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VICARIOUS EMBARRASSMENT AND RELUCTANT STUDENT PARTICIPATION IN CLASSROOMS

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ABSTRACT

The purpose of this study was to examine a group of students who play a largely unknown role in a typical and uncomfortable classroom situation called the Silent Classroom scenario. In this scenario, a professor asks the class for participation through a question and receives no response despite the students knowing the answer and being asked multiple times. Eventually, as the awkward classroom atmosphere grows, a student reluctantly raises their hand to participate and the normal atmosphere resumes. I proposed that the reason these particular students eventually participate is due to feeling vicarious embarrassment, a feeling of personal embarrassment because of the perceived or actual embarrassment of others, on behalf of the professor or ones' peers. This study attempted to recreate this Silent Classroom scenario using a first-person choose-your-own-adventure-style story to determine what type of participation a student had. I examined whether the students who are reluctant to participate had the correlates of vicarious embarrassment found in previous research, such as greater empathy and embarrassability, compared to those who participated immediately or never participated, as well as other possible personality factors. ANOVAS were used to compare the three types of students (immediate responders, reluctant responders, and non-responders), as well as the students' genders and the gender of the professor in the choose-your-own-adventure-style story. Results showed students who were reluctant to participate in class and those who refused to participate had higher scores of embarrassability, higher scores of chronic shyness, and lower scores on extraversion. Gender differences were evident in multiple areas. There were no significant results pertaining to empathy, however, suggesting that vicarious embarrassment was not the triggering factor in describing reluctant responders' behaviors. Future studies should examine other factors that may be influential in describing these student's behaviors in the Silent Classroom scenario.

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Chapter 1

Introduction

> Imagine this scenario: A college professor is giving a lecture and at the end of each section she teaches, she asks the class a few review questions to make sure everyone understands the topic. She finishes a section of the lecture and plans to ask the class an easy question on the topic just discussed. Confidently, she inquires "So, who can tell me the definition of _____?," a term she has just explained. As she looks out into the class of students, she is met with silence and stares. She waits a few seconds, then prompts again "who can explain what _____ is?" Again, no student in the class raises their hand or responds, and the silence grows. The professor asks again, stating "It's not a trick question; it's right here" and gestures to a PowerPoint slide beside her. More silence follows as she looks around the room. Eventually, a student slowly raises their hand, is called on, and answers the easy question. The professor moves on and continues her lecture.

This scenario is one that is played out in classrooms across college campuses. There are situations where participation is asked for during class, and none of the students immediately respond. Many instructors would report experiencing this scenario at some point in their teaching career. This scenario may occur when the question posed by the instructor is too hard, misunderstood, or the answer is simply unknown. But, as illustrated in the example above, this lack of response can occur even when the answer is obvious or easy to find. While this scenario may occur commonly, the point of interest in this scenario is the student who eventually raises their hand. These students, called "reluctant responders," choose to not participate immediately or even after the second prompt. These students would likely not raise their hand if one of the other students had done so instead. Based on personal observation, some of these reluctant participants are not necessarily eager to take part in class or answer instructor questions. Or perhaps some reluctant participants are eager to join in, but are hindered from doing so by a fear of social judgment. But in situations where no other students are volunteering, they eventually (reluctantly) participate and the scenario ends. Based on observation, these reluctant participants

appear to be the same students from class to class. What is unknown is why these students decide to eventually participate. What evokes them to eventually raise their hand? How are they different from the students who tend to participate immediately and from those who refuse to participate at all? Because reluctant responders do not choose to raise their hands immediately, even when the answer is obvious, it could be inferred that at least some of these students do not look forward to answering. Yet, they eventually do.

One possibility as to why these students eventually participate is because of the emotions experienced as the scenario unfolds. Basic emotions are experienced and, more importantly, *social emotions* are experienced because of viewing the instructor's struggle and the awkwardness of the situation (Burnett, Bird, Moll, Frith, & Blakemore, 2009; Marcus & Miller, 1999). A variety of emotions could be felt because of, and for, the professor or the student's fellow classmates, including sympathy, empathy, distress, impatience, guilt, or even joy at the subject's struggle. It is also possible that a mix of negative emotions is the emotional prompt needed to push a reluctant student into participation. I propose that a particular emotion is involved in this process: embarrassment for the professor or for one's fellow classmates.

Classroom participation

Considering how much of psychological research is performed using undergraduate students, it seems relevant to understand what motivates students' behaviors in a classroom. Professors and researchers have provided numerous explanations as to why some students always volunteer in class and why some students will never volunteer in class (Fassinger, 1995; Williams, 1971). Rocca's (2010) multidisciplinary literature review collected and examined

academic journal articles studying classroom participation from the past 50 years, and defined in-class student participation in terms of "asking questions, raising one's hand, and making comments." While there is some argument among researchers about the operational definition of student participation and the specific levels of participation (from attending class to giving an oral presentation), there is strong and consistent evidence for the benefits of encouraging participation in class (Fritschner, 2000; Rocca, 2010). Rocca's (2010) review presented five common reasons why students do or do not participate in class: logistics (such as class size, seating arrangement, or course policy), confidence/classroom apprehension, personality traits (such as communication apprehension, self-esteem, and assertiveness), impacts of the instructor and classroom climate, and sex differences. Fritschner (2000) also found that age and course level had a significant effect on who spoke and how often. Capsi, Chajut, Saporta, and Beyth-Marom (2006) examined the impacts of instructional environment and personality differences on student participation. Capsi et. al. (2006) found that in a real classroom (versus online), those who chose to participate often reported higher extraversion scores, and those who never participated were higher in neuroticism.

However, past research has not recognized the unique behavior pattern of the reluctant responder, who would normally not participate in class, but will eventually volunteer when pressured, nor do they study the factors that influence these actions. One possibility is that individual factors—a unique combination of personality traits—separate these students from their peers, rather than strictly factors of the shared environment. This possibility is supported by the informal observation that reluctant responders seem to be consistent over time and in different courses. However, something must be occurring in the Silent Classroom scenario that eventually switches a reluctant responder's behavior from silence to question-answering—the

trademark of this group. Because the main characteristic of the Silent Classroom scenario is the prolonged and awkward silence, embarrassment becomes a likely suspect. I propose that a specific type of embarrassment is the trigger that changes the behavior of the reluctant responder: vicarious embarrassment, sometimes colloquially known as “second-hand embarrassment”. Further, this uncomfortable state of emotion would be felt strongest by the reluctant responders, compared to their classmates, because of their unique mix of personality traits.

Embarrassment

Embarrassment is a social emotion that results in an uncomfortable state of self-consciousness, awkwardness, and chagrin that can result when a threat to one’s social identity is presented (Miller, 1987). As social creatures, a person often tries to maintain a consistent, desirable, and appropriate social identity and when there is a breach in this identity, embarrassment results (Goffman, 1956). Gross and Stone (1964) suggested that embarrassment can result from a mis-display of identity, a loss of poise or privacy, or a loss of confidence. Later, in 1980, Buss suggested an addition—that embarrassment could also result from conspicuousness or overpraise, not just from a fumbled social interaction. Buss suggested that humans so thoroughly learn that public shortcomings will be met with disdain that the mere chance of exposure through being conspicuous (even in a socially appropriate situations) can be embarrassing (Buss, 1980). Embarrassment in all forms is a common, yet debilitating emotion. People avoid embarrassment whenever possible, and quickly try to repair its damage when it does occur (Apsler, 1975; Modigliani, 1971). To cope with embarrassing predicaments, people report most often using apologies, remediation (doing something to allow the actor to resume the

activity/situation, without providing a verbal explanation or placing blame) and escape (removing the actor from the situation; Cupach, Metts, & Hazelton, 1986).

Empathetic and Vicarious Embarrassment

Empathetic Embarrassment. Whereas embarrassment is a relatively simple social emotion, empathetic embarrassment goes a step further. *Empathetic embarrassment* occurs when the observer witnesses the embarrassment of another (the actor) and then shares in the embarrassment, despite no potential for damage to one's personal social identity (Miller 1987). Paulus, Müller-Pinzler, Westermann, and Krach (2013) suggest that this empathetic response could occur because of two processes. Mirroring involves a matching of one's actions and bodily state to the actor, while mentalizing involves imagining oneself in the same situation as the target and attempting to grasp the target's emotions, feeling them as if they were our own. Because of this mechanism, when someone observes an actor's embarrassment, the observer witnesses and interprets the actor's feelings and internalizes them, becoming embarrassed too. Paulus et al. (2013) proposes that these two processes allow observers to empathize. Mirroring and matching may be strengthened further by a human's natural tendency to try to interpret the emotions of others in a social situation. An observer might recognize the specific nonverbal displays of embarrassment (decreased eye contact, postural shifting, speech disturbances, blushing, and increased smiling), pair it with an interpretation of the social environment, and conclude that the actor is embarrassed. In the case of empathetic embarrassment, the observer then becomes embarrassed for, and because of, the actor's folly (Miller, 1987).

Vicarious Embarrassment. Miller's landmark study also suggests that empathetic embarrassment does not depend only on the actor's display of embarrassment. If the observer is familiar enough with the relevant norms of social conduct to judge that the actor is out of line or that the behavior would embarrass the observer if they had done it, embarrassment because of another may occur. In these situations, the observer could feel personal embarrassment because he or she *thinks* that the actor is embarrassed, despite a lack of nonverbal body evidence or the actor's true feelings (Krach et al., 2011; Markus & Miller, 1999; Miller, 1987). This phenomenon, called *vicarious embarrassment,* was first termed by Krach et al. (2011) and could be explained in the following example: you notice a woman leaving the restroom with a large dark stain on the back of her skirt. She is unaware of the spot, and is not embarrassed, nor does she show any nonverbal signs. But those who observe her may feel vicarious embarrassment because they are aware of the threat to her social identity.

The terms "empathetic embarrassment" and "vicarious embarrassment" are sometimes used interchangeably because the induced reaction of the observer is the same. But, for the sake of clarity, I find it important to distinguish the two forms of emotion. Empathetic embarrassment requires the actor to be embarrassed or show signs of embarrassment initially, where vicarious embarrassment does not consider the reaction of the actor, only that the observer *thinks* that the actor is or would be chagrined.

There are a small group of studies that have examined empathetic and vicarious embarrassment, as well as what influences their occurrences. Stocks, Lishner, Waits, and Downum (2011) conducted two studies in which participants read a fictitious diary entry of a new college student, Zack, and an embarrassing event that happened to him. Stocks et al. found that empathetic embarrassment could be effectively evoked when the observer "imagines

themselves in the actor's shoes," and that the participants experienced distress when they felt the empathetic embarrassment. Stocks et al. (2011), as well as Miller (1987), also found that the strength and likelihood of inducing empathetic or vicarious embarrassment increased when the observer liked the actor, whether due to similarity or through positive interactions.

Vicarious embarrassment and personality traits. High likelihood of feeling empathetic or vicarious embarrassment is also linked to several personality factors, the strongest being high levels of dispositional empathy (Krach et al., 2011; Miller, 1987; Paulus, 2013). *Dispositional empathy*, the tendency to understand others' points of views, imagine their feelings, and be concerned about their distress, is a trait which involves considerable individual differences (Miller, 1987). Along with being strongly linked to empathy, empathetic and vicarious embarrassment are strongly linked with high levels of dispositional *embarrassability*, or how sensitive a person is to becoming embarrassed (Miller, 1987; Modigliani, 1968). Modigliani's (1968) research suggested that greater embarrassability is a result of being extremely sensitive to the evaluations of others and a readiness to believe that others' evaluations are negative. These two traits associated with high embarrassability naturally tie into vicarious embarrassment as well. A person with high embarrassability would normally be hypervigilant of negative evaluations of the self, but could just as easily be aware of the possible negative evaluations of others. If one considers the additional influence of dispositional empathy, one may have a person who can understand the feelings of others, is constantly surveying for negative evaluations of themselves and others, and is easily embarrassed from a variety of sources, even if it does not personally affect them: a recipe for vicarious embarrassment. Markus and Miller (1999), who studied the "live embarrassment" of student presenters and watchers during classroom presentations, found those students who were more embarrassed by their own talks also

interpreted others as feeling greater embarrassment during their talks. Additionally, Markus and Miller (1999) and Miller (1987) showed that those high in embarrassability might overestimate how embarrassed others are, regardless of the actor's true feelings. These personality components play an important role in the occurrence of vicarious embarrassment. It helps us understand who would be more likely to feel these emotions, and in what situations that might happen.

Vicarious Embarrassment and Classroom Participation

Now considering vicarious embarrassment, its associated personality traits, and how they may cause a person to feel, there is a clearer picture as to what may be happening in the Silent Classroom scenario described earlier. If we examine the story again, it begins with a professor presenting and then receiving a pregnant pause when she asks a question (despite asking an easy question). While a professor may feel frustration at the class for the lack of response, the students may view the situation differently and hold different expectations. Indeed, both Fritscher (2000) and Rocca (2010) suggest that students often view their participation and actions in class differently than their professors. A student, especially one who routinely responds as a reluctant responder, may perceive the class's lack of response as an embarrassing failure on the part of the professor. In some student's eyes (even if not verbalized), it is the professor's job to get the students to learn and respond—failing to do so is an infraction of the professor's responsibilities and a source of embarrassment. Additionally, the student may believe that if they "were in the professor's shoes," they would be embarrassed to get no response from their classmates. This impression would be even greater if the students liked the professor. Conversely, another

possibility is that a reluctant responder may look around and see a room full of classmates who are failing to respond to the professor and be active learners—a source of shame and embarrassment on the students' parts as they fail to "be good students." The impression that one's other classmates are embarrassed by this interaction would be strengthened by being in the same peer group, especially if the reluctant responder has ever felt this way him- or herself.

The students who are high in dispositional empathy and embarrassability may overestimate how embarrassed their professor or classmates are during this unpleasant predicament, or see embarrassment where it does not exist. In the awkward silence, they may misinterpret the professor's or classmates' behaviors as signs of embarrassment, like scanning the room for volunteers being construed as eye-darting (a sign of nervousness), or staring at one's notebook as gaze-aversion. And so after (perhaps mistakenly) thinking their professor or their peers are embarrassed, the student with this troublesome combination of factors may feel sudden vicarious embarrassment. This distressing feeling grows as the silence continues and the classroom awkwardness grows.

It is at this point that there is little research in the field of vicarious embarrassment. Past research has focused on empathetic and vicarious embarrassment's presence and characteristics, but there has been no research on what behavioral implications feeling this embarrassment may have on the affected. Research such as that of Cupach et al. (1986) has looked at the remedial strategies used to cope with embarrassment and which strategies are perceived as most effective, especially escape, apologies, and remediation. I believe that, as is the natural reaction, creatures who are in distress are motivated to take actions to stop the distress. In our Silent Classroom situation, this means that the quiet students who are struggling with feeling of vicarious embarrassment are looking for any way to make the feelings stop or the situation to end.

According to social norms, it is not acceptable to flee the classroom nor to apologize to the professor on behalf of one's peers or to the classmates on behalf of the professor. With this in mind, the quickest method to end the silence of waiting for an answer would be to answer the question. And so, despite the possibility of incurring personal embarrassment, the reluctant responder finally volunteers to answer the question and directly end the situation. In the student's mind, this alleviates the professor's or peers' embarrassment and distress, as well as their own.

The Current Study

As was discussed, there is a plethora of research on why students do and do not participate in class, what type of students participate eagerly, what type never participate under any circumstances. But, unrecognized are the students who are unwilling to participate until it is evident that no one else will. We do not know in what ways these students differ from their peers, or what changes their behavior from inaction to action.

The purpose of this study was to examine the traits of reluctant responders to see whether they are more conducive to feeling vicarious embarrassment than their peers. This was done by simulating a Silent Classroom situation, and dividing subjects into 3 groups based on their responses in a choose-your-own-adventure-style activity: the immediate responders, the reluctant responders, and the nonresponders. I planned to study reluctant responders, as compared to immediate responders and nonresponders, in terms of different personality aspects and other influential factors. The hypotheses to be tested were as follows:

1. The reluctant responders would have higher levels of dispositional empathy than the nonresponders.

This was based upon the reasoning that those with low empathy would not feel any emotions for the simulated professor or peers and would likely not participate if no one else was. Meanwhile, those with very high empathy (the reluctant participants) would eventually feel enough distress by the target to take action despite their peers' nonparticipation.

2. The reluctant responders would have higher levels of embarrassability than the immediate responders.

While those low in embarrassability may feel no worry about being the "odd one out" that volunteers, those higher in embarrassability would be reluctant to participate in class for fear of social judgment. However, this same trait, paired with empathy, would be the driving cause of vicarious embarrassment and extreme personal discomfort for some.

3. The presence of vicarious embarrassment would be moderated by the match of the participant's gender and the gender of the simulated professor, such that there would be more cases of reluctant responding when the genders match than when they are opposite, and the reluctant responders would report higher levels of empathy and embarrassability when genders match than when they do not.

Since dispositional empathy—crucial for vicarious embarrassment— is affected by how much one likes another and relates to another (can "put oneself in their shoes"), it seemed reasonable that a student would be more likely to experience this empathy when the professor is the same gender as the student. Various studies have illustrated that similarity promotes liking, and the more similar two people are, the more likely they will like one another (Myers, 2007). If the professor were the actor at the source of the vicarious embarrassment, reluctant responders

should find this gender similarity increaseing their likelihood of being embarrassed to the point of action.

Chapter 2

Method

Participants

Participants included 142 undergraduate students at Penn State Erie - The Behrend College, between the ages of 18-41 (M = 19.21, SD = 2.42) and included 83 males, 56 females, and 1 who preferred not to report a gender. Due to power outages, two participants' surveys were submitted incomplete and could not be included in the data analysis. Therefore, the sample used for data analysis is N=140. Participants primarily identified as White (77.9%), followed by Asian (12.9%), Black or African American (5.0%), Hispanic or Latino (1.4%), and Other (2.8%). The majority of the sample (83.6%) were underclassmen.The participants' semester standings included 67.9% freshmen, 15.7% sophomores, 7.9% juniors, 6.4% seniors, 2 participants who were in their 9^{th}+ semester (1.4%), and 1 participant who was an adult or part-time student (0.7%). All were proficient in English and able to read and complete online surveys. Each participant completed the informed consent, and was compensated with 1 research credit on the Penn State Behrend's online participant pool, SONA (a common psychology class requirement).

Materials

Choose-your-own-adventure-style activity. The first-person choose-your-own-adventure-style story was used to determine what "type of participation" a student has. The story attempted to replicate the Silent Classroom situation described in the introduction, by using a first-person point of view and sensory details to immerse the participant in the events of the

story. Males and females both had a random chance of receiving a male professor in the activity (using he/him pronouns) or a female professor (same script, but she/her pronouns). At multiple points, the participant, as a student in the nonresponsive classroom, was asked to choose an action including "raising your hand" or "wait a bit longer". Their answer dictated the next step of the story. Choosing to "raise their hand" indicated participation in the class, and led the prompt to one of multiple ending segments, recording the participant as either an immediate responder, a reluctant responder, or (if they finished through the story without participating) a nonresponder. A similar choose-your-own-adventure-style activity was successfully used by Vicary and Fraley (2007) to study attachment dynamics in a simulated relationship. In the current study, the activity was conducted on the computer, through an online survey-building website called Qualtrics. Once the participant read the first segment of the story and chose one of the two available responses, the next story segment that appeared was dependent on the response choice. An example of the activity and its layout can be found in Appendix A. There were four opportunities for the participant to "raise their hand," designating them as an immediate responder or a reluctant responder. If participants refused to "raise their hand" in all four segments, they were categorized as a nonresponder.

At the beginning of the simulation and at each stop point where the "student" was given the choice to participate, the participants were asked to rate how they felt at the moment using a modified version of Bradley and Lang's (1994) Self-Assessment Manikin, with a 0-100 sliding scale of valence and arousal. They were also asked open-ended qualitative questions about the feelings of the class and professor (e.g., "How do you think the professor feels at this point?" and "How do you think your classmates feel at this point?") Participants also completed a pre- and post- modified 7-point Positive and Negative Affect Schedule (PANAS) Questionnaire that

included the additional criteria embarrassed and composed (modified from Watson, Clark, & Tellegan, 1988), following the lead of Miller's (1987) and Stocks et al.'s (2011) methods of recording vicarious and empathetic embarrassment.

Dispositional Empathy. Empathy was measured using Davis's (1980) Interpersonal Reactivity Index, and the Empathy Quotient (Baron-Cohen & Wheelwright, 2004). The Interpersonal Reactivity Index (Davis, 1980) had participants answer on a 5-point Likert-style scale (1= *Does not describe me well* and 5= *Describes me well)* as to how well a variety of statements describes them (e.g., "I really get involved with the feelings of the characters in a novel"). The scale had good internal consistency in this sample (α=.862), better than those found in previous research (ranging from α=.71 to α=.77, Davis, 1980).

The Empathy Quotient (Baron-Cohen & Wheelwright, 2004) asked participants to rate (*strongly agree, slightly agree, slightly disagree,* or *strongly disagree*) how much they agree with a set of personal declarations (e.g., "I can easily tell if someone else wants to enter a conversation.") Ratings were scored following a provided key, and items were scored as 2, 1, or 0, based on whether the rating was strongly empathetic, mildly empathetic, or not empathetic (respectively). Approximately half of the items were worded to produce a "disagree" response, and half were worded to an "agree" response. Item scores were summed for the total empathy quotient (maximum score 80, minimum score 0). Cronbach's α with this sample was also good (α=.865).

Embarrassability. The personality trait embarrassability was measured using a modified version of Modigliani's 1966 Embarrassability Scale (Miller, 1987) and the Susceptibility to Embarrassment Scale (Kelly & Jones, 1997). The modified Modigliani's 1966 Embarrassability Scale used by Miller (1987) had participants rate how embarrassed (from 1= "*I would not feel the*

least embarrassed: not awkward or uncomfortable at all" to 5= "*I would feel strongly embarrassed: extremely self-conscious, award, and uncomfortable*") they would feel in a variety of situations (e.g., slipping on a patch of ice, walking in on someone in the bathroom). This modified version of Modigliani's (1966) original scale was changed from a 9-point scale to a 5-point scale, and some of the items were reworded to make them appropriate for both males and females (Miller, 1987). Cronbach's α=.922 in this sample was better than in previous studies (such as α=.88, Miller, 1987).

The Susceptibility to Embarrassment Scale (Kelly & Jones, 1997) used a 7-point Likert-style scale (1= *not at all like me*, 7= *very much like me*) and asked participants to rate how similar a list of I-statements were to themselves (e.g., "I feel uncomfortable in a group of people"). Cronbach's α in this sample was also excellent (α=.941), similar to Kelly and Jones' (1997) findings (α=.90).

Two different surveys were used for both dispositional empathy and embarrassability because these traits have been used together to indicate vicarious embarrassment, and were of particular importance to this study's hypotheses.

Other surveys. Participants also completed surveys measuring traits that may explain other possible reasons for behavior differences in a classroom. The Big 5 Inventory (John, Donahue, & Kentle, 1991) is a widely used personality measure with consistent reliability, which uses a 5-point Likert scale to measure five traits. In this sample, Cronbach's α ranged from good to acceptable in the 5 subscales: extraversion (α=.866), agreeableness (α=.759), conscientiousness (α=.781), neuroticism (α=.834), and openness to new experiences (α=.763).

The Chronic Shyness Quotient Questionnaire known as ShyQ (Bortnik, Henderson, & Zimbardo, 2002), that measured chronic shyness levels, asked participants to rate how

characteristic various statements are to them (e.g., "I am afraid of looking foolish in social situations"). The ShyQ used a 5-point scale from "*not at all characteristic*" to "*extremely characteristic*" and Cronbach's α=.919 (identical to Bortnik, Henderson, and Zimbardo's α=.92).

Last, participants completed the Marlowe-Crowne Social Desirability Short Scale (Crowne & Marlowe, 1960), that measures one's need to obtain approval by responding in an acceptable manner. The scale had participants read a list of statements and rate them true or false, based on how it pertained to them individually. The number of "correct matches" to the key indicated levels of social desirability (ranging from 0-33). In this sample, Cronbach's α=.750.

Procedure

Participants arrived at the Penn State Behrend Psychology Lab building, and were set up at a desk and computer in one of the research rooms, where the online surveys were already opened and minimized on the computer screen. Up to four participants could be run at one time, because the study involved no interaction once it began, and the desks were separated by dividers. Informed consents were distributed and signed on paper. After completing the informed consent and receiving brief instructions, participants were then left to complete the remainder of the study electronically through an online survey-building website, Qualtrics, at their own pace, beginning with demographics, the Pre-PANAS survey, and then the choose-your-own-adventure-style activity. Once the choose-your-own-adventure-style activity, qualitative questions, and the post-PANAS surveys were complete, participants proceeded on to the remaining surveys, in the

order listed above. Once the participant was finished, they were debriefed away from the remaining participants and their research credit was awarded.

Chapter 3

Results

Category Distribution

Based on the actions chosen during the choose-your-own-adventure-style activity, participants were placed into one of 3 groups: immediate responder, reluctant responder, or nonresponder. The reluctant responder category could have been broken down further into three separate categories (reluctant responder 1, reluctant responder 2, and reluctant responder 3), but analyses conducted using the five categories produced no different results than those conducted with three categories. Additionally, since there were no significant differences between the reluctant responder groups in any of the dependent variables, they were condensed into one larger group. Table 1 shows the distribution of participants by gender and the participation category.

Table 1. *Distribution of Participants by Gender and Participation Category*

	Males	Females	Prefer not to answer	Total
Immediate Responder	32	12	0	44
Reluctant Responder	39	36	1	76
Non-responders	12	8	0	20
Total	83	56	1	140

Reliability and Assumptions

All of the surveys in this study met the assumptions necessary for Analysis of Variance, with the exception of the Interpersonal Reactivity Index (Davis, 1980), which did not have a normal distribution. With no obvious outliers to consider, this assumption was met by transforming the data of this variable by squaring it, changing the original range from 0.50-3.18 (*M*=2.24, *SD*=0.51) to 0.25-10.10 (*M*=5.26, *SD*=2.17). In the remainder of this paper, analyses and reported results for the Interpersonal Reactivity Index (Davis, 1980) are based on the transformed scores, and significant results should be considered with caution.

Data Analysis

Primary analyses of the multiple surveys were conducted using 2x2x3 Analysis of Variance (ANOVA), comparing participant gender (male-female—the single data point of "prefer not to say" could not be analyzed in post-hoc tests), professor gender (male-female), and category (immediate responder- reluctant responder- nonresponder). In response to the third hypothesis, a Chi-Square Test of Association was conducted to test whether participation category (immediate responder- reluctant responder- nonresponder) was associated with a match between participant gender and simulated professor gender. Genders were considered "matched" when males had a male professor, and females had a female professor.

Dispositional Empathy. When testing hypothesis 1, there were no significant differences in Interpersonal Reactivity Index (Davis, 1980) scores (F (2, 127) = 4.716, p = .327) amongst immediate responders (*M*= 4.96, *SD*=2.30), reluctant responders (*M*= 5.35, *SD*=2.07), and nonresponders (*M*= 5.55, *SD*=2.29). There was, however, a significant gender difference

between empathy scores (F (2, 127) = 11.048, p <.001). Females (M=6.18, SD=1.98) had significantly higher scores of empathy than men (M=4.59, SD=2.05).

Similarly, there were also no significant differences in the Empathy Quotient (Baron-Cohen & Wheelwright, 2004) (F (2, 127) = 0.830, p = .439), where the scores between immediate responders (M= 40.25, SD=12.41), reluctant responders (M= 39.45, SD=11.53), and nonresponders (M= 37.75, SD=9.81) were nearly the same. But, similar to Davis's (1980) Interpersonal Reactivity Index, there was a significant gender difference (F (2, 127) = 3.820, p =.024), as females (M=42.98, SD=10.64) had significantly higher scores of empathy than men did (M=36.98, SD=11.58).

Embarrassability. When testing hypothesis 2, there were significant differences in embarrassability scores amongst the categories (F (2, 127) = 3.988, p = .021) and between genders (F (2, 127) = 11.247, p < .001) in the modified Modigliani's Embarrassability Scale (Miller, 1987). LSD *post-hoc* tests revealed immediate responders (M= 64.41, SD=19.37) had significantly lower scores of embarrassability than reluctant responders (M= 76.14, SD=14.33; t(127) = -4.07, p <.001) or nonresponders (M= 76.75, SD=18.00; t(127) = -3.01, p =.003), which were not significantly different (t(127) = 0.16, p =.874). Additionally, the modified Modigliani's Embarrassability Scale (Miller, 1987) revealed females (M=80.84, SD=14.51) had significantly higher levels of the embarrassability trait than men (M=66.82, SD=17.00). Figure 1 shows the effect of participation categories and gender on embarrassability in the modified Modigliani's Embarrassability Scale.

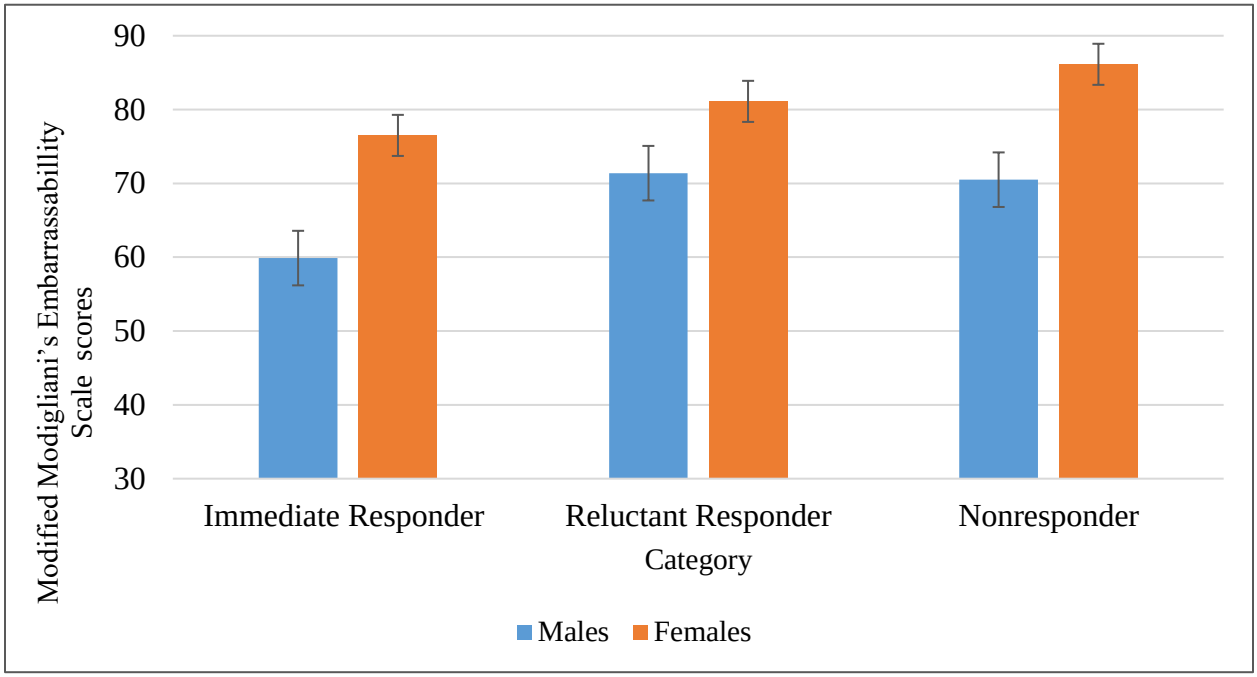

Figure 1. Effects of category and gender on mean modified Modigliani's Embarrassability Scale scores

There was also a significant interaction between participant gender and simulated professor gender in the modified Modigliani's Embarrassability Scale (Miller, 1987) (F (1, 135) = 8.506, p = .005). Participants were more likely to report higher embarrassability when their gender matched with the professor gender. In males, there were higher embarrassabilities with the male professor (M=69.73) than the female professor (M=64.12), but in females, there were higher embarrassabilities seen with female professor (M=85.89) than male professor (M=76.14). These trends were relatively stable across the different participation categories. Figure 2 and shows the interaction between participant gender and the professor gender in the modified Modigliani's Embarrassability Scale (Miller, 1987).

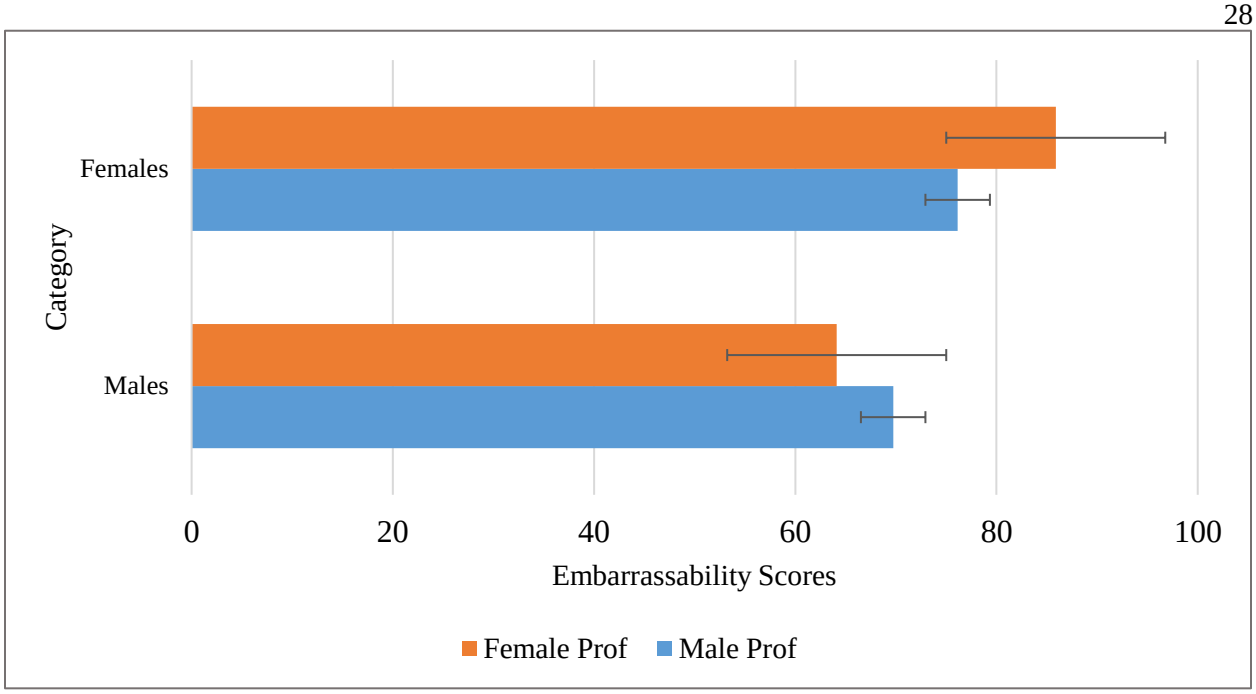

Figure 2. Interaction between participant gender and professor gender in the modified Modigliani's Embarrassability Scale

In further investigation of this interaction and its relation to hypothesis 3, participants were placed into new categories as being gender-matched (student gender was the same gender as the professor) or gender-nonmatched (student gender was not the same gender as the professor). Independent-samples t-tests showed that gender-matched reluctant responders (M=79.44, SD=15.72) had significantly higher scores of embarrassability ($t(73) = -7.047$, p =0.033) than non-matched reluctant responders (M=72.39, SD=12.00). This indicates that there may be some relationship between having the gender of the participant and the professor match and having higher embarrassability. Figure 3 illustrates the difference in embarrassability between gender matched and non-gender matched reluctant responders.

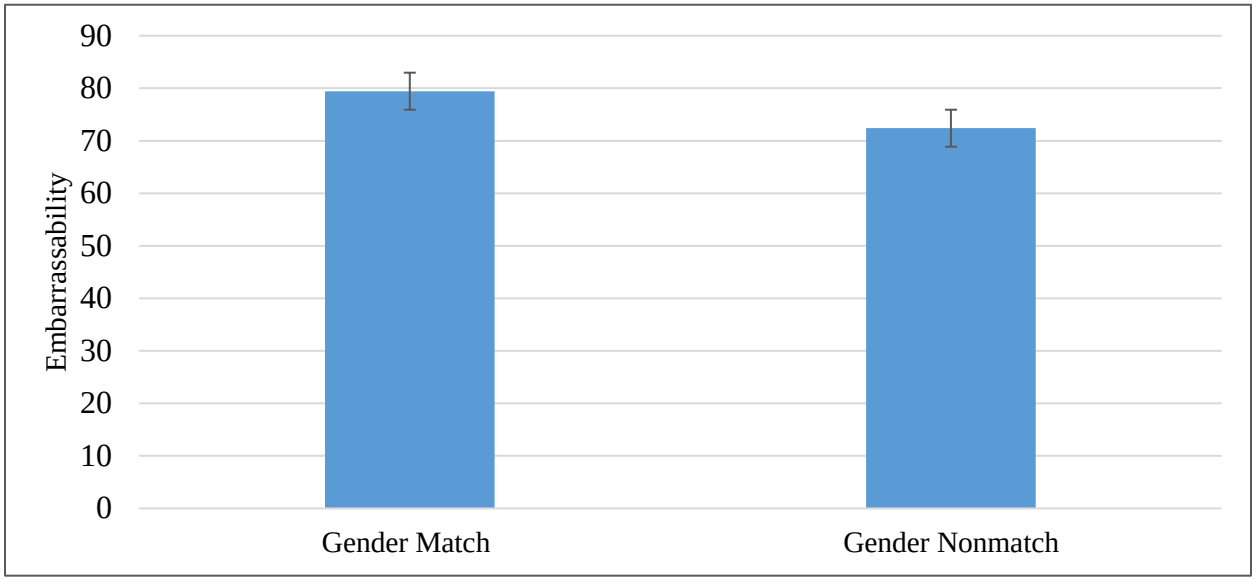

Figure 3. Difference in modified Modigliani's Embarrassability Scale embarrassability scores between matched and non-matched reluctant responders

In the Susceptibility to Embarrassment Scale (Kelly & Jones, 1997), there were significant differences in susceptibility between participation categories (F (2, 127) = 9.164, p < 0.001). LSD *post-hoc* tests revealed immediate responders (M= 77.95, SD=27.13) had lower scores than reluctant responders (M= 99.67, SD=26.96; t(127) = -4.25, p <.001) or nonresponders (M= 109.75, SD=26.86; t(127) = -4.37, p <.001). Reluctant responders and nonresponders were not significantly different (t(127) = 1.49, p =.140). Unlike the modified Modigliani's Embarrassability Scale (Miller, 1987), there was not a significant difference between genders (F (2, 127) = 1.883, p = .156). Figure 4 shows the effect of participation categories on embarrassability in the Susceptibility to Embarrassment Scale.

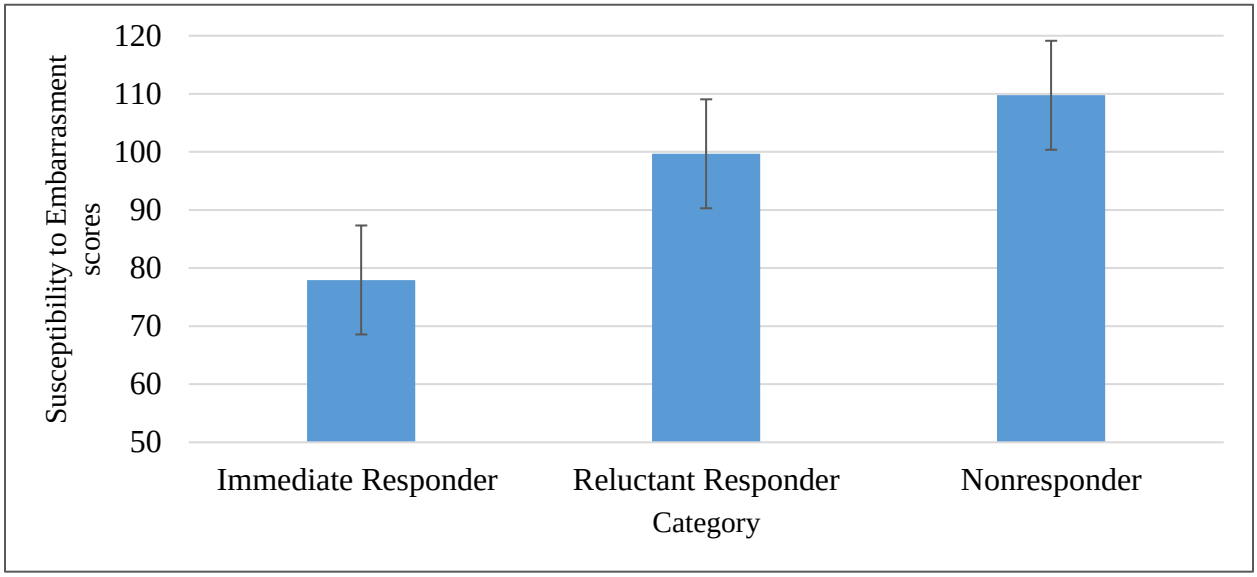

Figure 4. Effects of category on Susceptibility to Embarrassment Scale scores

Hypothesis 3 Analysis. Table 2 shows the distribution of participants by gender (only male-female), the match of gender and professor gender, and participation category. Genders were considered "matched" when males had a male professor, and females had a female professor and are bolded in Table 2.

Table 2. *Distribution of Participants by Gender, Match of Gender X Professor Gender, and Participation Category*

	Matched-gender Male	Nonmatched-gender Male	Matched-gender Female	Nonmatched-gender Female	Total
Immediate Responder	**15**	17	**5**	7	44
Reluctant Responder	**19**	20	**20**	16	75
Non-responders	**6**	6	**2**	6	20
Total	40	43	27	29	139

A Chi-Square Test of Association was conducted to test whether participation category (immediate responder- reluctant responder- nonresponder) was associated with a match between participant gender and simulated professor gender (matched-gender male, nonmatched-gender male, matched-gender female, nonmatched-gender female). The distribution of matched gender and non-matched gender participants did not significantly vary based on the participation category (χ^2 (6) = 7.78, p=.255), indicating that the characteristic of matched genders did not influence category distribution. However, it should be noted that 2 cells (non-responder matched females and non-responder non-matched females) had a low expected value below 5 (3.88 and 4.17, respectively), which breaks one assumption necessary for conducting a Chi-Square Test of Association.

In terms of the effects of matched gender on dispositional empathy or embarrassability scores, there was no significant interactions between participation categoryXgenderXprofessor gender in the Interpersonal Reactivity Index (Davis, 1980), the Empathy Quotient (Baron-Cohen & Wheelwright, 2004), the modified Modigliani's Embarrassability Scale (Miller, 1987), or the Susceptibility to Embarrassment Scale (Kelly & Jones, 1997). However, as discussed above, there was a significant interaction between gender and professor gender in the modified Modigliani's Embarrassability Scale (Miller, 1987), which was not contingent on category.

Other surveys. The Big 5 Inventory subscales (John, Donahue, & Kentle, 1991), ShyQ (Bortnik, Henderson, & Zimbardo, 2002), and Marlowe-Crowne Social Desirability Short Scale (Crowne & Marlowe, 1960) were also analyzed for differences between categories, genders, and professor genders using 3x2x2 ANOVAs.

In terms of the Big 5 Inventory subscales (extraversion, agreeableness, conscientiousness, neuroticism, and openness to new experiences), there were some significant results. There was a

significant difference amongst participation categories in terms of extraversion (F (2, 127) = 9.164, p < .001). LSD *post-hoc* tests revealed that immediate responders (M= 3.80, SD=0.70) had significantly higher scores than reluctant responders (M= 3.08, SD=0.89; t(127) = 4.79, p <.001) or nonresponders (M= 2.73, SD=0.76; t(127) = 5.02, p <.001). Reluctant responder scores were nearly significantly higher than nonresponders as well (t(127) = 1.77, p=.078), suggesting a trend that as extraversion scores lowered, the amount of time before choosing to participate in class rose. Additionally, there were significant gender differences in neuroticism (F (2, 127) = 4.826, p =.010), as females had higher levels of neuroticism (M= 3.12, SD=0.87) than males (M= 2.61, SD=0.76).

In Bortnik, Henderson, and Zimbardo's (2002) ShyQ, there was a significant difference in category (F (2, 127) = 2.111, p = 0.007). LSD *post-hoc* tests revealed that reluctant responders (M= 2.95, SD=0.53) and nonresponders (M= 3.15, SD=0.64) had significantly higher scores of chronic shyness (t(127) = 2.98, p =.003 and t(127) = 3.36, p =.001, respectively) than immediate responders (M= 2.62, SD=0.66). Reluctant responders and nonresponders did not significantly differ (t(127) = -1.35, p =.179)

There were no significant differences in the Marlowe-Crowne Social Desirability Short Scale (Crowne & Marlowe, 1960), nor any other significant effects.

Chapter 4

Discussion

The first hypothesis, that reluctant responders would report higher levels of dispositional empathy than nonresponders, was not supported by the Interpersonal Reactivity Index (Davis, 1980) nor the Empathy Quotient (Baron-Cohen & Wheelwright, 2004). Neither measure found significant differences in empathy between immediate responders, reluctant responders, and nonresponders. Krach et al. (2011), Miller (1987), and Paulus (2013) found dispositional empathy to be one of the strongest predictors of vicarious embarrassment. Since reluctant responders had no notable difference from immediate responders or nonresponders in terms of empathy, this greatly weakens the argument that vicarious embarrassment is a pivotal characteristic of the reluctant participant's actions.

The second hypothesis, that reluctant responders would have higher embarrassability than immediate responders, was supported by both the modified Modigliani's Embarrassability Scale (Miller, 1987) and the Susceptibility to Embarrassment Scale (Kelly & Jones, 1997). In both cases, immediate responders had lower embarrassability scores than reluctant and nonresponders, whose scores were not significantly different. Embarrassability was the other prominent personality trait that influenced who felt vicarious embarrassment, and how strongly (Markus & Miller, 1999; Miller, 1987; Modigliani, 1968). Although the hypothesis was supported, reluctant responders were not unique in their levels when compared to nonresponders. This illustrates an interesting pattern: there is no measure in this study in which reluctant responders and nonresponders have significantly different scores (although the difference in extraversion scores was approaching significance), and yet in reality, the two groups have at least one prominent difference—one eventually raises their hand, and the other does not!

The third hypothesis, addressing the effects of the gender of the simulated professor, received mixed support. There were no significant differences in the numbers of matched and non-matched participants, based on the participation category, which does not support the first part of the third hypothesis (that there will be more cases of reluctant responding when the genders match than when they are opposite). Additionally, there were no measures in which the gender of the simulated professor alone significantly affected the participants' survey scores. This indicates that the gender of the simulated professor does not noticeably affect which participation category a participant falls into, nor directly affects any of the personality traits measured in this study.

In addressing the second part of the third hypothesis (that the reluctant responders will report higher levels of empathy and embarrassability when genders match than when they do not), gender-matched reluctant responders were significantly more embarrassable than non-matched reluctant responders, based on the modified Modigliani's Embarrassability Scale (Miller, 1987). This partially supports the second part of the third hypothesis. Despite this significant difference, there were no distinctions between matched and non-matched reluctant responders in the Susceptibility to Embarrassment Scale (Kelly & Jones, 1997), nor any differences in terms of dispositional empathy. Therefore, because there was only one instance in which matching of gender of the professor in the choose-your-own-adventure activity with the participant's gender had an impact on the results, it would be reasonable to assume that the professor's gender and whether it matches the student's is not a memorable confounding variable, failing to support the third hypothesis.

Some gender differences were found, in keeping with past research on both classroom participation and research on empathy and embarrassability (Fritschner, 2000; Markus & Miller,

1999; Miller, 1987; Paulus, 2013; Rocca, 2010). In this study, females in all participation categories reported higher levels of dispositional empathy, embarrassability, and neuroticism. Rocca (2010) discusses how there is conflicting research on the prominence of gender differences in classroom participation studies. Some studies attributed participation differences on personality traits (such as self-esteem) or differences in treatment from professors, while others found no sex differences at all in terms of participation. Moreover, while Fritchner (2000) found gender differences in specific types of participation and at certain course levels, overall levels of participation were approximately the same between males and females.

Because there were no significant differences in dispositional empathy and because reluctant responders and nonresponders had similar responses in embarrassability (in all of the variables tested), it is not reasonable to assume that a tendency to feel vicarious embarrassment is the marker of reluctant responders. It is still possible that reluctant responders experience this emotion at an increased rate compared to some others (higher embarrassability scores), and that it occurs during the Silent Classroom scenario. However, because of the lack of strong ties to noted personality traits, vicarious embarrassment is likely not the main trigger that causes a reluctant responder to step in and raise a hand. Other possible personality characteristics, such as the Big 5, chronic shyness, and the need for social desirability, showed some significant differences, but the results were not unique to the reluctant responders alone. Further research will need to be conducted to find more defining characteristics of the reluctant responders, and the cause of their unique behavior.

Limitations and Future Research

Choose-your-own-adventure activity. Being a unique and largely unstudied topic, this study is branching into rarely used territory. The procedure of using a choose-your-own-adventure-style activity (such as the one used by Vicary and Fraley (2007)) to replicate the Silent Classroom situation comes with strengths and weaknesses. First, the study procedure is largely automated, so after the initial construction of the story, options, and responses, the procedure is be highly regulated and there is little chance for environmental extraneous variables, such as different researcher interactions. Additionally, using a first-person point of view story where the participant's actions change the outcome causes a deeper involvement in the scenario and possibly more salient emotions than simply asking the participant to remember a time when a similar scenario happened in the past. This methodology also eliminates issues with faulty or misjudged impressions of past emotions. While it would have been even more realistic to recreate the scenario for each participant using actors and a deceptive reason to teach a school lesson, there were realistic concerns of time, staffing, money, realness, and the large number of components to coordinate with a single researcher. However, the imagination is a powerful tool. Inviting participants to fully engross themselves in the story, where their actions make a difference, can be a close alternative to replicating the real-life scene and is smooth and interactive.

Limitations. This study is quasi-experimental because the participants themselves had to assign their participation status, and so participants could not be randomly or equally assigned into groups. While the choose-your-own-adventure-style activity is more interactive than a memory recall activity, it is still less realistic than the real Silent Classroom experience, and pressures and emotions felt in the real scenario may not have been conjured by participants in the

lab. Participants also only had one "opportunity" to assign themselves to a participation category, and they may react differently when given multiple scenarios and opportunities to fall into one category or another. The Interpersonal Reactivity Index (Davis, 1980) should also be interpreted with caution, as the original scores did not pass the test of normality, and the data had to be transformed to be analyzed. Additional limitations include a small and somewhat unrepresentative sample of the student population, as the sample available at Penn State Behrend may not be nationally representative of age, race, gender, SES or education level. Since little research has been done on empathetic and vicarious embarrassment, I am unsure as to what consequences age might play in the occurrence and reaction to these empathy-related emotions. While it has been suggested that socially-motivated emotions such as jealousy, empathy, embarrassment, shame, or pride may not be understood or available to young children, I am unsure of how a middle aged child might react to the Silent Classroom situation as compared to a college sample, which is what is traditionally used in psychology research.

Future Research. This study will continue with a further investigation into the pre- and post-activity PANASs, and a detailed analysis of the qualitative data collected at every step of the Silent Classroom, including their current emotions, and how the participant thought the professor and classmates felt. Additionally, examining the changes in arousal and valence over time during the choose-your-own-adventure-style activity (from the modified version of Bradley and Lang's (1994) Self-Assessment Manikin) may provide insight into how emotions—positive or negative—are being altered throughout the Silent Classroom Scenario. Future research into reluctant responders should continue to search for characteristics that designate reluctant responders from immediate and nonresponders. I would recommend studying other emotions and personality traits in reluctant responders that could be predictive in when they choose to

participate, and explain why they eventually do. Rocca (2010) had summarized a few personality traits that affected classroom participation, such as communication apprehension, self-esteem, and assertiveness. Other possibilities include a students' self-efficacy in school or ones' comfortability in silence (a notable feature of the Silent Classroom Scenario). Other caveats of the Silent Classroom Scenario could be examined as well, such as the topic of the class (which was left purposefully unmentioned in this study) or whether it is a professed "upper-level" or "lower-level" course. Additionally, other methods of categorizing responders, such as live action role-play, may be more authentic.

Overall, this study attempted to explain the unique behavior reluctant responders, and did not find support for the contention that vicarious embarrassment (for the professor or for the fellow classmates) underlies reluctant participation. This study is the beginning of the understanding of who the reluctant responders in class are, and why they act the way they do. Future researchers should continue to examine this topic, and use the results to increase participation in the classroom and improve communication techniques between professors and their students.

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Appendix A

Example of Text From Choose-Your-Own-Adventure Activity

Story Begins- Segment One

You're sitting in class while Professor Coster lectures at the front of his classroom. It's midmorning and you can see the sunlight peeking in through the window blinds on the right side of the room. The door to the front left is closed as always, to prevent any extra noise from coming in. You're sitting in your typical seat for this class, middle of the room and 3 rows back, so you have a view of most of the other students in the room, but you can still see the projection screen up front. This is an average-size class for this school, something around 30 students, so the room is pretty full with desks. Some are attentively taking notes and watching the PowerPoint projector screen as Professor Coster explains. Some others are doodling in their notebook or staring at the close-blinded window.

You're following along with Professor Coster's lesson pretty easily: this information isn't really that hard and if you take notes you'll do fine in his class. Professor Coster also likes to try to get the class talking sometimes, and tries to ask the class questions as he teaches to see how they are understanding things. Sometimes it works for him, other times it doesn't. As he finishes explaining the current slide he is on, Professor Coster asks the class if someone can define the term he just explained in their own words.

Do you:

1. Raise your hand and answer the question
2. Wait. Let someone else answer the question.

If 1 was chosen, participant will go to ending segment

If 2 was chosen, participant will go to segment 2 and see this:

Segment Two

The room is quiet. Professor Coster looks at people around the room for a few seconds, and you can see that no one is raising their hand. Professor Coster repeats the question: "Can anyone define this term in your own words?" He glances back at the PowerPoint slide that shows the word in question on the screen.

Do you:

1. Raise your hand and answer the question
2. Continue to wait. Someone else will surely answer instead of you.

If 1 was chosen, participant will go to ending segment

If 2 was chosen, participant will go to segment 3 and see this:

Segment 3

Still, no one is answering. You glance around the room slightly to avoid eye contact. Some students are flipping through their notebook quietly and feigning that they are writing notes. Others are just blankly staring at Professor Coster. 'Why isn't anyone answering this easy question?' you wonder. Professor Coster prompts the class again- "C'mon guys, this isn't a trick question, I promise. Does anyone know what this term that we just went over means?"

You:

1. See no one's answering. You raise your hand and answer the question
2. Continue to wait, thinking "I'm not really one to answer class questions…"

If 1 was chosen, participant will go to ending segment

If 2 was chosen, participant will go to segment 4 and see this:

Segment 4

The silence stretches to an awkwardly long wait now. Professor Coster is looking at different kids around the room, trying to make eye contact and spur a response to his question. No one is responding and the seconds tick by. Professor Coster prompts one more time "….does *anyone* know?" as he looks between the slide on the wall and the classroom full of students.

You:

1. Think this is too much. You raise your hand and answer the question
2. Continue to wait. *You're* not going to answer

If 1 was chosen, participant will go to ending segment

If 2 was chosen, participant will go to segment 5 and see this:

Segment 5

Another minute of silence passes, and Professor Coster sighs and says "okay… the term means [blank]. If you have any questions, please don't hesitate to ask me or go to my office hours." He continues on with his lesson.

The End

Ending Segment

You raise your hand. Professor Coster says "yes" and points at you, and you give a basic definition of the term the class had just learned. He smiles and says "that's exactly right" before continuing on with his lesson.

The End

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Undergraduate Student Research Grant
- *Public Perception of Effect Size* — 2016

Schreyer Honors Society Study Abroad Grant — 2016

John K. Henne Endowment for International Study — 2016

Undergraduate Student Research Grant
- *Collaborative Project to Study the Impact of Therapy Dogs for Children with Autism* — 2015

Undergraduate Student Research Grant
- *The Impact of Therapy Dogs on Children with Physical, Behavioral, and Emotional Disabilities and in an Educational Setting* — 2014

DeFrees Family Foundation Endowment Scholarship — 2013-2017

PUBLICATIONS

Heather, L., Kazmerski, V., **Galeza, E**., Gabrys, J. (2017). *Assessing the effectiveness of therapy dogs for children with autism in an educational setting*. Manuscript in preparation.

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Lum, H., Kazmerski, V., & **Galeza, E**. (2016, July). Assessing the effectiveness of therapy dogs for children with autism in an educational setting. Poster presented at the 31st International Congress of Psychology, Yokohama, Japan.

Galeza, E. & Zimmerman, R. (2016, April). Public perception of effect size. Poster presented at the 2016 Penn State Behrend Sigma Xi Conference, Erie, Pennsylvania.

Galeza, E., Gabrys, J., & Carioto, D. (2016, April). Assessing the effectiveness of therapy dogs for children with autism in an educational setting. Presentation at the 2016 Penn State Behrend Sigma Xi Conference, Erie, Pennsylvania.

Gage, A., Master, A., **Galeza, E**., Seng, E., & Campbell, D. (2016, April) The bystander effect in non-emergency helping situations. Poster presented at the 2016 Penn State Behrend Sigma Xi Conference, Erie, Pennsylvania.

Marsh, K., **Galeza, E**., Dorrenbacher, W., & Zaffino, B. (2015, April). Evaluation of the impact of therapy dogs on children with physical, behavioral, and emotional disabilities in an educational environment. Presentation at the 2015 Penn State Behrend Sigma Xi Conference, Erie, Pennsylvania.

Grandinetti, M., Anthony, C., Bertges, C., Zaffino, B., & **Galeza, E**. (2014, April). An analysis of personality differences between human-pet interactions. Poster presented at the 2014 Penn State Behrend Sigma Xi Conference, Erie, Pennsylvania.

RESEARCH EXPERIENCE

Penn State Erie - The Behrend College, Department of Psychology

Classroom Participation Research Lab
-Principle Investigator
-Compiled background research, developed testing procedure, designed research stimuli, currently collecting data, analyzing data, planning dissemination and defense of honors thesis — Fall 2015-Present
-Worked with Qualtrics survey software, Microsoft Excel, SPSS
-Faculty Advisor: Dr. Carol Wilson

Effect Size Research Lab — Summer 2015-Present
-Developed the testing procedure, designed research stimuli, wrote grant
-Worked with Qualtrics survey software
-Faculty Advisors: Dr. Eric Corty, Dr. Carol Wilson, Dr. Michael Rutter (Department of Mathematics)

Barberdog Research Lab
- Developed the testing procedure, ran the equipment, coded and analyzed data, wrote multiple grants, presented study at conferences, preparing manuscript for publication — Summer 2014-Present
-Worked with video recording devices and software, Microsoft Excel, SPSS

-Faculty Advisors: Dr. Heather Lum, Dr. Victoria Kazmerski

Bystander Effect Research Lab
- Compiled background research, developed testing procedure, collected and analyzed data, presented study at a conference — Fall 2015-Spring 2016
-Worked with Microsoft Excel, SPSS
-Faculty Advisor: Dr. David Herring

H.A.R.E Research Lab
-ran the equipment, collected data — Fall 2013-Spring 2014
-Worked with video recording devices, animatronic and live animals
-Faculty Advisor: Dr. Heather Lum

PROFESSIONAL EXPERIENCE

Waitress, Perkins Family Restaurant and Bakery, Erie, Pennsylvania
-Interact with customers, manage food orders, suggestive selling, food preparation, customer conflict resolution, facility cleaning — October 2013-Present

Research Assistant, Penn State Erie, The Behrend College, Erie Pennsylvania
-Compile and summarize background research, develop testing procedures, develop research stimuli, code online surveys, run research equipment, recruit and run participants, collect data, behaviorally code video recordings, analyze collected data, help interpret results, present research at conferences and meetings, write informed consents and IRB documentation, write research grants, train new research assistants, complete university-required and mandated reporting training — September 2013-Present
- Dr. Heather Lum, Dr. Victoria Kazmerski, Dr. Eric Corty, Dr. Carol Wilson, Dr. David Herring

RELEVANT COURSEWORK

Professional Development in Psychology (PSYCH489)
Advanced Research Projects in Psychology (PSYCH 406W)
Basic Research Methods in Psychology (PSYCH 301W)
Elementary Statistics in Psychology (PSYCH 200)
Cross-Cultural Psychology (PSYCH 232) (Study Abroad Summer 2016, Japan)
Introduction to Social Psychology (PSYCH 221)
Work Attitudes and Motivation (PSYCH 484)
Honors Introductory Sociology (SOC 001H)
Effective Writing: Writing in the Social Sciences (ENGL 202A)

PROFESSIONAL AFFILIATIONS

Psi Chi, Erie, Chapter 714

National Honor Society

Penn State, Erie Psychology Club