or vice versa). The trend that individuals who report more avoidance of performance situations had lower scores on the Hinting Task could be explained by the nature of this task. Individuals may have viewed this task as a performance situation, similar to taking a test, and they were unable to avoid it. This could have heightened their anxiety and potentially impacted their ability to correctly infer the beliefs and thoughts of the people in the scenarios of the Hinting Task.

Additionally, individuals who understood fewer metaphorical expressions tended to indicate increased avoidance of both social and performance situations. This could be attributed to the learned nature of metaphorical expressions. Most metaphorical expressions become common knowledge after learning their meaning from social interactions. Individuals with increased avoidance of these social and performance

situations may have fewer social interactions because of their anxiety, which may prevent them from learning these metaphorical phrases. Ribeiro and Fearon (2010) found that individuals who have low theory of mind tend to have difficulties with their social competence and experience anxiety in social life. Their low theory of mind may cause hesitation to engage in social situations, which would further impair their ability to learn and understand metaphorical expressions.

Research by Ribeiro and Fearon (2010) suggested that individuals with poor theory of mind skills show attentional biases toward negative faces, which was supported by the present research, albeit not in the direction initially supposed. A trend emerged between individuals with more symptoms of social anxiety as rated by the Social Phobia Scale and their ability to correctly identify negatively valenced eyes on the Eyes Task. Individuals who experience more social anxiety may have become accustomed to expecting the worst out of every social interaction. Anxiety from these situations may heighten their ability to recognize negative expressions. Viewing this study as a performance situation, this may have increased their anxiety and therefore triggered a reaction to pay more attention to negative expressions on the Eyes Task.

Several limitations temper the results of this study. First, the sample size was small, which may have hindered my ability to find more significant correlations between variables. Additionally, the present sample was not representative of the general population, given that our sample was majority Caucasian females. Although the sample was representative of the population of Butler University, these results may not generalize outside of this population. A potential moderation to this limitation is the fact that the majority of patients with social anxiety disorder are white women (Pigott, 2003),

suggesting that my results may be applicable to this specific clinical population. Any future research should use a larger and a more representative sample in order to allow the results to be applicable to the general population.

Another potential limitation could be the use of self-reported measures of social anxiety. This method relies entirely upon the participant to truthfully and accurately report their symptoms of social anxiety. The participants may have underestimated or overestimated the extent of their social anxiety symptoms, which would have resulted in the data being biased. Future research would benefit from using clinician administered diagnostic measures of social anxiety to allow for a more accurate representation of their symptoms. Additionally, using diagnostic measures may result in group differences becoming more apparent. Using a clinical population and comparing it to a healthy control population may allow for more statistically significant group differences regarding performance on theory of mind measures.

In conclusion, the present study attempted to investigate a potential relationship between theory of mind and symptomology of social anxiety disorder. I hypothesized that individuals with more symptoms of social anxiety would exhibit decreased theory of mind. Partial support emerged for this hypothesis – those who avoided more performance situations also performed less well on some cognitive measures of theory of mind. I also hypothesized that individuals with more symptoms of social anxiety would exhibit an attentional bias towards negatively valenced expressions on the eyes task that would result in impaired theory of mind. In fact, the opposite relationship emerged – those with more symptoms of social anxiety had better ability to identify negative emotional expressions. This conflicted relationship may explain why previous research using the

Eyes Test has produced conflicted results. Future research may clarify this relationship and may yield additional significant findings by using a more diverse and bigger sample.

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Appendix

The Hinting Task

HINTING TASK

Instructions:

I am going to read you a set of stories involving two people. Each story ends with one of the characters saying something. After I've read each story, I'm going to ask you some questions about what the character meant. Listen carefully to each story.

Scoring Criteria:

Score 2--If correct interpretation is given on first try. If incorrect response is give first, read the additional prompt.

Score 1--If correct on second trial.

Score 0-- if response is a paraphrase of what the character said. **(Total possible score is 84)**

TOTAL SCORE:

1. George arrives in Angela's office after a long and hot journey down the highway. Angela immediately begins to talk about some business ideas. George interrupts Angela saying: My, My! It was a long, hot journey down the highway.

Question: What does George really mean when he says this?

Prompt: George goes on to say, "I'm parched!" **Question:** What does George want Angela to do?

Answer Key: 1. Long Journey: (George is tired and doesn't want to talk business immediately; --OR-- He'd like a little rest and something to drink).

SCORE: Response 1: _____ **Response 2:** _____

2. Melissa goes to the bathroom to take a shower. Anne has just had a bath. Melissa notices that the bathtub is dirty so she calls upstairs to Anne, "Couldn't you find the Ajax, Anne?" **Question:** What does Melissa really mean when she says this?

Prompt: Melissa goes on to say, "You're very lazy sometimes Anne." **Question:** What does Melissa want Anne to do?

Answer Key: 2. Dirty Bath: (Why didn't you clean the bathtub? --OR-- Please clean the bathtub).

SCORE: Response 1: _____ **Response 2:** _____

Reading the Mind with the Eyes Task

jealous

panicked



arrogant

hateful

Story Comprehension Task

SCT

ID: _____

In this section you will be reading short stories and deciding whether what a story character says is something that a person might reasonably say in that situation. Here are some examples of the sorts of stories that you will see. Read each story at your own pace and circle Yes or No. For the practice stories, you'll receive some feedback.

Sometimes the correct answer is YES because the story character means exactly what he or she says:

- P1) Michael is very disappointed. His girlfriend has just broken off their engagement. He tells his friend Jim what has happened. Jim sympathizes with poor Michael and says, "I'm sorry to hear that."

Is this something a person might say in this situation? Yes No

Sometimes the correct answer is YES because the story character is using a figure of speech:

- P2) Jason is helping his mother set the table. She asks him to carry the dinner plates over to the table. He trips and drops all the plates. Jason's mother is annoyed and says, "You've got two left feet."

Is this something a person might say in this situation? Yes No

Sometimes the correct answer is YES because the story character doesn't really mean what is said:

- P3) Helen has gone to watch a football game with her boyfriend Jim. Helen does not like football very much. The crowd behind Helen and Jim are noisy and someone spills a drink all over Helen. Jim has not seen what has happened. He asks Helen if she is having a good time. Helen replies, "Can't you see I'm having a great time."

Is this something a person might say in this situation? Yes No

Sometimes the correct answer is NO because no one would say what the story character says:

- P4) During a fierce army battle, a group of soldiers have become trapped. Luckily, their sergeant has thought of a plan of escape. After explaining his plan to his men, one of the soldiers replies, "What bad manners!"

Is this something a person might say in this situation? Yes No

Try 2 more:

- P5) Jim goes over to Clare's house. He wants to see Clare's new dog. When he arrives, the dog jumps up to greet him and licks him all over the face. Jim laughs loudly and says, "Wow, what a ferocious animal."

Is this something a person might say in this situation? Yes No

- P6) Mr. Smith has just arrived home. He's had a bad day at work. He slams the front door and then yells at his children. His wife says, "I've lost the thread."

Is this something a person might say in this situation? Yes No

Now you know how to do them. You won't receive feedback on the stories that follow, but do them the same way: decide whether what a character says is something that a person might reasonably say in that situation and circle yes or no.

Social Phobia Scale

Indicate the degree to which you feel the statement is characteristic or true of you.

0 = Not at all 1 = Slightly 2 = Moderately 3 = Very 4 = Extremely

1. I become anxious if I have to write in front of other people.

0 1 2 3 4

2. I become self-conscious when using public toilets.

0 1 2 3 4

3. I can suddenly become aware of my own voice and of others listening to me.

0 1 2 3 4

4. I can get nervous that people are staring at me as I walk down the street.

0 1 2 3 4

5. I fear I may blush when I am with others.

0 1 2 3 4

6. I feel self-conscious if I have to enter a room where others are already seated.

0 1 2 3 4

7. I worry about shaking or trembling when I'm watched by other people.

0 1 2 3 4

8. I would get tense if I had to sit facing other people on a bus or a train.

0 1 2 3 4

9. I get panicky that others might see me to be faint, sick, or ill.

0 1 2 3 4

10. I would find it difficult to drink something if in a group of people.

0 1 2 3 4

Leibowitz Social Anxiety Scale – Self Report

Instructions: Fill out the following questionnaire with the most suitable answer listed below. Base your answers on your experience in the past week and, if you have completed the scale previously, be as consistent as possible in your perception of the situation described. Be sure to answer all items.

Fear or AnxietyAvoidance

0 = None

0 = Never (0%)

1 = Mild

1 = Occasionally (1% - 33% of the time)

2 = Moderate

2 = Often (33% - 67% of the time)

3 = Severe

3 = Usually (67% - 100% of the time)

	<u>Fear or Anxiety</u>				<u>Avoidance</u>			
1. Telephoning in public – speaking on the telephone in a public place	0	1	2	3	0	1	2	3
2. Participating in small groups – having a discussion with a few others	0	1	2	3	0	1	2	3
3. Eating in public places – do you tremble or feel awkward handling food	0	1	2	3	0	1	2	3
4. Drinking with others in public places – refers to any beverage including alcohol	0	1	2	3	0	1	2	3
5. Talking to people in authority – for example, a boss or teacher	0	1	2	3	0	1	2	3
6. Acting, performing, or giving a talk in front of an audience – refers to a large audience	0	1	2	3	0	1	2	3
7. Going to a party – an average party to which you may be invited; assume you know some but not all people at the party	0	1	2	3	0	1	2	3
8. Working while being observed – any type of work you might do including school work or housework	0	1	2	3	0	1	2	3
9. Writing while being observed – for example, signing a check in a bank	0	1	2	3	0	1	2	3

Center for Epidemiological Studies – Depression Scale

CES-D

Using the scale below, indicate the number which best describes how often you felt or behaved this way DURING THE PAST WEEK.

0	1	2	3
Rarely or none of the time (less than 1 day)	Some or a little of the time (1-2 days)	Occasionally or a moderate amount of time (3-4 days)	Most or all of the time (5-7 days)

During the past week:

1. _____ I was bothered by things that usually don't bother me.
2. _____ I did not feel like eating; my appetite was poor.
3. _____ I felt that I could not shake off the blues even with help from my family or friends.
4. _____ I felt that I was just as good as other people
5. _____ I had trouble keeping my mind on what I was doing.
6. _____ I felt depressed.
7. _____ I felt that everything I did was an effort.
8. _____ I felt hopeful about the future
9. _____ I thought my life had been a failure.
10. _____ I felt fearful.
11. _____ My sleep was restless.
12. _____ I was happy
13. _____ I talked less than usual.
14. _____ I felt lonely.
15. _____ People were unfriendly.
16. _____ I enjoyed life
17. _____ I had crying spells.
18. _____ I felt sad.
19. _____ I felt that people disliked me.
20. _____ I could not get "going."

Demographics

ID # _____

Gender: Male _____ Female _____

Age: _____

Marital Status: Single _____ Married _____ Divorced _____ Separated _____
Widowed _____

Race/Ethnic Background: White _____

African American or Black _____

Asian _____

Hispanic or Latino _____

American Indian _____

Multiracial _____

Other _____ Prefer not to answer _____

(please specify)

Religion: _____

Are you a full time student? Yes _____ No _____

If no, what is your occupation? _____

Year in college: First year _____ Sophomore _____ Junior _____ Senior _____ Other _____

Major: _____

What is your approximate cumulative GPA? _____

Have you ever been diagnosed with a psychological or learning disorder? Yes _____ No _____

If yes, please list diagnoses: _____

Are you currently taking any medication for the treatment of any psychological disorder?

Yes _____ No _____