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EFFECTS OF STUTTERING SEVERITY DISCLOSURES ON LISTENER PERCEPTIONS OF A FEMALE ADOLESCENT WHO STUTTERS

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EFFECTS OF STUTTERING SEVERITY DISCLOSURES ON LISTENER PERCEPTIONS OF A FEMALE ADOLESCENT WHO STUTTERS

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ABSTRACT

Purpose: The purpose of this study was to measure whether factual self-disclosure statements with differing levels of overt stuttering severity have effect on listener perceptions regarding an adolescent female who stutters (AFWS).

Method: A total of 759 adults participated in this study. Participants were gathered through a nationwide campaign to various universities via email. There were four overt severity experimental conditions (control, fluent, mild and moderate-severe); participant assignments were balanced such that each experimental condition had comparable population demographics. Each condition contained a video stimulus of an adolescent female providing a factual disclosure statement identifying herself as a person who stutters. Following the disclosure stimulus video, a core stuttering stimulus video rated as moderate-severe was shown to all participants. Following the video stimuli, participants were asked to complete a survey to rate speech skills and personal characteristics of the AFWS, using a 7-point Likert scale.

Results: These data findings interpret that mild overt severity factual self-disclosure statements are preferred among listeners in speech skills of speech intelligibility ($p= 0.013$), speech volume ($p= 0.004$), and ease of listening ($p= 0.004$).

Conclusion: Results indicate that the use of factual disclosure statements by an AFWS substantially differ from previous research based on adolescent males. As such, these data indicate a significant gender discrepancy relative to the clinical application of factual

self-disclosures in young people who stutter. Limitations, strengths, clinical relevance, and future research are discussed.

DEDICATION

This work is dedicated to the 20% who find themselves in a paucity of research.

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I would like to thank Dr. Snyder for his mentoring the past two years. I would also like to thank my committee, Dr. Kornisch and Dr. Park for providing insight and thought during the revision process.

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CHAPTER I

INTRODUCTION

Stuttering is defined as a speech disorder characterized by repetitions of sounds, syllables, or words, prolongations, blocks, and inaudible gestural fixations (Ambrose et al., 1993; Bloodstein & Ratner, 2021; Prasse & Kikano, 2008). Research since has clinically shown correlations between genetic mutations on Chromosome 12 and stuttering as well as family heredity factors of stuttering linked to chromosome 3q13.23q13.33 (Kang et al., 2010; Raza et al., 2010). Stuttering encompasses both overt characteristics (i.e., repetitions, prolongations, inaudible postural fixations), as well as covert characteristics (i.e., substitutions, circumlocution, avoidance behaviors) (Douglass et al., 2019). The prevalence of stuttering is 1% of the adult population and 1.4% in children younger than ten years old (Prasse & Kikano, 2008; Yaruss et al., 2002). The incidence of stuttering occurs 4:1, and males hold more prevalence than females (Maguire et al., 2012). Risk factors of stuttering include age of onset, gender, family history, and skills related nonverbal/verbal measures (Yairi et al., 1996).

Stuttering has been found to impact more than speech for both men and women who stutter, including their quality of life (QoL) (Briley et al., 2021; Nang et al., 2018). Data suggests that the stuttering experience may be different as a function of gender, and thus should be researched independently (Briley et al., 2021). Data from previous studies show that adults who stutter (AWS) have more difficulty navigating vitality, social and emotional functioning, and mental health (Craig et al., 2009). Additional studies report similar trends such as negative

prejudice, stereotype threat, and occupational limitations in both men and women that reduce QoL in people who stutter (PWS) (Allard & Williams, 2008; Boyle & Gabel, 2020; Dorsey & Guenther, 2000; Gerlach et al., 2018; Johnson, 2008; Plexico et al., 2019; Spencer et al., 1999, 2016; von Hippel et al., 2015). Adult women who stutter (AWWS) have been found to actually accrue increased levels of depression over time compared to adult males who stutter (AMWS) who have been reported to have stable levels of depression over time (Briley et al., 2021).

A survey conducted by Dorsey and Guenther reported that a male college student who stutters was rated more negatively by his peers than the average college student on thirteen out of sixteen traits (nervous, shy, self-conscious) (Dorsey & Guenther, 2000). A similar study conducted at Florida Atlantic University published significant findings of college students who stutter being perceived as having lower levels of self-esteem, intelligence, reliability, decisiveness, emotional stability, opportunities of employment, ambition, and higher stress levels by their peers (Allard & Williams, 2008). Negative perceptions of adolescent males who stutter can lead to living a lower quality of life. Increased risk of developing depression and anxiety are higher in adolescent males who stutter than their fluent male peers which can cause less motivation to achieve one's life goals and decreases QoL based on listener's negative prejudice (Geringswald, 2021). There is a paucity of research in respect to negative prejudice in AFWS due to lack of gender sample size.

PWS are often stereotyped and depicted as weak, unheroic, and unsuccessful in the media (Johnson, 2008). *Stereotype threat* is a theory in which there is a negative stereotype relevant to a person's group, and he or she, is being judged or treated in a negative manner based on that stereotype, and thus stutterers may act out their assigned "role" produced by the narrative of society (Spencer et al., 2016). PWS are often faced with stereotype threats in their everyday lives

across multiple environments (i.e., school, occupational environments, etc.) (Spencer et al., 2016). Previous research has shown that both men and women who stutter have reduced salary income, decreased levels of job satisfaction, and increased workplace discrimination (Plexico et al., 2019). A recent study found that salary deficits between young adult, fluent and non-fluent employees can exceed $7,000, and adult women who stutter are statistically more likely to be employed for jobs below their educational level (i.e. underemployed) than fluent women by 23% (Gerlach et al., 2018).

A study reported that women who stutter, often feel like they are not able to reach their full potential because of their stutter and the stereotype attached to it (Nang et al., 2018). Women who stutter often feel as though their ability to form relationships can also be inhibited which can lead to social isolation posing a high risk for lower quality of life (Hawton et al., 2011; Nang et al., 2018). Mental health plays a critical role in adolescent development and studies have shown that adolescents who stutter are more susceptible to bullying and being teased by their fluent peers which can have negative effects and lead to depression (Erickson & Block, 2013). Adult women who stutter report difficulties relating to friends, family and even lack of support from partners (Milton, 2013). This shows carry-over from lower quality of life aspects to adolescence, then into adulthood. One woman from the group study admitted to being thankful for not having children for fear her stutter would be inherited and the child would grow up to encounter the same negative feelings from oneself and peers (Milton, 2013). Not only are women encountering reduced occupational opportunities, but reduced opportunities to grow and start families as well.

Due to the high rate of treatment relapse (Maguire et al., 2012; Yaruss et al., 2002) many researchers and clinicians have turned to supplemental strategies to improve their patients' quality of life. Supplemental to the mainstream stuttering treatment, disclosure statements have

been used as a tool to create a level of vulnerability between PWS and their listener. A self-disclosure statement is when an individual shares a personal piece of information about themselves to others who may not have first-hand knowledge about it (Boyle & Gabel, 2020). Data has suggested that factual self-disclosures made at the initial start of conversations between a male who stutter and a fluent listener improve overall positive perceptions (Lincoln & Bricker-Katz, 2008).

Stuttering disclosure statements have been proven to place PWS in a positive light among their peers and family members (McGill et al., 2018). There are two main types of stuttering self-disclosure used: apologetic and factual. Apologetic disclosures can entail statements such as "Please bear with me" or "I'm sorry, but I stutter" and these promote a sense of emotional obligation that are often perceived as forced (Boyle & Gabel, 2020; McGill et al., 2018). A factual self-disclosure statement is straightforward when the PWS may say "I am a person who stutters" or "I am a stutterer". Studies have shown that when adult and adolescent males who stutter use disclosure statements with their listeners at the beginning of a conversation, they are perceived more favorable (Collins & Blood, 1990; Healey et al., 2007). Factual disclosure statements relative to a PWS have found to be more effective than no disclosure and apologetic disclosure statements in both men and women, but no between-gender efficacy comparisons were studied (Byrd et al., 2017). See table 1.0 for gender and disclosure studies compared among men and women in the appendix.

Current Study

Relative to the male dominated data set, the effects of overt levels of severity on factual self-disclosure statements utilized by an adult male who stutters demonstrates increased positive perceptions from listeners (Collins & Blood, 1990; Healey et al., 2007; Snyder et al., 2020).

There is currently a lack of research studies with data presenting the effects of overt stuttering severity levels on factual self-disclosure statements utilized by a female who stutters. See table 1.0. for gender and disclosure studies compared among men and women in the appendix.

Hypothesis: Gender & Severity & Disclosure

There is a paucity of data relative to the role of gender in the disclosure of stuttering across multiple overt severity levels (see table 1.0 for gender, severity and disclosure studies compared among men and women). A study reported that MWS with a severity categorized as "severe" are likely to receive more negative perceptions from listeners and others, especially if not disclosed (Gabel et al., 2008). Current research indicates that stuttering severity within a disclosure statement can affect listener perceptions of an adolescent male who stutters (AMWS) (Geringswald, 2021). Results from this study found that mild and severe factual self-disclosure statements were found to be more effective on listener perceptions than using a moderate factual self-disclosure statement (Geringswald, 2021). Previous research in relation to disclosure statements and severity have centered the focus and effects on males. No studies have been conducted to verify whether the results, and data from male severity disclosure studies, apply to women. The purpose of this research study was to examine the effects of different overt severities during self-disclosure on the perceived speech and personal characteristics of an AFWS.

There is limited research when discussing females who stutter regarding the use of factual self-disclosure statements. The purpose of this study is to analyze the perceived speech and personal characteristics of an adolescent female who stutters (AFWS) rated by listeners when a factual disclosure statement is used with different levels of overt severity, (i.e., mild, fluent, and moderate-severe) compared to no disclosure stated. The research question presented

is do self-disclosure statements improve listener's perceptions of an AFWS based on severity? Given research of previous studies involving young adolescent males and disclosure statements, our hypothesis is that factual self-disclosure statements over multiple overt severities will have a differential effect on listeners' perceptions of speech skills and personal characteristics (Snyder et al., 2020). Limitations of the previous study have encouraged us to explore gender effect of overt severity levels and factual disclosure statements in AFWS based on listener's perceptions.

CHAPTER II

METHODS

Study Design and Procedure

This research design coincides with previous research conducted within the paradigm which is a between-group self-disclosure based on overt severity levels. Participants were assigned to an overt severity condition (control, fluent, mild, moderate-severe) which entailed a video stimulus of a thirteen-year-old female self-disclosing that she is an AFWS. After the primary video, a second core stuttering video stimulus began playing of the AFWS reciting the John Locke speech. All participants, regardless of overt severity level assigned, watched the core stuttering video stimulus. The script in which what was said regarding the disclosure statement video stimulus and reading passage video stimulus can be found in Appendix A and B. Then, participants were directed to a brief survey to complete. Data collection was obtained via Qualtrics. Qualtrics is an online data survey software granted through the University of Mississippi (Qualtrics, Oxford, MS).

The control video stimulus that was viewed by participants shows a white AFWS centered in the middle of the screen, presenting a recited script of John Locke. The AFWS is viewed waist up, arms down by her side, and in front of a gray wall. The verbal script presented by the AFWS is recorded with a forty-one second duration. The Stuttering Severity Index, Edition Four, was used to calculate the severity of the AFWS presented in the control video stimulus; the level of overt severity was found to be moderate stuttering level (Glyndon, 2009).

The calculated overt behaviors included a stuttering syllable frequency of 3.87% with three longest durations of stuttering averaging 2.1 seconds. Observed secondary behaviors included distracting sounds, facial grimaces, and head movements.

Previous paradigm studies have used a similar survey presented in appendix. This survey has been modified to cater to the needs of the current study regarding an AFWS. The survey was received to participants in an online format that was embedded in a link. The initial questions covered in the survey were for legal purposes pertaining to the participant's' age, and whether the video was watched in its entirety. Part 1 of the survey assessed participant's perceptions of the AFWS based on speech skills such as speech intelligibility, speech fluency, speech rate, speech volume, ease of listening, degree of handicap, likely to succeed, and professional success. Each speech skill was judged on a 7-point Likert scale. For example, 1 being intelligible and 7 being unintelligible. The same 7-point Likert scale was used to measure the participant's perceptions of the AFWS based on personality characteristics, which are trait pairs including calm/nervous, reliable/unreliable, relaxed/tense, unafraid/fearful, intelligent/unintelligent, confident/insecure, friendly/unfriendly, outgoing/shy, competent/incompetent, and approachable/unapproachable. Relative to the survey, the lower the point value on the Likert scale, the more desirable perceptions of an AFWS. Part 3 of the survey included demographic information including age, race, gender and career/major.

Participants

Participants were relative to college aged (adolescents-early adulthood) and were recruited from various universities across the country in a nationwide campaign via an emailed Qualtrics survey link (Qualtrics, Oxford, MS. The survey provided the participants questions to report their demographic information such as age, race, concentration of study/discipline, and

any stuttering relationships prior had to the study with family members, acquaintances, or professors. A total of 893 surveys were collected and completed throughout the course of this study. Participants who identified themselves as individuals studying communication sciences and disorders, speech-language pathology, and/or audiology were excluded from the data set. Participants who disclosed a significant stuttering relationship were also excluded from the data set. In turn, the total amount of surveys utilized within the data analysis was 759. The percentage of males included as participants within the study is 30.4% and females are 69.6% with a mean age for both genders of 23.64.

CHAPTER III

RESULTS

The data analysis for this paper was generated using Qualtrics software, Version 2021 of Qualtrics. Copyright © 2022 Qualtrics. Qualtrics and all other Qualtrics product or service names are registered trademarks or trademarks of Qualtrics, Oxford, MS, USA. A univariate general linear model (GLM) was used to analyze data from this study, and Bonferroni post hoc analyses were used to document significant between-conditions differences, similar to previously published research (Geringswald, 2021; Snyder et al., 2020). The likelihood of Type 1 errors was reduced by adjusting the alpha, resulting in an acceptable p value of .005 in the speech skills survey and a p value of .008 in the personal characteristics survey.

As previous data suggest the possibility of participant covariance relative to gender, these data were analyzed. No significant gender covariance was found in these data.

Speech Skills

Survey results of perceived speech skills are displayed in Table 4 in the appendix. Overt speech skills that were perceptually measured by participants were labeled as speech intelligibility, speech fluency, speech rate, speech volume, ease of listening, degree of handicap, likelihood to succeed and professional success.

Speech Intelligibility. Data revealed a main effect trending towards statistical significance on perception of speech intelligibility as shown in Figure 1, [$F(3,754)= 3.627$, $p= 0.013$]. Select

Bonferroni post-hoc comparisons produced significant between-group differences relative to mild factual self-disclosure in which outperformed fluent self-disclosure at a significance of p=0.013.

Speech Fluency. Data did not reveal a significant main effect on perception of speech fluency as shown in Figure 2, [F(3,754)= 1.280, p= 0.280].

Speech Rate. Data did not reveal a significant main effect on perception of speech rate as shown in Figure 3, [F(3,754)= 1.837, p= 0.139].

Speech Volume. Data revealed a significant main effect on perception of speech volume as shown in Figure 4, [F(3,754)= 4.567, p= 0.004]. Select Bonferroni post-hoc comparisons produced significant between-group differences relative to mild self-disclosure in which outperformed control and fluent self-disclosure at a significance of p=0.027 and p=0.003, respectively.

Ease of Listening. Data revealed a significant main effect on perception of ease of listening as shown in Figure 5, [F(3,754)= 4.397, p= 0.004]. Select Bonferroni post-hoc comparisons produced significant between-group differences relative to fluent self-disclosure and mild self-disclosure in which outperformed moderate-severe self-disclosure at a significance of p=0.030 and p=0.043, respectively.

Degree of Handicap. Data revealed a main effect trending towards statistical significance on perception of degree of handicap as shown in Figure 6, [F(3,754)= 2.222, p= 0.084].

Likeliness to Succeed. Data did not reveal a significant main effect on perception of likeliness to succeed as shown in Figure 7, [F(3,754)= 2.326, p= 0.073].

Professional Success. Data did not reveal a significant main effect on perception of professional success as shown in Figure 8, [F(3,754)= 0.726, p= 0.537].

Personality Characteristics

Survey results of perceived personality characteristics of overt stuttering severity level perceptions are displayed in Table 5. Speech personality characteristics that were perceptually measured by participants in trait pairs were labeled as: calm/nervous, reliable/unreliable, relaxed/tense, unafraid/fearful, intelligent/unintelligent, confident/insecure, friendly/unfriendly, outgoing/shy, competent/incompetent, and approachable/unapproachable.

Calm/Nervous. Data did not reveal a significant main effect on perception of calm/nervous as shown in Figure 9, [$F(3,754)= 0.218$, $p= 0.884$].

Reliable/Unreliable. Data did not reveal a significant main effect on perception of reliable/unreliable as shown in Figure 10, [$F(3,754)= 1.211$, $p= 0.305$].

Relaxed/Tense. Data did not reveal a significant main effect on perception of relaxed/tense as shown in Figure 11, [$F(3,754)= 0.260$, $p= 0.854$].

Unafraid/Fearful. Data did not reveal a significant main effect on perception of unafraid/fearful as shown in Figure 12, [$F(3,754)= 0.051$, $p= 0.985$].

Intelligent/Unintelligent. Data did not reveal a significant main effect on perception of intelligent/unintelligent as shown in Figure 13, [$F(3,754)= 1.008$, $p= 0.388$].

Confident/Insecure. Data did not reveal a significant main effect on perception of confidence/insecure as shown in Figure 14, [$F(3,754)= 0.249$, $p= 0.862$].

Friendly/Unfriendly. Data did not reveal a significant main effect on perception of friendly/unfriendly as shown in Figure 15, [$F(3,754)= 1.071$, $p= 0.361$].

Outgoing/Shy. Data did not reveal a significant main effect on perception of outgoing/shy as shown in Figure 16, [$F(3,754)= 1.417$, $p= 0.237$].

Competent/Incompetent. Data revealed a main effect trending towards statistical

significance on perception of competent/incompetent as shown in Figure 17, [F(3,754)= 2.180, p= 0.089].

Approachable/Unapproachable. Data revealed a main effect trending towards statistical significance on perception of approachable/unapproachable as shown in Figure 18, [F(3,754)= 2.334, p= 0.073].

CHAPTER IV

DISCUSSION

In the current study, significant findings only occurred among speech skills relative to volume *(p=0.004)* and ease of listening *(p=0.004),* with intelligibility trending towards significance *(p=0.013*)*. However, these data do not reveal any significant findings relative to personal characteristics, suggesting that participant perceptions of the AFWS are stable and resistant to change, even with stuttering disclosure statements. In contrast, research participants' perceptions of AMWS were much more easily swayed (and improved), relative to both skills and personality characteristics, after disclosure statements. (Geringswald, 2021). See Table 2.0 for a direct comparison of previous and current results between studies. As a result, these data suggest perceptual disparities between genders of adolescents who stutter.

Previous research of an AMWS revealed statistically significant data for *every* speech skill and personality trait (Geringswald, 2021). Moreover, data from (Geringswald, 2021) indicate that when an AMWS utilizes a factual self-disclosure statement, overall listener perceptions not only change, but become more positive relative to both speech skills and personal characteristics. In contrast to previous data researching AMWS disclosure statements, these data on AFWS reveal a resistance to changes in perception. Additionally, there was a noticeable difference in the variance of responses between male and female participants, which female participants having much less variance, and male participants having greater variance of perception of the AFWS. For example, specific to the personality characteristic of *degree of handicap,* female

participants reported a narrower range of perceptions compared to males who have a wider range. While a gender covariate analysis revealed no statistically significant differences, these data suggest that females tend to judge other females more consistently, and with less diversity of opinion, relative to men. Men who replied to the survey regarding *degree of handicap* showed a wider range of perception generally leaning toward more handicap than not. While it remains unknown as to why different genders respond to stuttering disclosure statements differently, research does suggest underlying neurological processing differences between the genders that could account for differences in perceptions of a AFWS (Schirmer et al., 2004).

CHAPTER V

CONCLUSION

There is a paradox in that these data reveal that AFWS with a moderate-severe overt severity level, using a factual disclosure statement, has minimal effect on participant perceptions; however, AMWS, across multiple severity levels, significantly improved listeners' perceptions when using factual disclosure statements (Boyle & Gabel, 2020; Byrd et al., 2017; Geringswald, 2021; Healey et al., 2007). To the best of our knowledge, these data may be the first to document that supplemental stuttering treatment strategies may be gender specific, and as such, cannot be equally applied between adolescent males and females who stutter.

Strengths and Limitations

Based on this current research study, significantly positive perceptions of AFWS were documented only in the mild overt severity level, when comparted to control and moderate-severe overt severity levels of factual self-disclosure. These data suggest an inequity among listener perceptions favoring the AFWS using a mild overt severity level while factually self-disclosing her stutter. An AMWS with a mild overt severity level from previous research and the current AFWS with a mild overt severity level appear to yield dissimilar data since there were less significant positive perceptions of the AFWS. This suggests that females who stutter and who are not mild in severity, may have a more difficult time changing listener perception of themselves and their speech skills. Results indicate that there is a gender effect between AFWS and AMWS based on the current study and previous findings (Geringswald, 2021). Therefore,

existing data, and current data from this study, indicate that the clinical application relative to stuttering disclosure and gender are not the same for AFWS and AMWS. Accordingly, lessons from one gender may not be able to be applied to the other.

Females who stutter are an under-researched population and more often overlooked in research studies pertaining to stuttering (see Table 2). This current research is the first study to measure and compare listener perceptions of an AFWS self-disclosing with differing overt severity levels. The sample size collected (759 participants) allowed sufficiently powerful data analysis of this participant population. However, the AFWS used in this research provided a moderate-severe overt severity level, and therefore did not provide a comparable severity level relative to previous AMWS research. The current study analyzed listener perceptions of an AFWS, without a direct comparison of an AMWS.

Future Research

Behavioral research is difficult to replicate and therefore more research studies need to be conducted with similar logistics to reduce margin of errors (i.e., severity level scores, sample size, and the use of diagnosed PWS) (Locey, 2020). For example, while these data indicate resistance to perceptual changes of a AFWS, previous research suggests more favorable perceptions of a female SLP (relative to a male SLP) volitionally stuttering (with and without disclosure statements) (Bajaj et al., 2017). As such, further research is warranted to discern the differences between simulated stuttering and real stuttering, as well as gender effects on stuttering disclosure across different age groups. In addition, these data suggest that treatment practices for AMWS may not apply to AFWS. Clinical research needs to further investigate the role of gender relative to stuttering treatment efficacy, as these data indicate that data biased by AMWS is not comparable to data featuring AFWS.

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APPENDIX

Script: Text of Stuttering Disclosure

“This video you are about to see is of me, a person who stutters. You may hear me stutter as I read about John Locke. Thank you for watching this video and completing the survey afterwards.”

Script: Control Stimuli: Scripted Text of John Locke Passage

The English philosopher John Locke's ideas were very fundamental to the forming of our country. One of his prominent ideas was our national born rights. These rights were the rights of life, liberty, and property. Thomas Jefferson later adapted these rights to the rights of life, liberty, and the pursuit of happiness when he wrote the Declaration of Independence. John Locke's ideas were very fundamental to the forming of our country and later the structuring of our country.

Table 1.0: Comparison Studies

Author	Title	Gender of Person who Stutters and Overt Severity	Focus of Study	Female Disclosure	Female Overt Severity Levels and Disclosure
Bajaj, et al. (2017)	Me, my stuttering, and them! Effect on self-disclosure of stuttering listener perception	Adult male simulated stutterer Adult female simulated stutterer	Listener perceptions based on self-disclosure by a male and female who simulated stutters; compare impact of self-disclosure and gender effect	**Yes**	**N/A**
Byrd, C.T., Croft, R., Gkalitsiou, Z., & Hampton, E. (2017)	Clinical utility of self-disclosure for adults who stutter: Apologetic versus informative statements.	Adult male stutterer Adult female who was not a person who stutters, but who was trained on voluntarily stuttering	Measured efficacy of apologetic versus factual disclosure,	Female used a factual disclosure statement	No comparisons made between gender, factual self-disclosure, and overt severity effects
Byrd, C.T., McGill, M., Gkalitsiou, Z., & Cappellini, C. (2017)	The effects of self-disclosure on male and female perceptions of individuals who stutter.	Adult male who reported stuttering onset in childhood Adult female who reported stuttering	Measured observer's perceptions of the use of disclosure statements	Adult female used factual self-disclosure statement with an overt severity level of	No comparisons made between gender, factual self-disclosure, and overt severity effects

		onset in childhood		severe	

Collins, C. R., & Blood, G. W. (1990)	Acknowledgment and severity of stuttering as factors influencing nonstutterers' perceptions of stutterers	Adult male stutterers	Measured overt severity levels and disclosure v. non-disclosure; fluent peers prefer to have stutterers use disclosure statements which in turn, produces positive perceptions of males who stutter	**N/A**	**N/A**
Healey, E. C., Gabel, R. M., Daniels, D. E., & Kawai, N. (2007)	The effects of self-disclosure and non-self-disclosure of stuttering on listeners' perceptions of a person who stutters	A male who stutters	Measured perceptions of severe overt severity level and self-disclosure; self-disclosure was either produced at the beginning or end of a monologue; fluent peers preferred self-disclosing at the beginning for a male who stutters.	**N/A**	**N/A**
Lee, K., &	Listener	Adult male	Measured	**N/A**	**N/A**

Manning, W. H. (2010)	responses according to stuttering self-acknowledgment and modification	who stutters	self-disclosure and listener perceptions of an adult male who stutters.		
Snyder, G., Williams, M. G., Adams, C., & Blanchet, P. (2020)	The effects of different sources of stuttering disclosure on the perceptions of a child who stutters	AMWS	Measured perceptions of listeners based on who disclosed the adolescent male's stutter.	**N/A**	**N/A**
Gerings-wald, (2021)	The effects of disclosure on perceptions of different overt stuttering severity levels	AMWS	Measured overt severity level comparisons of factual self-disclosure statements	**N/A**	**N/A**

Table 2.0: Comparison Between Previous Paradigm Research

Speech Skills	**Male Statistics (Geringswald, 2021) n=777**	**Female Statistics (Ryan, 2022) n=759**
Speech Intelligibility	[F(3,777) = 19.164, p<.000]	**Trending*** [F(3,754)= 3.627, p= 0.013]
Speech Fluency	[F(3,777) = 22.089, p<.000]	**N/A**
Speech Rate	[F(3,777) = 9.459, p<0.000]	**N/A**
Speech Volume	[F(3,777) = 4.372, p=0.005]	[F(3,754) = 4.567, p= 0.004]
Ease of Listening	[F(3,776) = 29.316, p<.000]	[F(3,754)= 4.397, p= 0.004]
Degree of Handicap	[F(3,776) = 24.872, p<.000]	**Trending*** [F(3,754)= 2.222, p= 0.084]
Professional Success	91.4% Success	95.4% Success
Success Related to Speech Fluency	[F(3,777) = 2.593, p=.052]	**N/A**
Personality Characteristics		
Calm/Nervous	[F(3,777) = 20.986, p<.000]	**N/A**
Reliable/Unreliable	[F(3,776) = 21.019, p<.000]	**N/A**
Relaxed/Tense	[F(3,777) = 32.236, p<.000]	**N/A**
Unafraid/Fearful	[F(3,777) = 30.717, p<.000]	**N/A**
Intelligent/Unintelligent	[F(3,777) = 19.650, p<.000]	**N/A**
Confident/Insecure	[F(3,777) = 32.825, p<.000]	**N/A**
Friendly/Unfriendly	[F(3,777) = 8.528, p<.000]	**N/A**
Outgoing/Shy	[F(3,777) = 36.005, p<.000]	**N/A**
Competent/Incompetent	[F(3,777) = 15.707, p<.000]	**Trending*** [F(3,754)= 2.180, p= 0.089]
Approachable/Unapproachable	[F(3,776) = 13.063, p<.000]	**Trending*** [F(3,754)= 2.334, p= 0.073]

Table 3.0: Demographics

	Mean	Median	Standard Deviation
Age	23.64	21.00	8.85
Gender	Female: 69.6%	Male: 30.4%	
Race	American Indian or Alaskan Native	0.4%	
	Asian	2.8%	
	Black or African American	19.8%	
	Hispanic or Latino	3.0%	
	White	71.9%	
	Other	2.1%	
Major	Liberal arts (science based)	9.8%	
	Liberal studies (other)	24.3%	
	Accountancy	3.3%	
	Applied Sciences (non-CSD)	21.1%	
	Business	10.0%	
	Education	5.8%	
	Engineering/Math/Computer Science	7.0%	
	Journalism/Broadcasting	13.6%	
	Pharmacy	4.0%	
	Medical/Health	1.1%	

Table 4.0: Speech Skills Results

Speech Skills	F Statistic	P Value	Select Bonferroni Post-hoc Comparisons
Speech Intelligibility	3.627	0.013*	Mild self-disclosure outperforms fluent self-disclosure (p=0.013) Mild> control, fluent and moderate-severe
Speech Fluency	1.280	0.280	
Speech Rate	1.837	0.139	
Speech Volume	4.567	0.004*	Mild outperformed control and fluent self-disclosure statements (p=0.027, p=0.003). Mild> control, fluent, and moderate-severe
Ease of Listening	4.397	0.004*	Fluent and mild outperformed moderate-severe disclosure statements (p=.030, p=.043) Mild> control, fluent, and moderate-severe
Degree of Handicap	2.222	0.084*	
Professional Success	0.726	0.537	

Table 5.0: Personality Characteristics Results

Personality Characteristics	**F Statistic**	**P Value**	**Select Bonferroni Post-hoc Comparisons**
Calm/Nervous	0.218	0.884	
Reliable/Unreliable	1.211	0.305	
Relaxed/Tense	0.260	0.854	
Unafraid/Fearful	0.051	0.985	
Intelligent/Unintelligent	1.008	0.388	
Confident/Insecure	0.249	0.862	
Friendly/Unfriendly	1.071	0.361	
Outgoing/Shy	1.417	0.237	
Competent/Incompetent	2.180	0.089*	
Approachable/Unapproachable	2.334	0.073*	

Qualtrics Survey: Speech Skills & Personality Characteristics Survey

SURVEY OF PERCEPTIONS
OF A SPEAKER'S VIDEOTAPED PRESENTATION

Consent to Participate in an Experimental Research Study

Title: The Effects of Stuttering Disclosure on Perceptions of a Female who Stutters

Principal Investigator
Greg Snyder, Ph.D. CCC-SLP

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Investigators
Peyton McKnight, B.S.
Mikayla Ryan, B.S.

Department of Communication Sciences and Disorders
2301 South Lamar, North Entrance, Suite 1200
Oxford, MS, 38655
(662) 915-1202
Description

We want to know the effects of stuttering disclosure on students' perceptions of a female who stutters. This study will take into consideration self-disclosure, disclosure from a father, mother, brother, sister, and female teacher, as well as a fluent self-disclosure, mild stuttering severity self-disclosure, moderate-severe stuttering severity self-disclosure, severe stuttering severity self-disclosure, and no self-disclosure. In order to answer our question, we are asking you to fill out this survey after watching a brief video.

Risks and Benefits
You may or may not feel uncomfortable in the presence of stuttered speech. We do not think that there are any other risks. Many people may find this survey fun because some may have an interest in the subject of stuttering.

Cost and Payments
This survey is self-paced and should take about 10 minutes to complete. There are no other costs for helping us with this study.

Confidentiality
We will not put your name on any of your tests. The only information that will be on

your test materials will be your gender (whether you are male or female), age, race, class rank, and major or profession. Therefore, we do not believe that you can be identified from any of your tests.

Right to Withdraw
You do not have to take part in this study. If you start the study and decide that you do not want to finish, all you have to do is to tell Peyton McKnight, Mikayla Ryan, or Dr. Snyder in person, by letter, or by tele-phone at the Department of Communication Sciences and Disorders, 2301 South Lamar, North Entrance, Suite 1200, Oxford, MS, 38655, or (662) 915-1202. Whether or not you choose to participate or to withdraw will not affect your standing with the Department of Communication Sciences and Disorders, or with the University of Mississippi, and it will not cause you to lose any benefits to which you are entitled.

The researchers may terminate your participation in the study without regard to your consent and for any reason, such as protecting your safety and protecting the integrity of the research data. If the researcher terminates your participation, any inducements to participate will be prorated based on the amount of time you spent in the study.

IRB Approval
This study has been reviewed by The University of Mississippi's Institutional Review Board (IRB). The IRB has determined that this study fulfills the human research subject protections obligations required by state and federal law and University policies. If you have any questions, concerns, or reports regarding your rights as a participant of research, please contact the IRB at (662) 915-7482.

Student Participants in Investigators' Classes

Special human research subject protections apply where there is any possibility of undue influence or coercion – such as for students in classes of investigators. Investigators can recruit from their classes but only by providing information on availability of studies. They can encourage you to participate, but they cannot exert any pressure for you to do so. Therefore, if you experience any undue influence or coercion from your instructor, you should contact the IRB via phone (662-915-7482) or email (irb@olemiss.edu) and report the specific form. You will remain anonymous in an investigation.

Q1: Are you 18 years or older and consent to participate in this survey?		
I am 18 years or older and consent.	I am not 18 years or older.	I have already taken this survey during the Spring of 2021.
Q2: Please watch the following brief video. After viewing, indicate your response below and proceed to the next question.		
I watched the video.	I did not watch the video.	

Please choose one number in each group to show your rating of the female speaker's (who was speaking about John Locke) oral speech skills along each dimension. For example, for "Speech Intelligibility," a rating of "(1)" would indicate intelligible speech, and a rating of "(7)" would indicate completely unintelligible speech.								
Q3.	Speech Intelligibility:							
Intelligible	1	2	3	4	5	6	7	**Unintelligible**
Q4.	Speech Fluency:							
Fluent	1	2	3	4	5	6	7	**Disfluent**
Q5.	Speech Rate:							
Appropriate Rate	1	2	3	4	5	6	7	**Inappropriate Rate**
Q6.	Speech Volume:							
Appropriate Volume	1	2	3	4	5	6	7	**Inappropriate Volume**
Q7.	Ease of Listening (i.e., how easy is it to listen to this person's speech):							
Easy	1	2	3	4	5	6	7	**Difficult**
Q8.	Degree to which you feel the person is handicapped by his speech abilities:							
Not Handicapped	1	2	3	4	5	6	7	**Handicapped**
Q9.	In your opinion, is this person likely to succeed in their professional career?							
Yes					**No**			
Q10.	Is your perception of their professional success related to their speech fluency?							
No	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Yes**

Q9. In your opinion, is this person likely to succeed in her professional career?						
Yes			No			
Q10. Is your perception of her professional success related to her speech fluency?						
No (1)	(2)	(3)	(4)	(5)	(6)	**Yes** (7)

Please choose one number in each group to show your rating of the female speaker (who was speaking about John Locke) along each of the following personal characteristics. For example, for "Calm / Nervous," a rating of "(1)" would indicate that the speaker is judged to be extremely calm, and a rating of "(7)" would indicate that the speaker is judged to be extremely nervous.

Q11.	**Calm**	1	2	3	4	5	6	7	**Nervous**
Q12.	**Reliable**	1	2	3	4	5	6	7	**Unreliable**
Q13.	**Relaxed**	1	2	3	4	5	6	7	**Tense**
Q14.	**Unafraid**	1	2	3	4	5	6	7	**Fearful**
Q15.	**Intelligent**	1	2	3	4	5	6	7	**Unintelligent**
Q16.	**Confident**	1	2	3	4	5	6	7	**Insecure**
Q17.	**Friendly**	1	2	3	4	5	6	7	**Unfriendly**
Q18.	**Outgoing**	1	2	3	4	5	6	7	**Shy**
Q19.	**Competent**	1	2	3	4	5	6	7	**Incompetent**
Q10.	**Approachable**	1	2	3	4	5	6	7	**Unapproachable**

Q21. What is your gender?					
Male			**Female**		
Q22. What is your age?					
Q23. What is your race? (Please choose the best option below?					
American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	White	Other
Q24. What is your college major or profession?					
Q25. What is the number of your immediate family members who stutter?					
Q26. What is the number of your extended family members who stutter?					
Q27. What is the number of your friends and acquaintances who stutter?					
Q28. What is the number of your total previous/current instructors who stutter?					

Figure 1.1 Gender Demographic Pie Chart

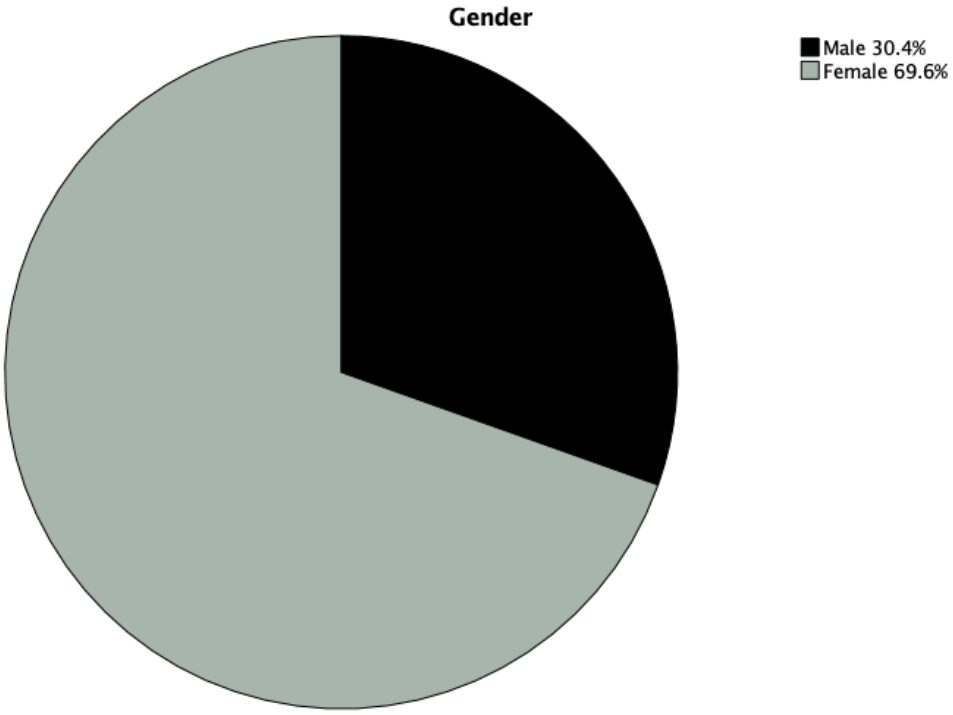


Figure 1.2 Race Demographic Pie Chart

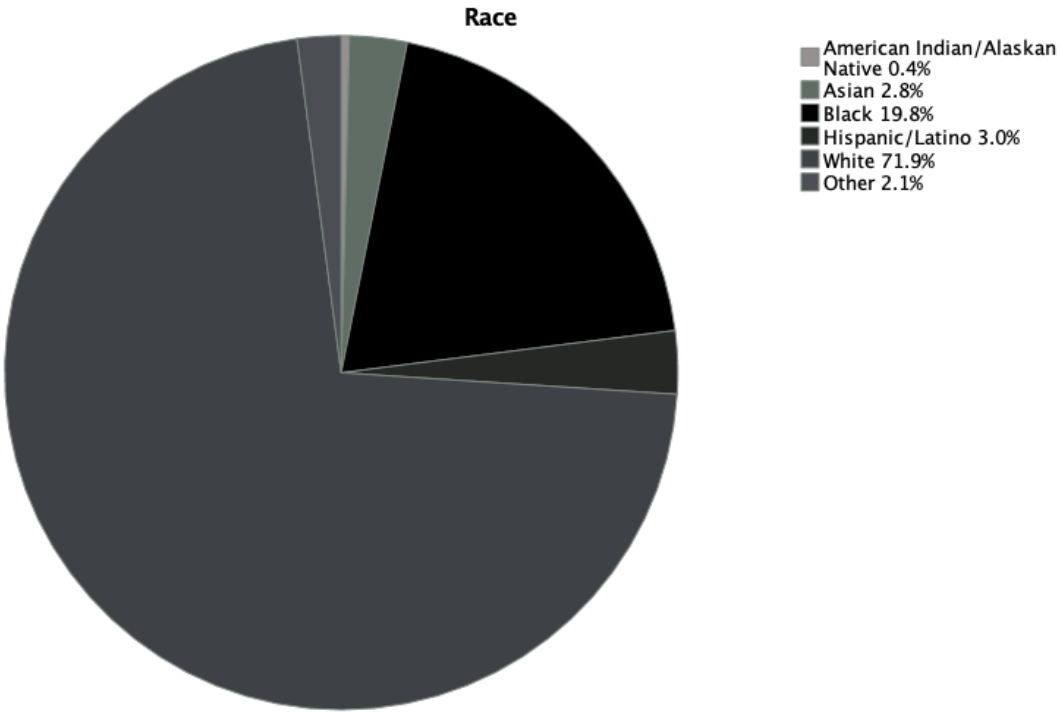


Figure 1.3 Major/Profession Demographic Pie Chart

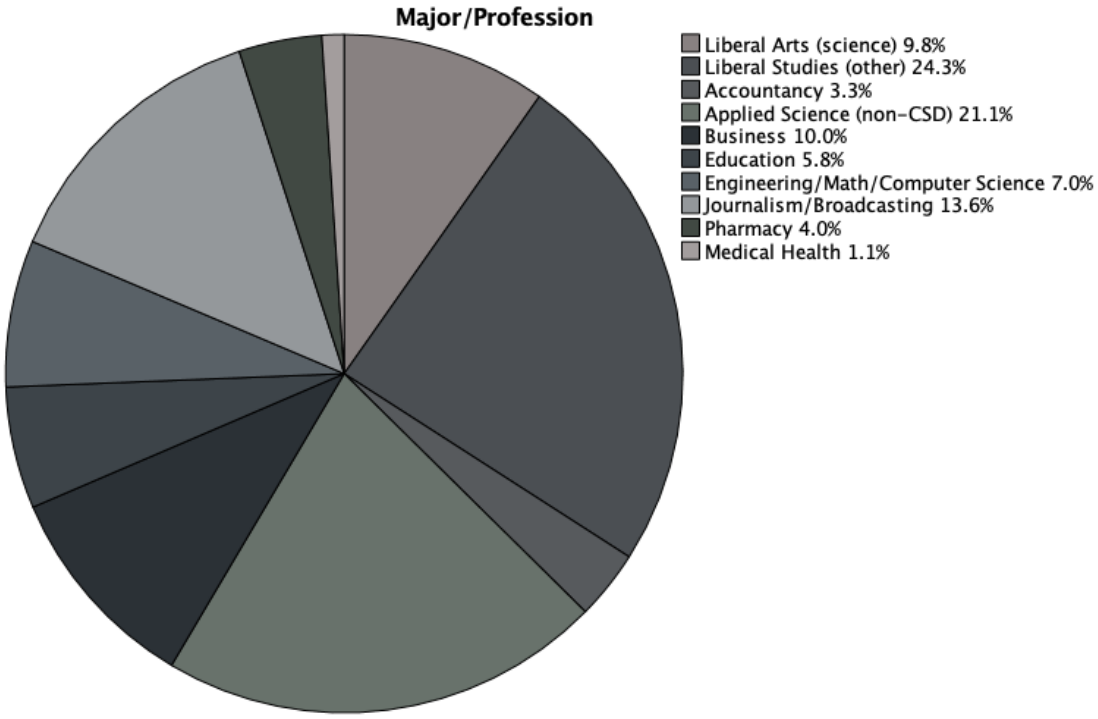


Figure 1.4 Age Demographic Histogram

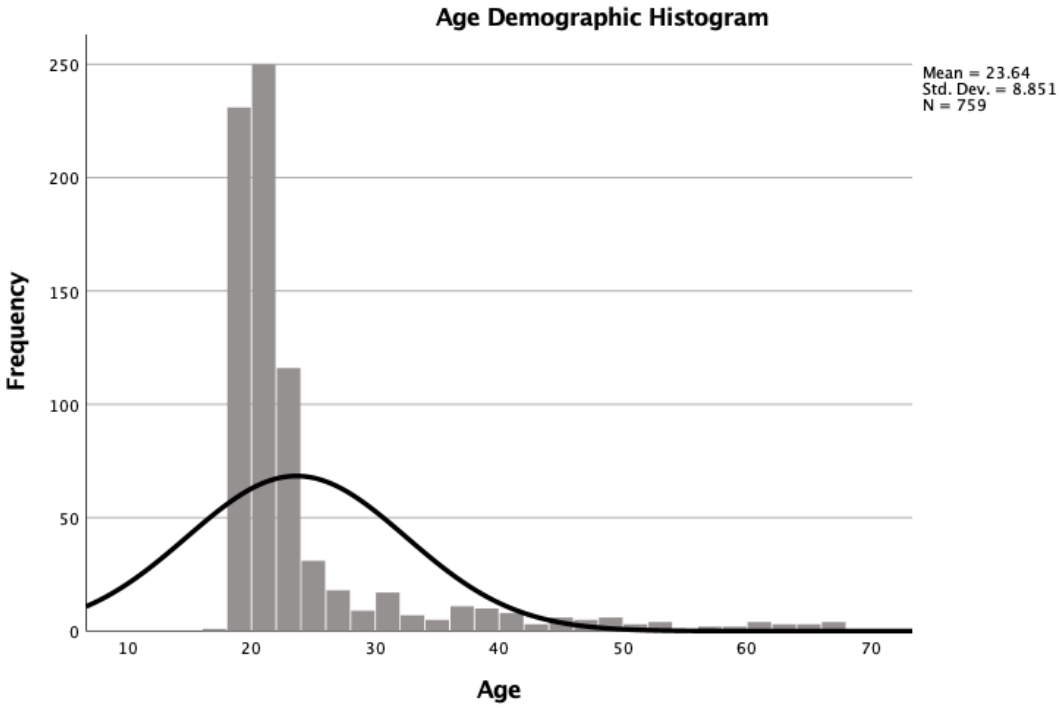


Figure 2: Speech Intelligibility

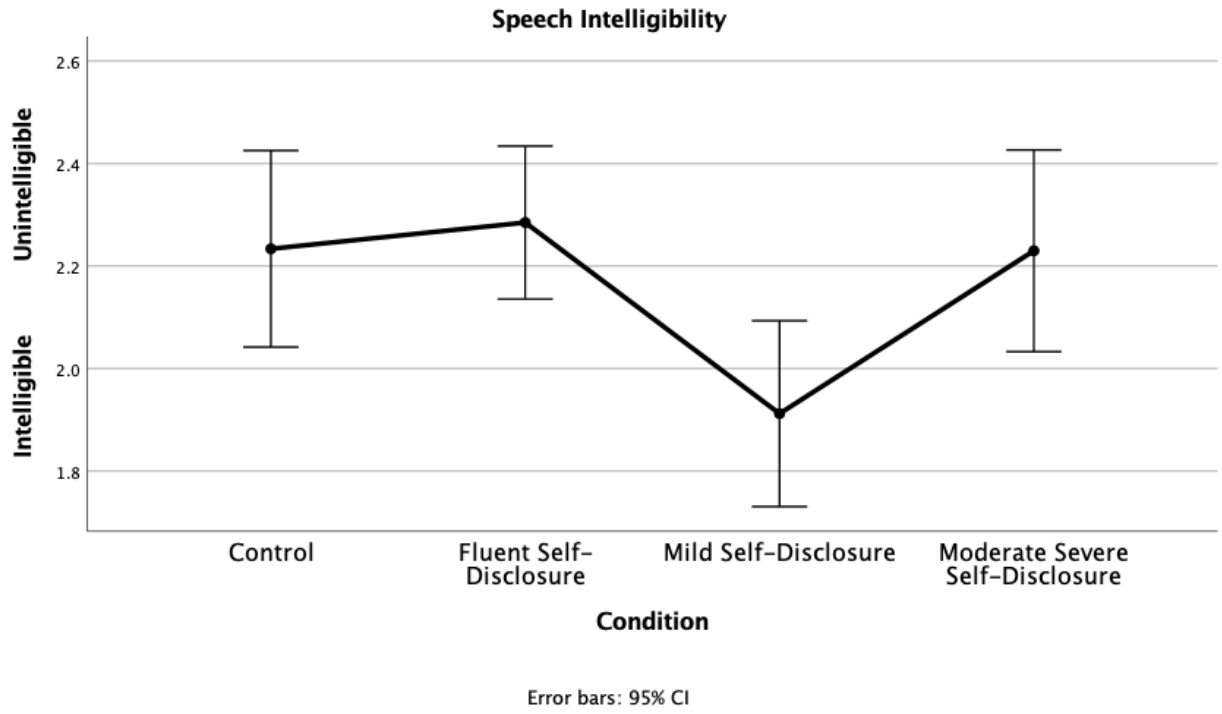


Figure 3: Speech Fluency

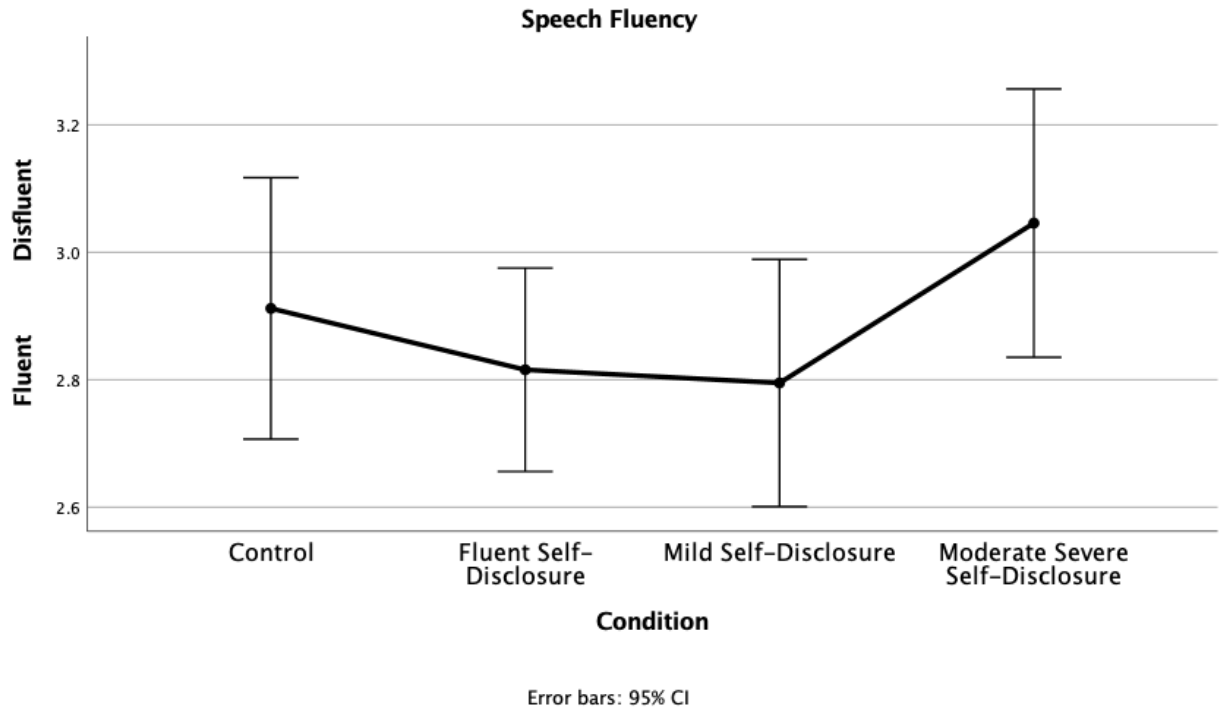


Figure 4: Speech Rate

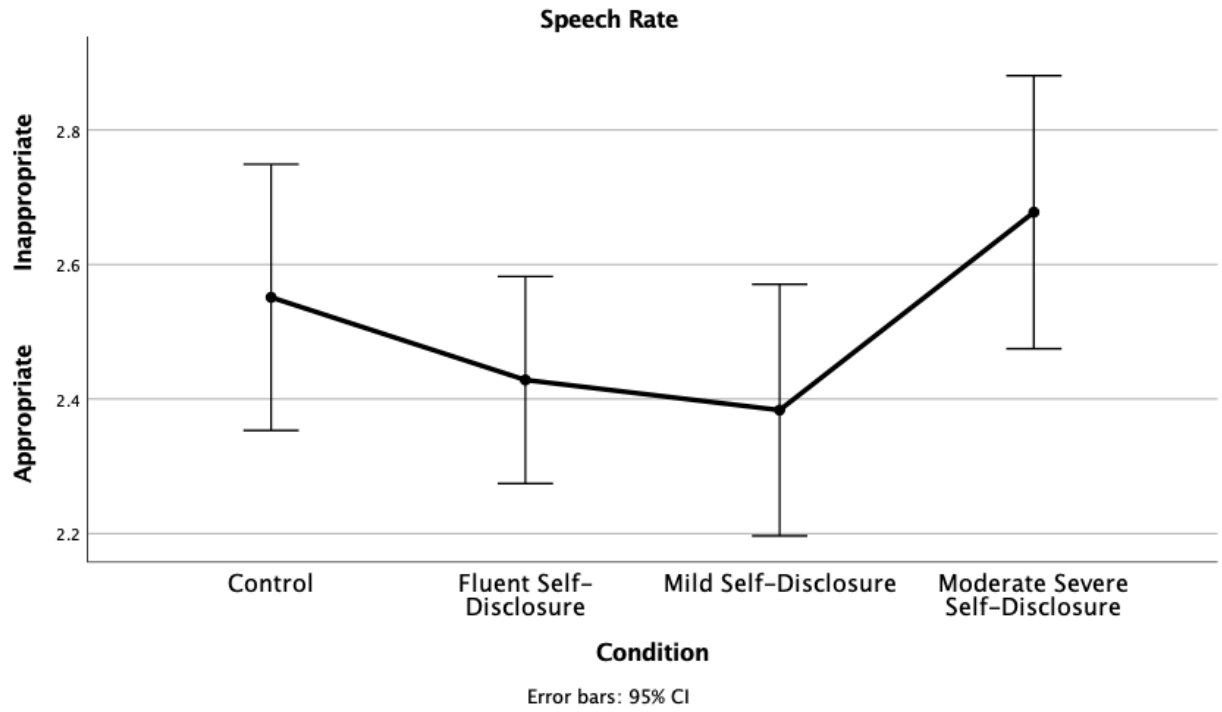


Figure 5: Speech Volume

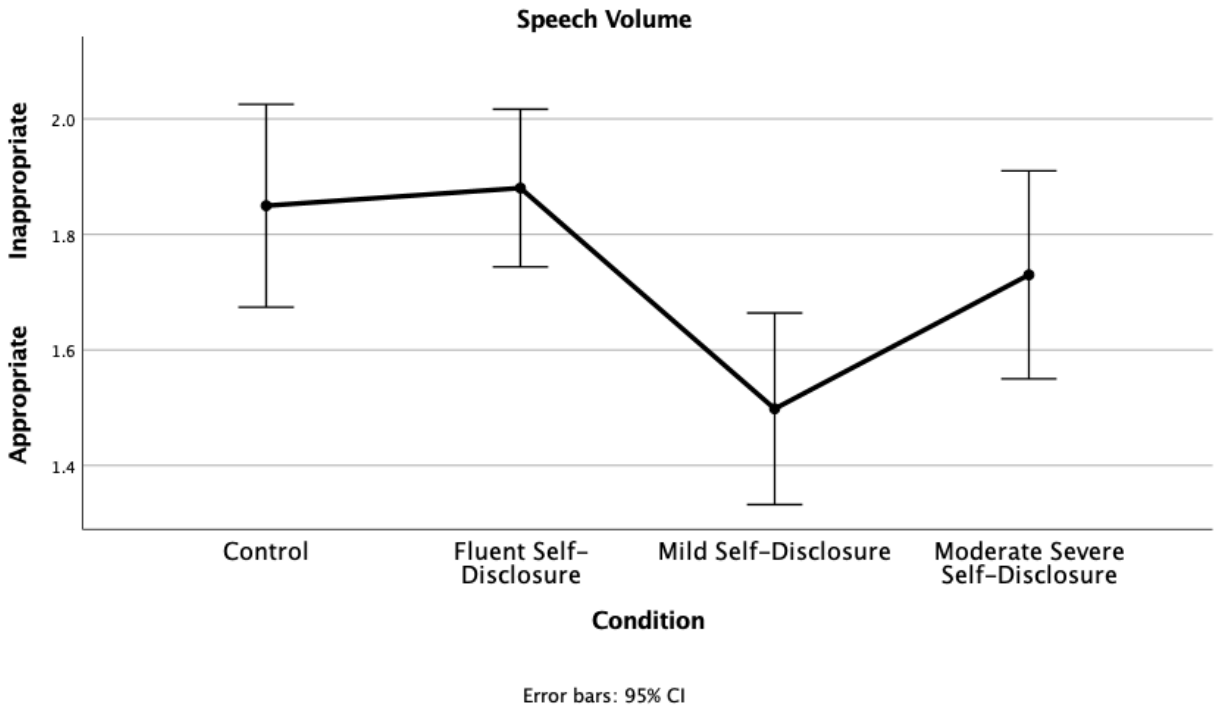


Figure 6: Ease of Listening

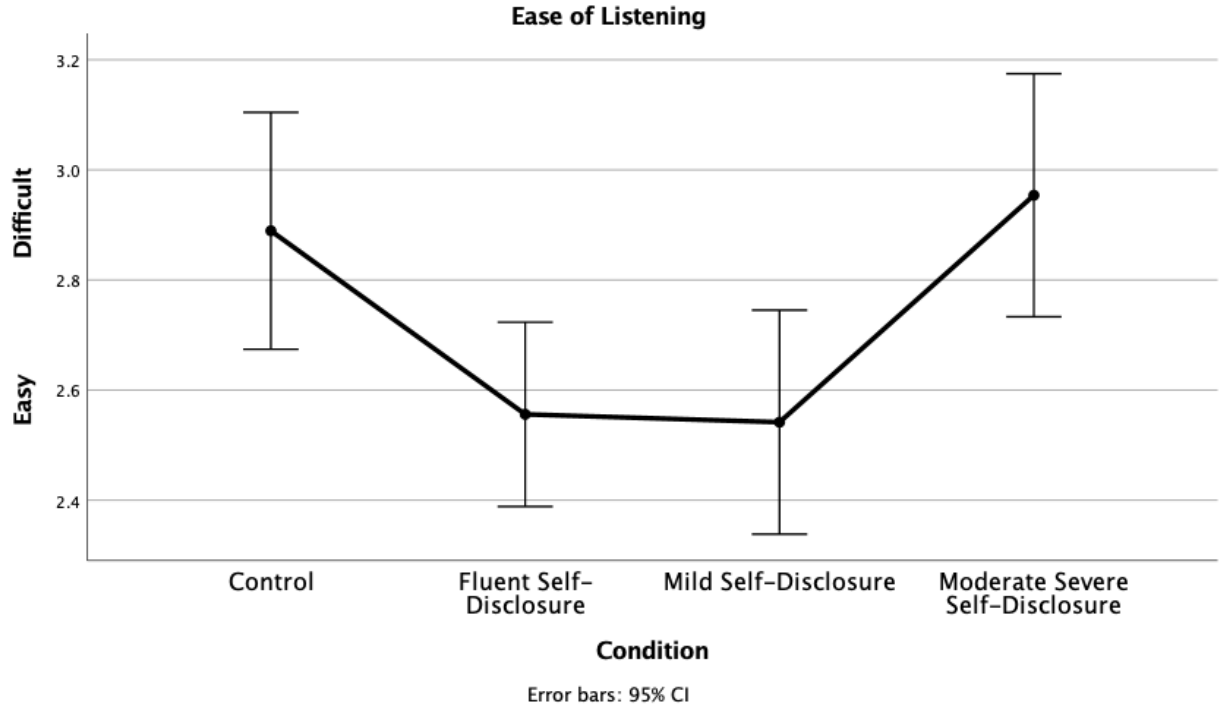


Figure 7: Degree of Handicap- Gender Covariate

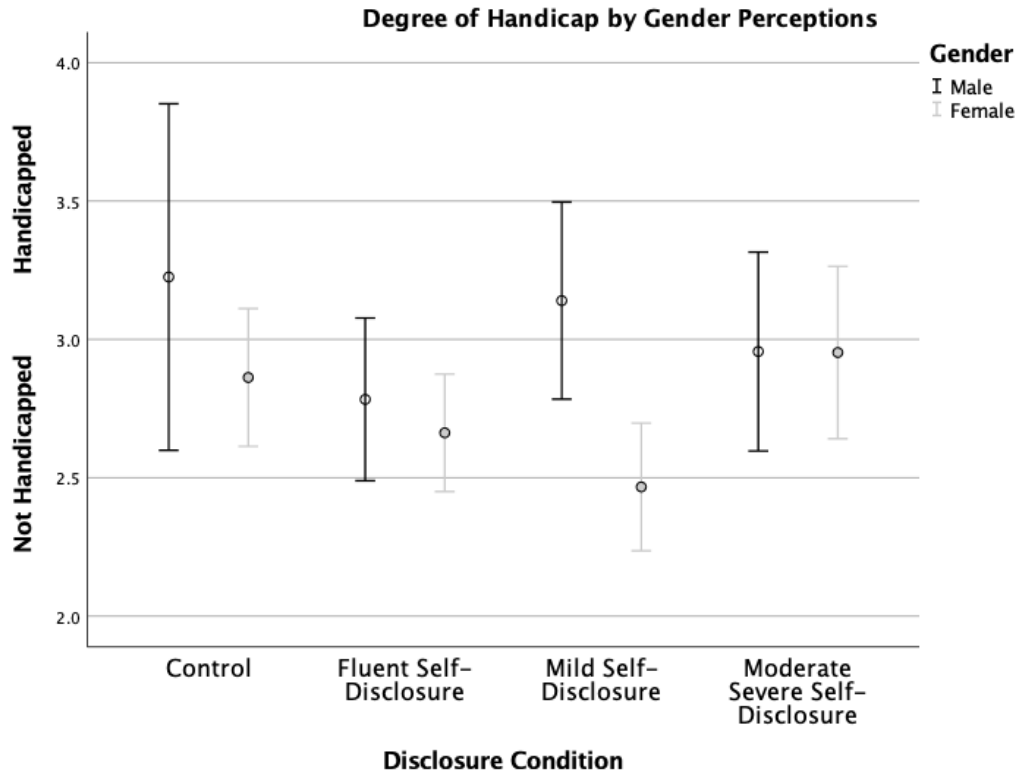


Figure 8: Likeliness to Succeed

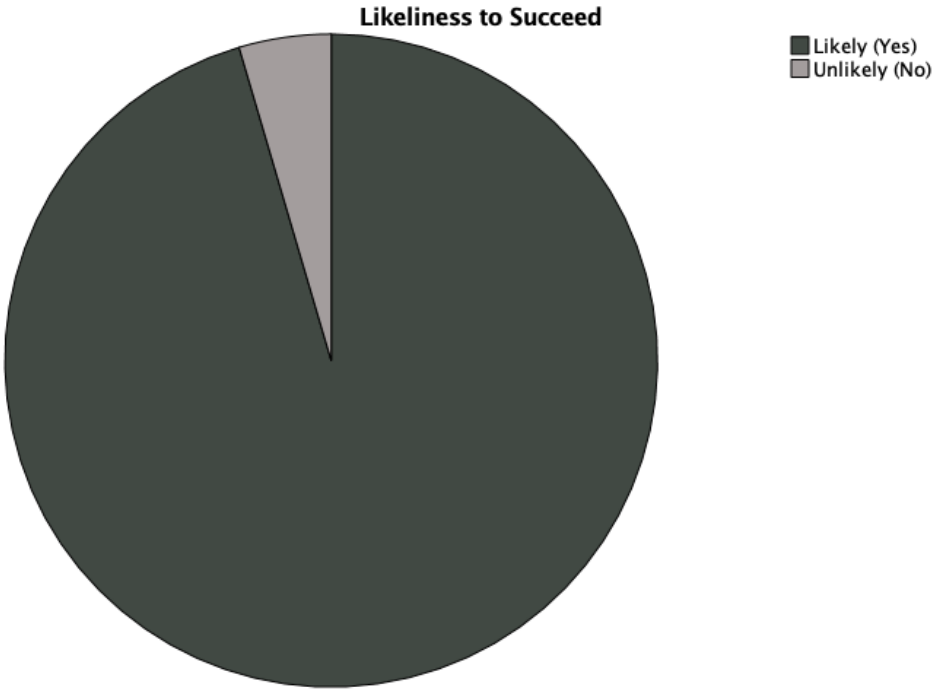


Figure 9: Professional Success Related to Speech Fluency

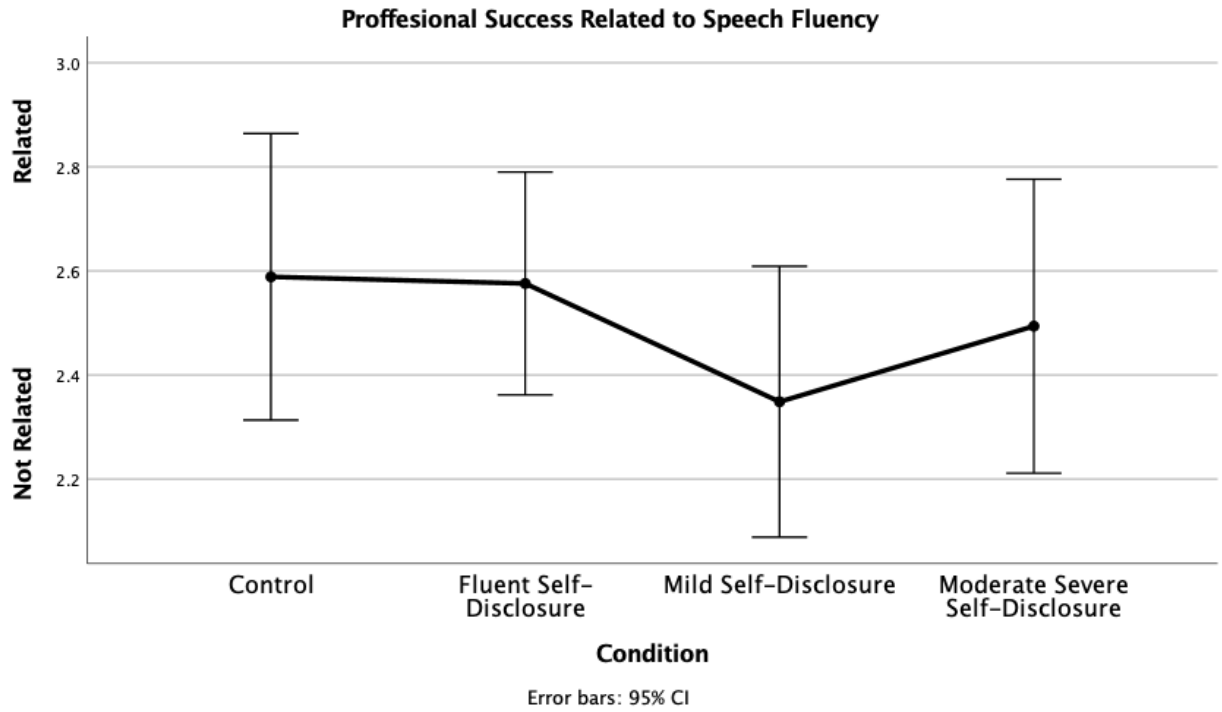


Figure 10: Calm/Nervous

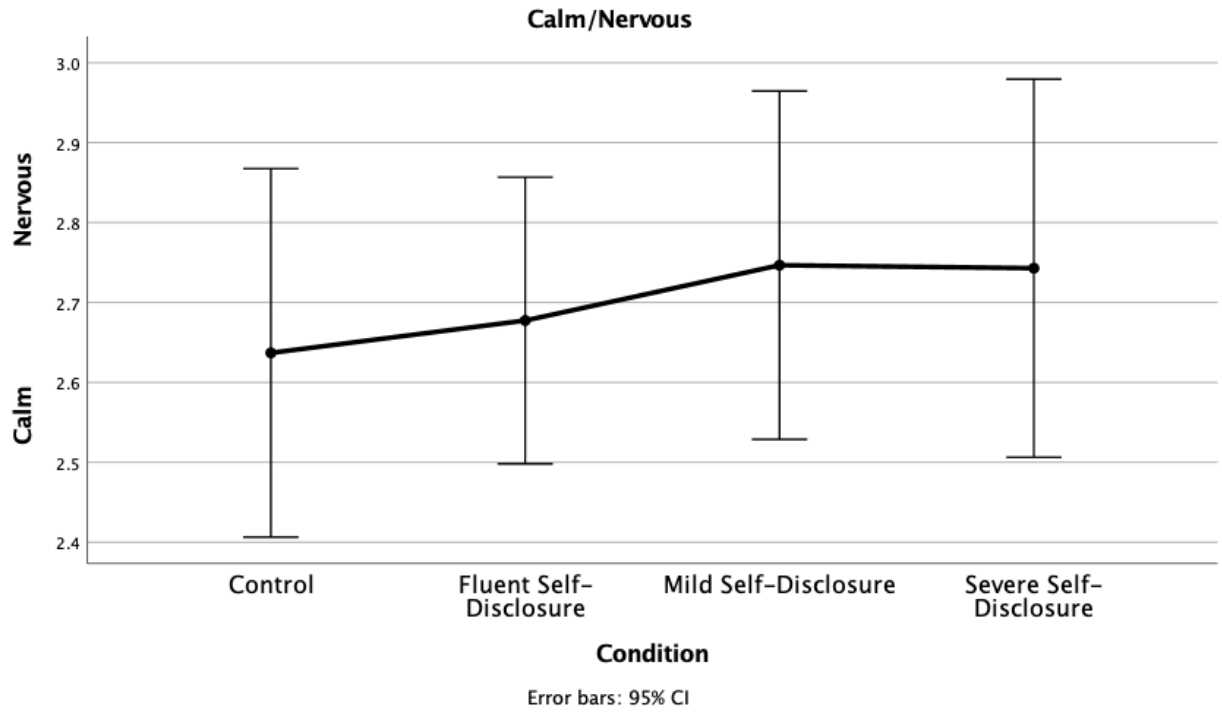


Figure 11: Reliable/Unreliable

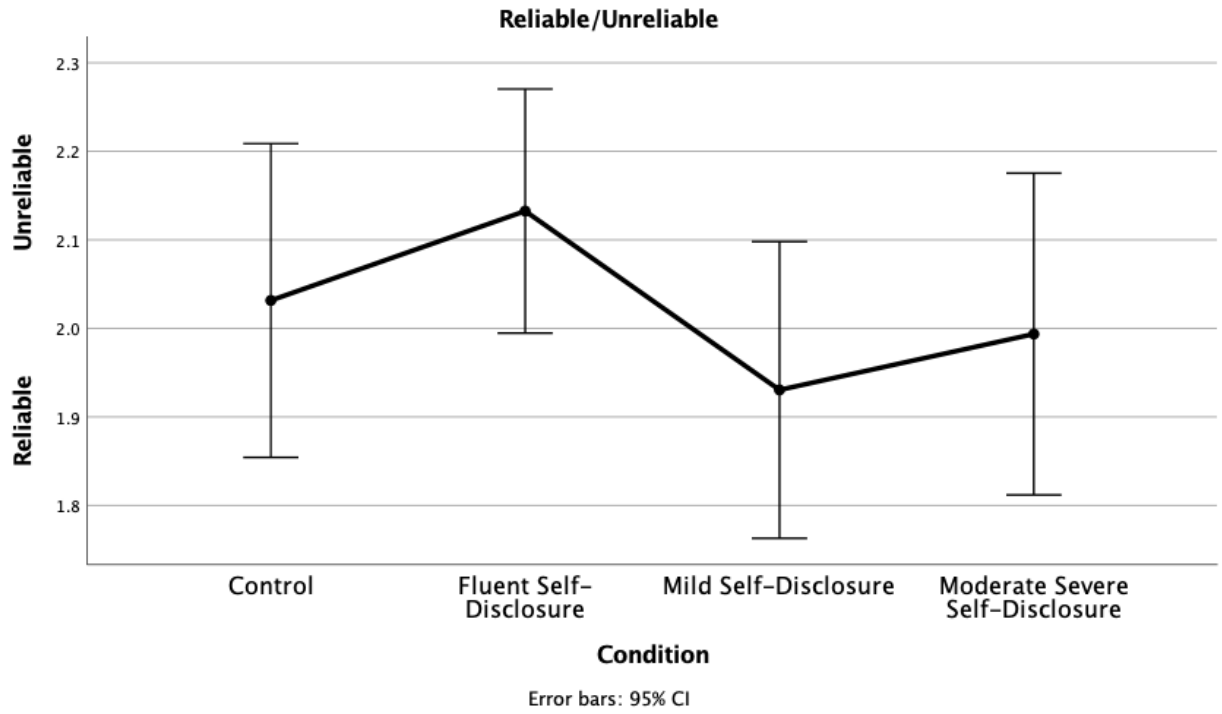


Figure 12: Relaxed/Tense

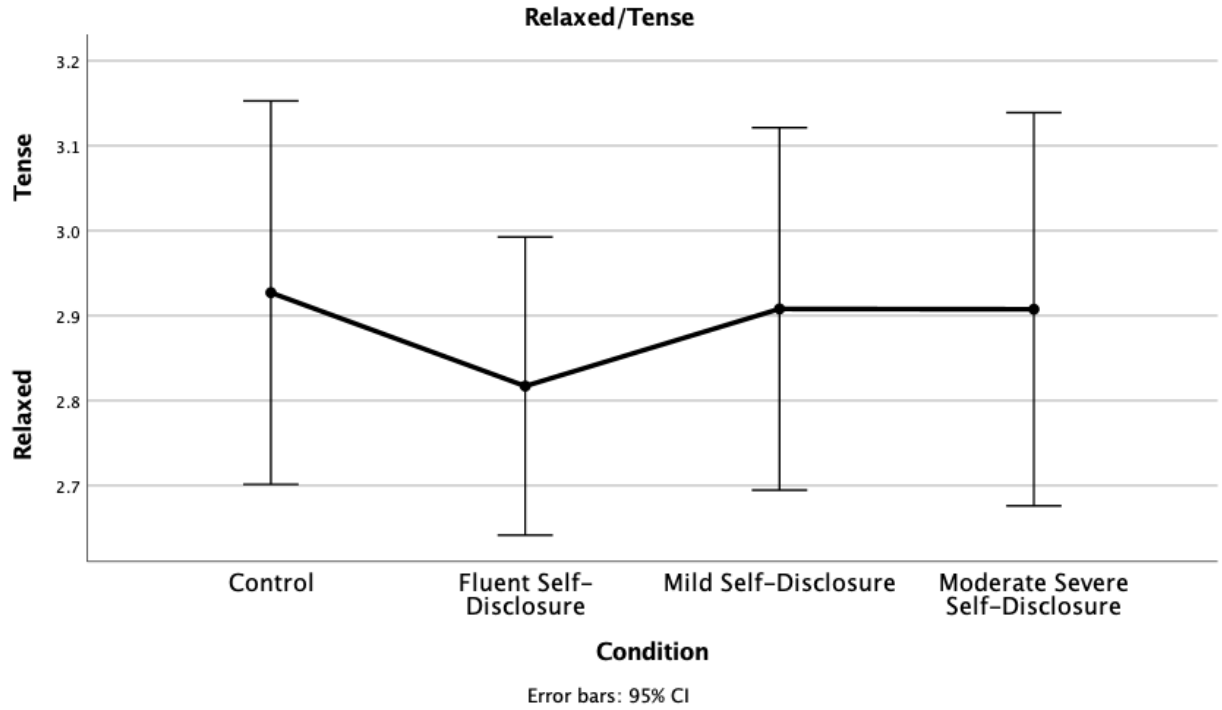


Figure 13: Unafraid/Fearful

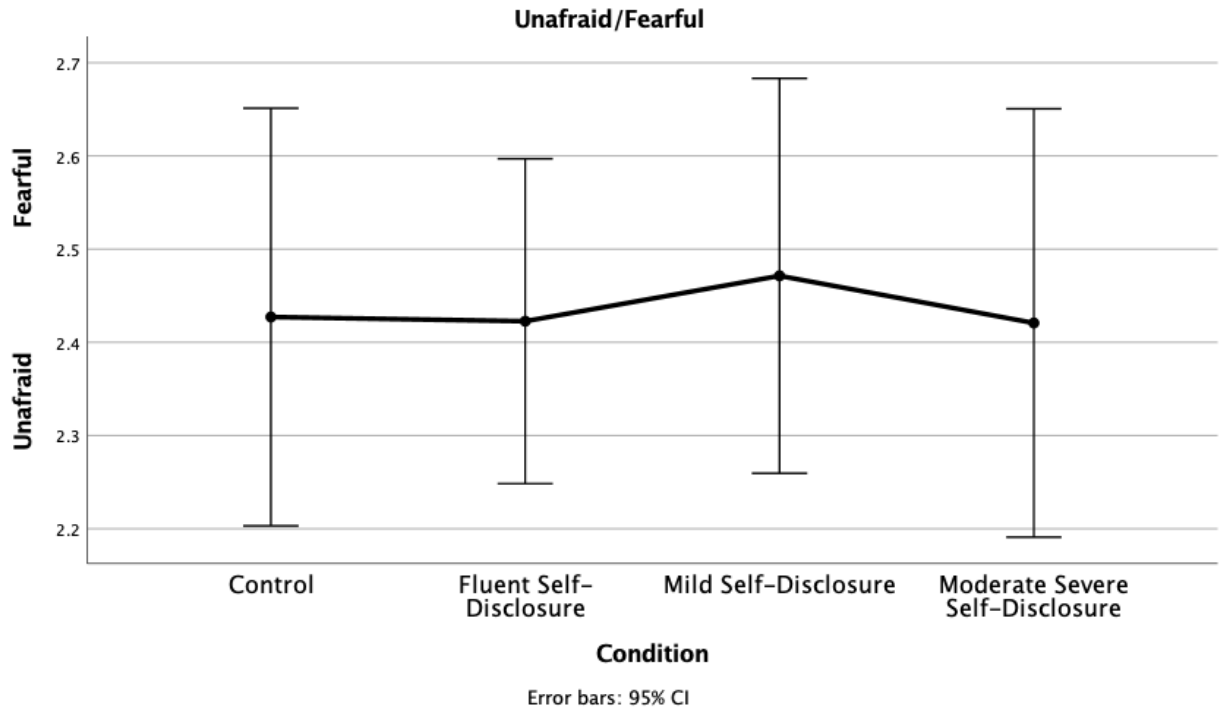


Figure 14: Intelligent/Unintelligent

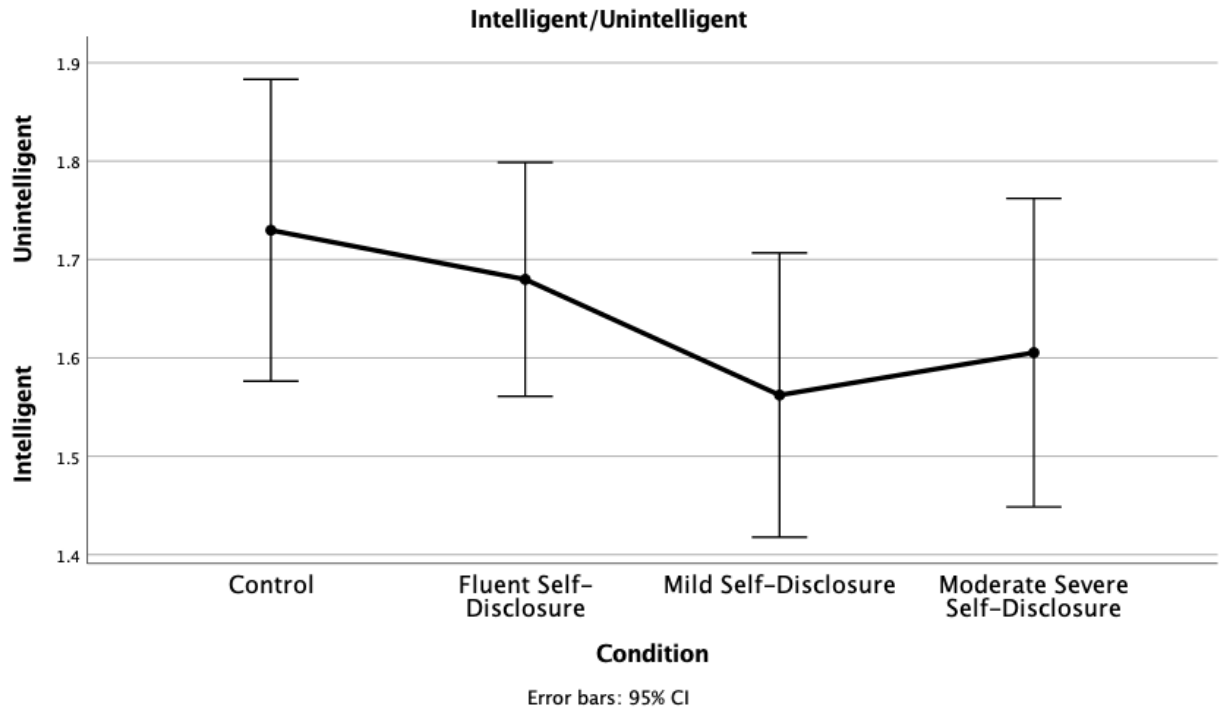


Figure 15: Confident/Insecure

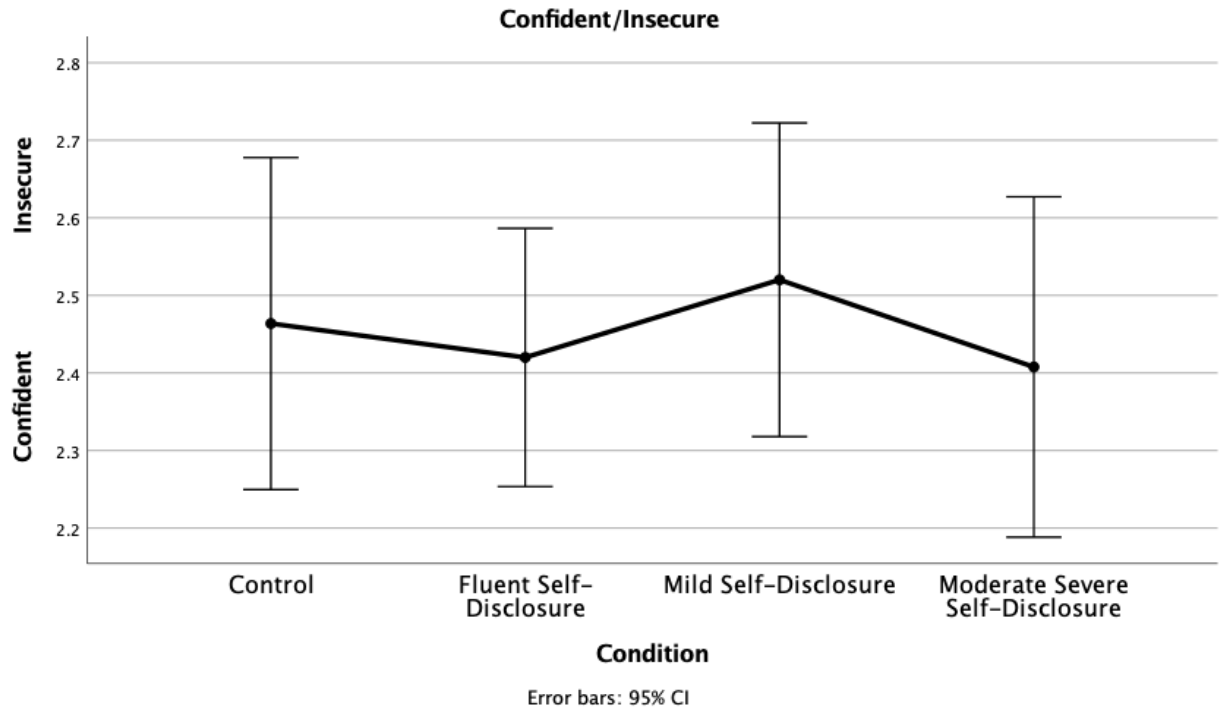


Figure 16: Friendly/Unfriendly

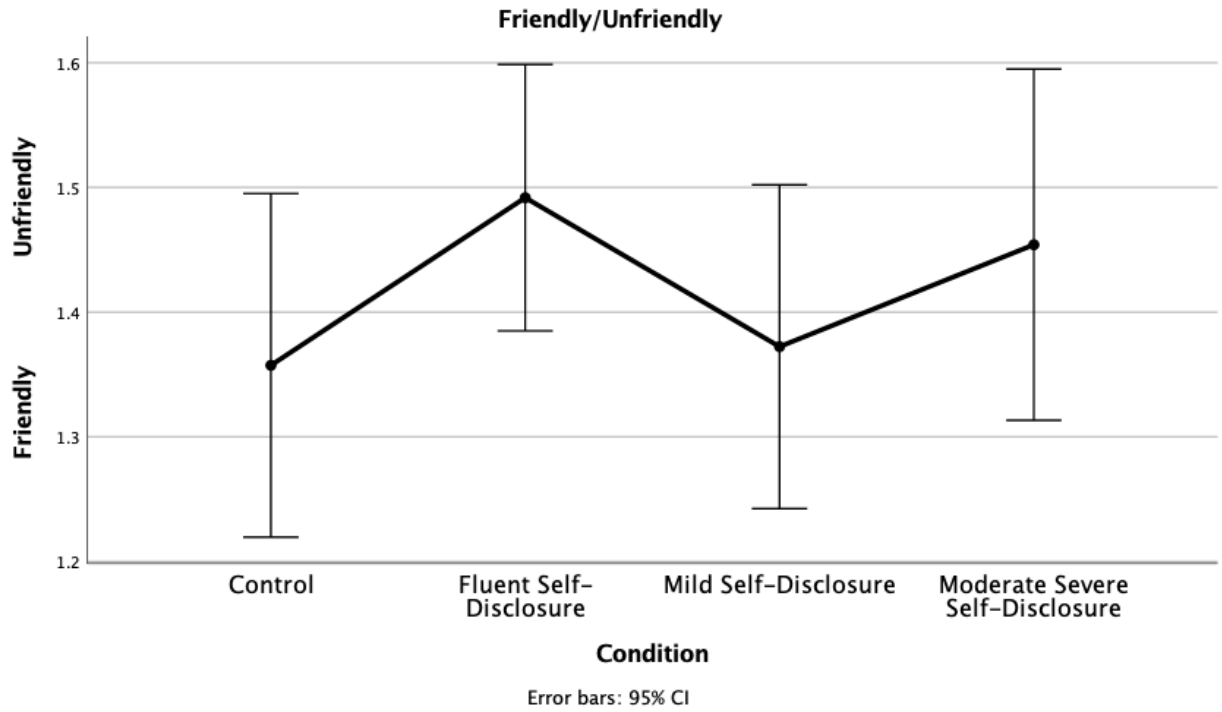


Figure 17: Outgoing/Shy

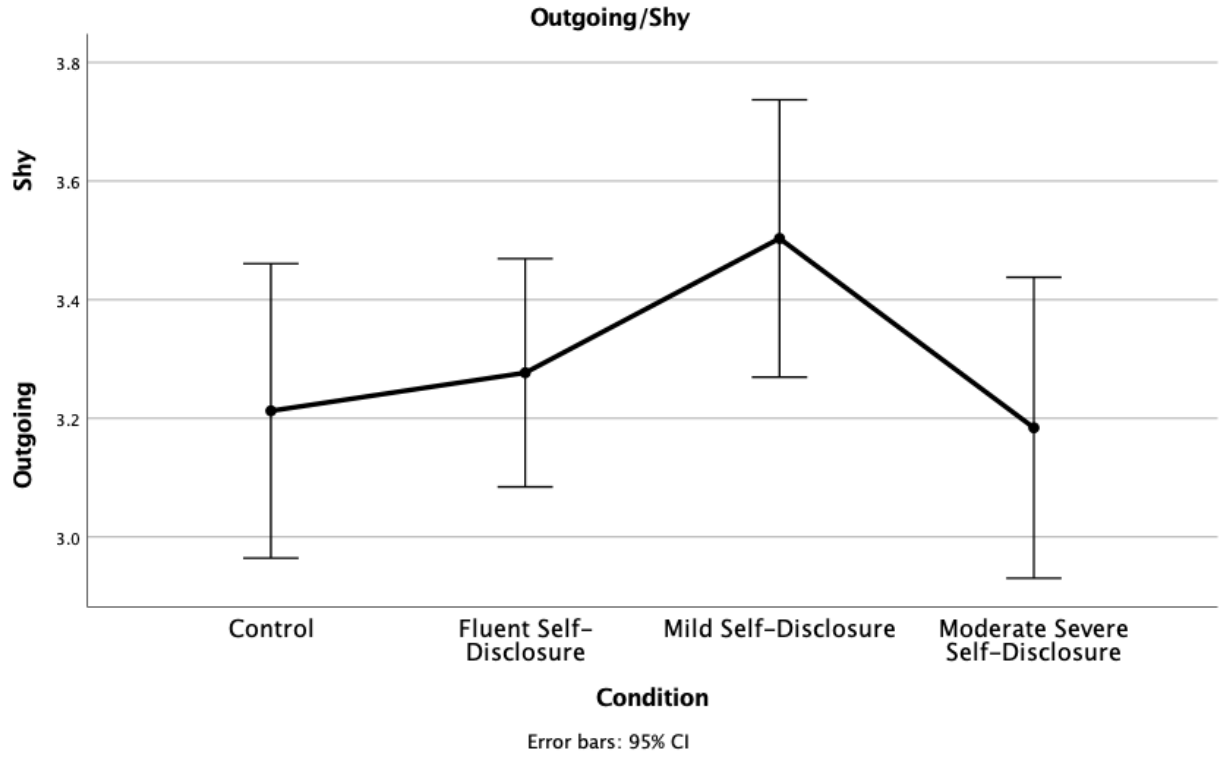


Figure 18: Competent/Incompetent

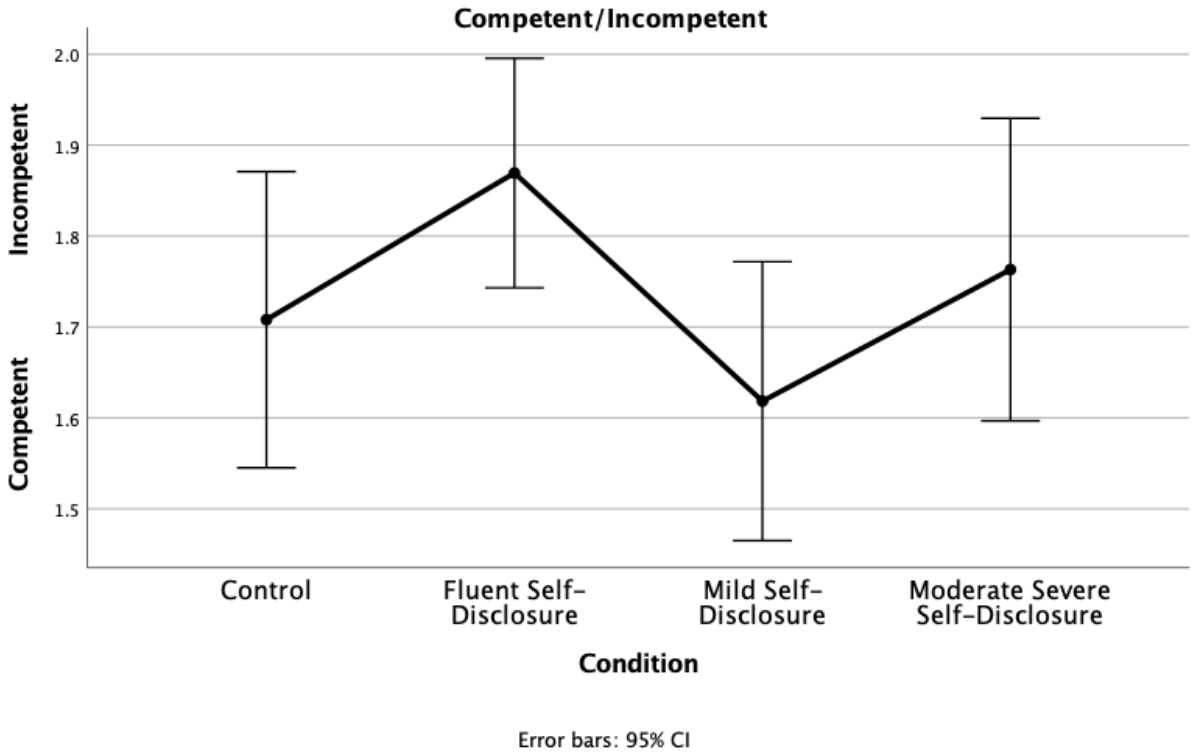
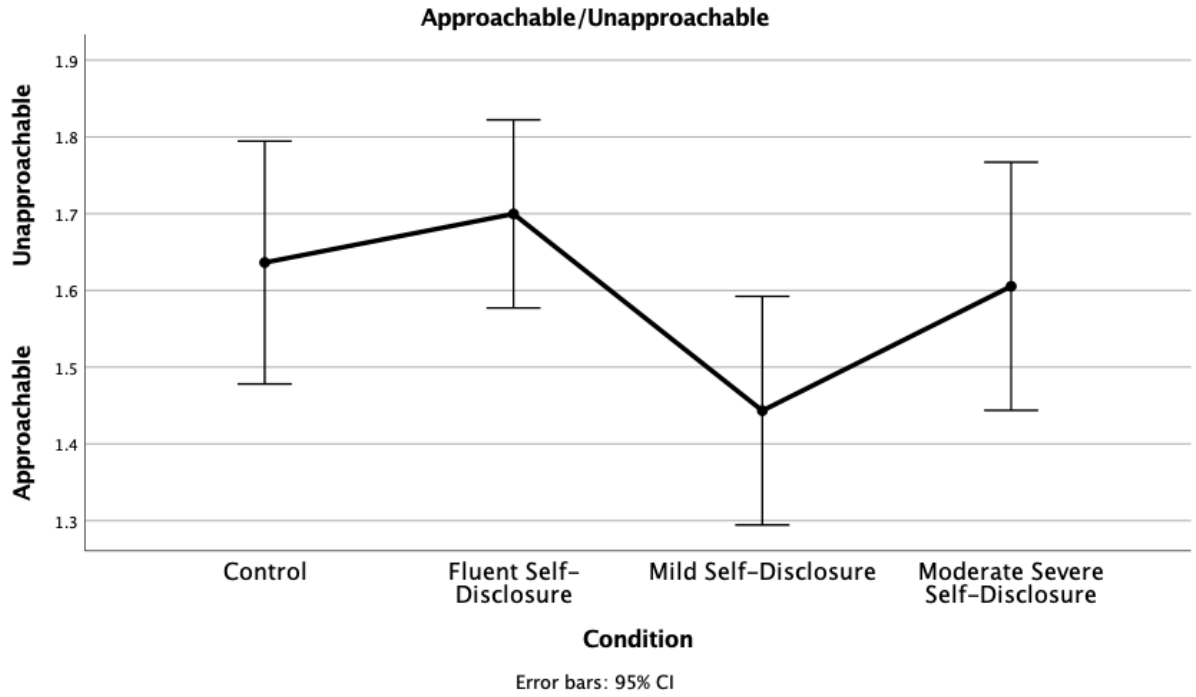


Figure 19: Approachable/Unapproachable



VITA

Education

Master of Science in Communication Sciences and Disorders- University of Mississippi, July 2020- May 2022. Thesis Title: Effects of Stuttering Severity Disclosures on Listener Perceptions of a Female Adolescent Who Stutters

Bachelor of Science in Communication Sciences and Disorders- Western Carolina University, August 2017- May 2020.