Spring 5-2-2021

The Effect of Advocate Disclosure on the Perceptions of a Young Adult who Stutters

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THE EFFECT OF ADVOCATE DISCLOSURE ON THE PERCEPTIONS OF A YOUNG ADULT WHO STUTTERS

by
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A thesis submitted to the faculty of The University of Mississippi in partial fulfillment of the requirements of the Sally McDonnell Barksdale Honors College

Oxford, MS
May 2021

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ACKNOWLEDGEMENTS

First, I would like to thank my advisor, Dr. Gregory Snyder, for supporting my endeavors and providing guidance throughout this entire process. I would like to express my sincerest gratitude to him for the encouragement and mentorship he provided that led to the completion of this thesis. He has pushed me to explore a realm of research that I had little knowledge of prior to this thesis and for that, I am grateful.

To my readers, Dr. Toshikazu Ikuta and Dr. Myriam Kornisch, thank you for your time and valued feedback.

To the Laboratory for Stuttering: Science, Therapy, and Advocacy Research members, thank you for your continued support and dedication to helping me. I would not have been able to complete my thesis without your help.

Lastly, I would like to thank The University of Mississippi and The Sally McDonnell Barksdale Honors College for providing me this opportunity, as well as the knowledge, perseverance, and academics necessary to complete this thesis. I am thankful for the knowledge I have obtained throughout this entire process.

ABSTRACT

This between-group study designed weighed the effects of stuttering disclosure on the perceptions of a 17-year-old male who stutters, relative to perceived speech skills and personality characteristics. 1225 participants were included in the dataset analysis with a balanced distribution across all ranges. The conditions used in this study include (1) control condition (no disclosure), as well as experimental conditions including: (2) father disclosure, (3) male coach disclosure, (4) female teacher disclosure, (5) girlfriend disclosure, and (6) female speech-language pathologist. Participants in the control group only viewed the primary video stimulus, while participants in the experimental groups viewed one of the five different disclosure videos immediately prior to the primary video stimulus. The control condition consisted of a primary core video of a person who stutters. The other five experimental conditions consisted of various advocate videos disclosing stuttering on the 17-year-old's behalf, followed by the core video of the young adult male reading a historical excerpt. Comparable to two previous studies detailing similar research, data results suggest the desirable effects of advocate disclosure on the perceptions of a young adult who stutters. Advocate disclosure decreases the less desirable perceptions of a person who stutters by informing listeners of their fluency disorder prior to verbal communication. In agreement with past research, results conclude that any disclosure helps improve people's opinions of a PWS regardless of which advocate is disclosing. However, the efficacy of each advocate varies. Strengths and limitations, as well as implications for future research are detailed below.

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PWS	Person Who Stutters/ People Who Stutter

INTRODUCTION

Stuttering is defined as the overt and covert stuttering behaviors that are present in stuttered speech. Overt stuttering behaviors include repetitions, prolongations, postural fixations, and circumlocutions (Bloodstein & Ratner, 2008b). Covert stuttering behaviors differ from overt behaviors because they rely on avoidance techniques that occur under the surface. Covert stutterers conceal or avoid their stutter from their peers. This type of stuttering benefits from social engineering so one may avoid the detection of stuttering or stuttering techniques (Douglass et al., 2018). The "Iceberg" analogy describes both overt and covert stuttering behaviors that a person who stutters (PWS) experiences. Similar to an iceberg, many behaviors that the PWS experiences occurs under the surface (Yaruss, 2010). Often times, fear causes a PWS to react inappropriately in conversation by use of avoidance techniques. Fear can cause PWS to panic, which directly results in non-fluencies and other inappropriate articulations (Hulit, 1989). This fear and use of avoidance techniques can result in unseemly behaviors. Although there has been plenty of research on stuttering and how it involves more than overt stuttering behaviors, there is a lack of research to describe how treatment can affect the underlying factors that occur below the surface (Yaruss, 2010).

The unfounded negative prejudice that a PWS experiences is one of the most significant consequences of stuttering. Negative listener perception stems from the listener's discomfort with stuttering and the uncertainty they experience when communicating with PWS

(Healey et al., 2007). This negative listener perception is partly due to the discomfort and uncertainty that seemingly stems from the PWS's avoidance, anxiety, embarrassment, fear, and shame (Yaruss, 1998). Additionally, listeners also respond differently from one another and often times, there is a loss of eye contact. Loss of eye contact is maintained for the duration of the communicative interaction and continues throughout the duration of the conversation (Rosenberg & Curtiss, 1954). Unfounded negative prejudice also results in public stigma and marginalization. This extends beyond disrespectful beliefs, in fact, society categorizes individuals into different groups, separating PWS from people who speak fluently (Corrigan et al., 2015). So, a PWS is marginalized by others as someone different from their non-stuttered peers.

As a result of unfounded negative prejudice, a PWS is often faced with loss of choices that negatively impact their quality of life. These loss of choices, or perceived losses, occur in career advancement, relationships, and other social opportunities (Craig et al., 2009; Klein & Hood, 2004; Van Borsel et al., 2011). The overt negative prejudice and discrimination that a PWS experiences may result in a loss of opportunity (Alqhazo et al., 2017). If a PWS recognize consistent negative prejudice and loss of opportunities, it places them in increased risk for stereotype threat (Snyder et al., 2020). Consequently, unfounded negative prejudices and loss of choices directly effect a PWS's quality of life. A PWS is inclined to self-stigmatize themselves as being less desirable than their peers. Stigma causes PWS to view themselves as being less than people who speak fluently; their self-esteem, self-worth, and self-acceptance is reduced due to the standards society places on individuals (Vogel et al., 2013).

Although there are existing stuttering treatments, these treatments often yield limited results and have a high rate of relapse. Stuttering treatments, such as behavioral and cognitive

treatments, are limited (Snyder et al., 2020) (McGee et al., n.d.). Behavioral treatment techniques, such as stuttering modification, fluency shaping, and trying to use natural speech are inadequate and do not target emotional and cognitive features. Cognitive treatment techniques, such as normalizing stuttering through discussion and reducing fears through desensitization, (Murphy et al., 2007) are strategies yielding limited results. Secondary stuttering behaviors, including covert stuttering attempts to switch words, pause between words and phrases, circumlocution, as well as implementing body movements or avoidance techniques are not long-term treatments but unfortunately, many stutterers become quite skilled at these tricks because they have been told they work (Eric et al., 2012). These stuttering modification tricks have a high rate of relapse and are not the solution. In fact, when a PWS is instructed to use these tricks, stuttering is still occurring under the surface, i.e., the iceberg analogy (Eric et al., 2012). Mainstream treatments are aimed at the speech target, rather than aimed at the bottom part of the iceberg. Below the surface lays the qualities of life: unfounded negative prejudice, public stigma and marginalization, and loss of opportunity/choices.

Self-advocacy and advocate disclosure are supplements to mainstream treatment by way of implementing strategies that are better at addressing one's quality of life. Acknowledging and advertising one's stutter may result in less unfounded negative prejudice (Healey et al., 2007). By addressing the act of stuttering, a PWS is able to reduce their anxiety and tension from listeners in order to improve their communicative interactions with people who speak fluently (Healey et al., 2007). Furthermore, the act of self-disclosure decreases vulnerability, while increasing their self-esteem, self-worth, self-empowerment, and self-acceptance (Snyder et al., 2020). Additionally, the use of advertising one's stutter also results in a more favorable listener perception of the PWS. So, once the PWS starts stuttering, they have already acknowledged their

stutter to listeners and experience less social anxiety surrounding their fluency disorder (Healey et al., 2007).

While self-advocacy and self-disclosure techniques can improve quality of life, such acts can be an extremely difficult task for different subpopulations within the stuttering community; thus, the potential of an advocate is beneficial to assist in advocate disclosure. Self-advocacy and self-disclosure can be a difficult task for children (Martin et al., 1993), young adults, and adults (Boyle et al., 2018) because it requires a level of self-confidence to expose one's vulnerability. Children, specifically, have difficulty self-disclosing because it feels inapt in school settings and other environments that children find themselves socializing in (Snyder et al., 2020). Even though self-disclosing can improve a person's perception of a PWS, it is ineffective if the PWS cannot apply these techniques in social settings.

Advocate disclosure is an effective stop-gap measure for a PWS as they take the first step towards self-advocacy (Snyder et al., 2020). Data results indicate that select advocate disclosure improves people's perceptions of a PWS. However, some advocates improved people's perceptions more efficiently than others. For example, the teacher advocate disclosure resulted in the most significant improvement of perceptions while the mother advocate disclosure did not perform well (Snyder et al., 2020). In fact, the mother advocate failed to improve people's perceptions of a PWS. Data suggests that children, young adults, and adults will experience an improved quality of life if disclosed by an advocate. Additionally, the implementation of advocate disclosure techniques indicate efficacy in improving people's perceptions of a PWS, as well as improving the PWS' perception of themselves (Snyder et al., 2020).

Based on the success of advocate disclosure from previous studies, further research with additional advocates is warranted. There were a limited number of advocates used in past

research so the paradigm of this study has expanded advocate roles to father, male coach, female speech-language pathologist, girlfriend, and female teacher (Snyder et al., 2020). By expanding advocate roles, such as different gender and relationships between the advocate and PWS, these roles are compared to one another to determine which mentorship is deemed most effective. Therefore, the purpose of this study was to measure the differential effects of advocate disclosure on the perceptions of a young adult who stutters. Additionally, research data suggests stuttering disclosure should extend from children to young adults as well (Snyder et al., 2020).

METHODS

Overview of Study Design

This study followed the methods and procedures used in previous research, measuring the effects of advocate disclosure on perceptions of a PWS (Snyder et al., 2020). This study consisted of a modified between-group study design weighing the effects of stuttering disclosure on the perceptions of a 17-year-old male who stutters. Participants viewed the control condition video without a disclosure statement. The study consisted of a (1) control condition, as well as five experimental conditions: (2) father advocate, (3) male coach advocate, (4) female teacher advocate, (5) girlfriend advocate, (6) female speech-language pathologist advocate. Data collection consisted of participants over the age of 18 that gave their consent to participate in this research study. After participants viewed one of the 6 videos, they participated in a survey where they analyzed the person who stutter's speech skills and personality characteristics. Data distribution was originally conducted in person but as a result of the COVID-19 pandemic, researchers had to shift the study online to complete data collection.

Primary Video Stimulus

Each condition video featured a two minute and thirty-four second primary video stimulus of a Caucasian 17-year-old male reading a historical excerpt. The primary video segment is the control condition (1) and featured the person who stutters reading an excerpt from his American history textbook. The video was centered against a plain wall and recorded in a well-lit room. The room was quiet, so the audio was clearly understood by each participant. The

person who stutters was seated at a table, so the video was focused on their upper body. The verbal script consisted of stuttered syllable frequency of 5.64%, with the 3 longest moments of stuttering averaging 3.2 seconds in length. Every participant viewed the same core video. Some participants only watched the primary core video, while other participants were assigned one of the other five conditions. These condition videos featured the primary core video, followed by one of the five advocates disclosing the young adult male who stutters.

Independent Variable: Disclosure Advocates

The participants were presented with a factual disclosure video detailing research that has been used in two previous studies. Participants in the control group only viewed the primary video stimulus, while participants in the experimental groups viewed one of the five different disclosure videos immediately prior to the primary video stimulus. The control condition consisted of a primary core video of a person who stutters. The other five experimental conditions consisted of various advocate videos disclosing stuttering on the 17-year-old's behalf, followed by the core video of the young adult male reading a historical excerpt. The conditions used in this study include (1) control condition (no disclosure), and experimental conditions including: (2) father disclosure, (3) male coach disclosure, (4) female teacher disclosure, (5) girlfriend disclosure, and (6) female speech-language pathologist.

The independent variables disclosure advocates included conditions: (2) father disclosure, (3) male coach disclosure, (4) female teacher disclosure, (5) girlfriend disclosure, and (6) female speech-language pathologist disclosure. Experimental condition (2) featured the PWS's biological father who served the role of the father advocate. Experimental condition (3) featured the biological father as the coach advocate. Experimental condition (4) featured the PWS's

biological mother who served the role of the teacher advocate. Experimental condition (5) featured the PWS's girlfriend who served the role of the girlfriend advocate. Experimental condition (6) featured the biological mother who served the role of the speech-language pathologist advocate. All video segments were filmed in the same environment. The individual conditions featured each advocate seated at a table, so the videos were focused on their upper bodies. Each of the condition videos were centered, well-lit, and focused against a plain colored wall. Each advocate was presented with the same script but varied in wording to fit their role as an advocate. The participants read from the same script but used different pronouns. The dad and coach were the only two male advocates. The teacher, girlfriend, and speech-language pathologist were all female advocates. All five advocates displayed a professional disposition and appeared to have a positive attitude regarding the 17-year-old male presented in the digital disclosure.

Survey

Per previous peer reviewed publications, this is a between-group design, modeled after previous studies in the paradigm (Snyder et al., 2020). Similar to previous research, viewers gave their consent and ensured they were 18 of age. Every participant completed the same survey immediately after viewing the disclosure statement and core video. The survey focused on two categories: speech skills and personality characteristics. Perceptions of speech skills included: speech intelligibility, speech fluency, speech rate, speech volume, ease of listening, degree of handicap, likelihood of professional success, and success related to fluency. Perceived personality traits included: calm/ nervous, reliable/ unreliable, relaxed/ tense, unafraid/ fearful, intelligent/ unintelligent, confident/ insecure, friendly/ unfriendly, outgoing/ shy, competent/

incompetent, and approachable/ unapproachable. Every viewer participated in the same survey, regardless of which condition they viewed (Appendix A).

Participants

Participants demographic data varied in gender, age, race, and area of study/career paths to acquire diverse feedback. Refer to Table 1 for a full analysis on participants mean, median, and std. deviation. Participants affiliated with communication sciences and disorders were excluded from the data pool in order to collect the most accurate feedback. These excluded participants studying communication sciences and disorders, speech-language pathologists, and those who reported having a person who stutters in their immediate family or group of friends. Participant recruitment initially began through on-campus in-person interactions in the classroom. However, it switched to online recruitment in lieu of COVID-19. It was the researchers' goal to ensure the data pool was diverse and balanced in each category. In total, 1225 participants were included in the dataset analysis with a balanced distribution across all ranges.

Table 1: Demographics

	Mean	Median	Std. Deviation
Age	28.36%	21.00%	14.076%
Gender	Male: 29.8%	Female: 70.2%	
Race	African American	6.5%	
	Asian	2.0%	
	Latin X	2.0%	
	Native American (North America)	0.2%	
	White	87.1%	
	Other	2.2%	
Major	Liberal Arts (Sciences)	6.4%	
	Liberal Arts (Others)	11.4%	
	Accountancy/ Finance	14.6%	
	Applied Sciences	13.2%	
	Business/ Marketing	26.7%	
	Education	10.2%	
	Engineering/ Computer Science/ Math	6.3%	
	Journalism/ New Media	1.9%	
	Pharmacy	1.6%	
	Medical Health	6.1%	
	Gen Ed	1.6%	
Year	Freshman	21.7%	
	Sophomore	5.1%	
	Junior	22.8%	
	Senior	17.6%	
	Graduate Student	6.4%	
	Other	26.5%	

Pre Covid-19 Procedures

Originally, researchers collected participants by reaching out to professors on campus at the University of Mississippi. Professors that agreed to work with the researchers allowed them to visit their classrooms in order to present the videos in person and hand out paper copies of the survey. Through in-person distribution, researchers were able to control any disturbances that might have affected the viewer's initial thoughts of the person who stutters. Researchers were mid data collection when students were prohibited from returning to campus. All printed documents of the surveys remained in the SSTAR Lab's locked file cabinet and remained confidential post data collection. Researchers manually entered the data information collected from the printed surveys into an Excel spreadsheet to ensure accuracy.

Post Covid-19 Procedures

In lieu of the COVID-19 pandemic, researchers had to shift the entire study online. This resulted in transferring the surveys into an online format through Qualtrics (Qualtrics, Oxford, MS). Members of the research team reached out to professors at the University to virtually distribute the survey to their classes. Some professors incentivized participation to help obtain more data collection from their students. Professors were not as inclined to assist in online data collection, so researchers used their personal connections to obtain more data. This resulted in a change in the age group demographic which originally targeted college-aged students but now consisted of a mean age of 28. Researchers administered online surveys with varying conditions. There was a different link for each condition which was assigned weekly to various researchers and randomly sent to students. Through the online survey format, participants viewed one of the

6 condition videos, immediately followed by the survey. After completion of the survey, researchers thanked participants for their time.

Study Design & Analysis

Researchers analyzed data using IMB SPSS Statistics (Version 27) univariate tests to determine between-group differences. Gender was measured as a covariate. So as to decrease any possible Type I errors, modifications were made to the alpha level. Additionally, the p-value was calculated for speech skills (p=.008) and personality characteristics (p=.005). Bonferroni post-hoc analysis was conducted to measure the presence of any significant main effects.

RESULTS

Comparable to two previous studies detailing similar research (Snyder et al., 2020), data was analyzed using a one-way Univariate Analysis Test through a Statistical Analysis Software, IMB SPSS Statistics (Version 27), to measure the effect of advocate disclosure on the perceptions of a young adult who stutters. These results are specified in Tables 2 and 3.

Sources of Covariance

Gender.

Data analysis indicates a covariance within this dataset. Figures 1 and 2 reveals that gender affiliation served as a significant source of covariance for one perceived speech skill and one perceived personality characteristic. Specifically, data reveals that gender significantly influenced a covariance on ease of listening [$F(5, 1224) = 28.411, p < .000$] from perceived speech skills and intelligent/unintelligent [$F(5, 1225) = 8.758, p < .000$] from personality characteristics. In order to preserve the research paradigm, both gender affiliations were included in this dataset.

Figure 1: Ease of Listening Gender Covariate

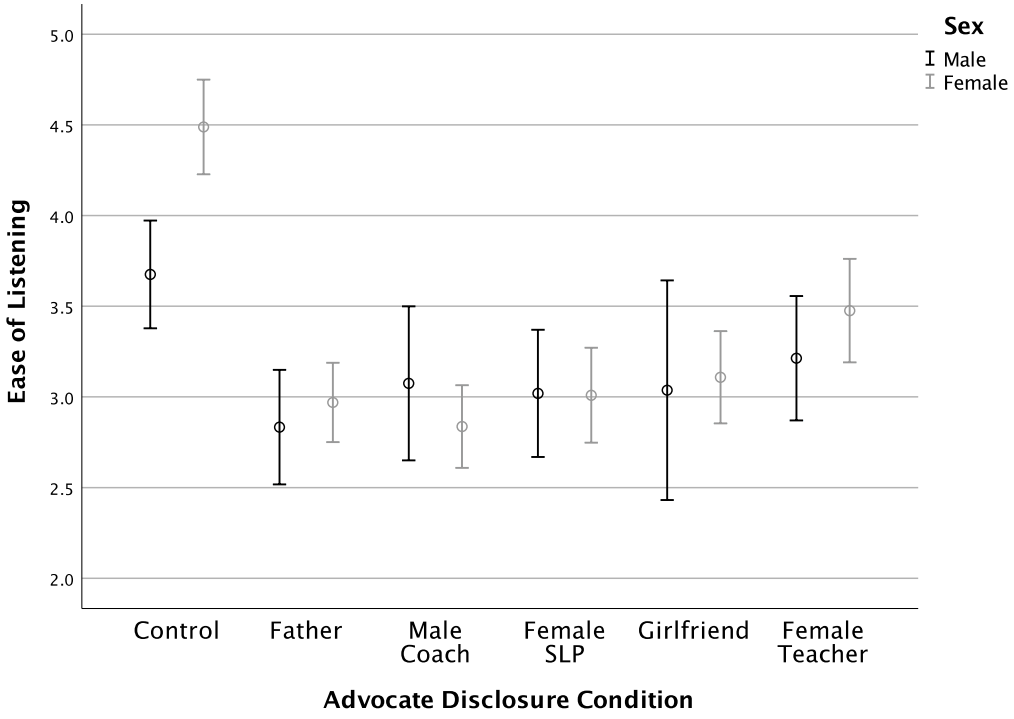
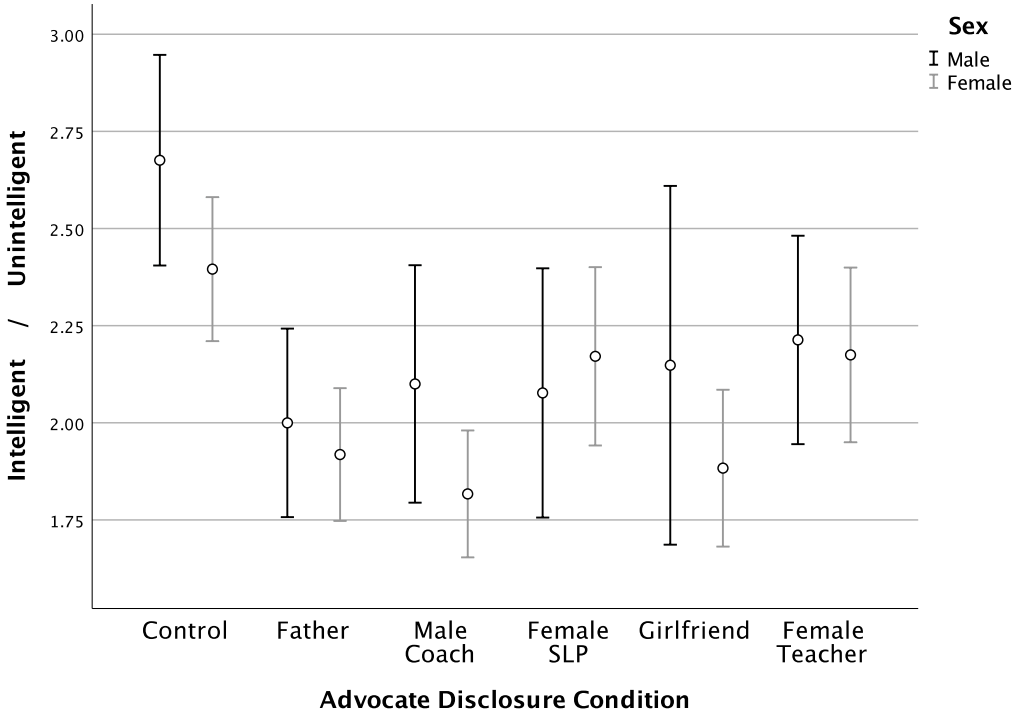


Figure 2: Intelligent/Unintelligent Gender Covariate



Procedure Setting.

Data analysis indicates that the setting (live vs. online) of data collection served as a source of covariance within this dataset. Specifically, data reveals that the setting significantly influenced a covariance on: Speech Fluency [$F(1, 1225) = 8.717$, $p = .003$], Speech Volume [$F(1, 1225) = 64.101$, $p = .000$], Reliable/Unreliable [$F(1, 1225) = 26.710$, $p < .000$], and Competent/Incompetent [$F(1, 1226) = 15.763$, $p < .000$]. This source of covariance will be addressed in the discussion.

Speech Skills

Survey results of perceived speech skills can be found in Table 2 and Figures 1-10. A main effect of stuttering disclosure was found significant on the perceptions of speech intelligibility, speech fluency, speech rate, speech volume, ease of listening, and degree of handicap.

Table 2: Speech Skills

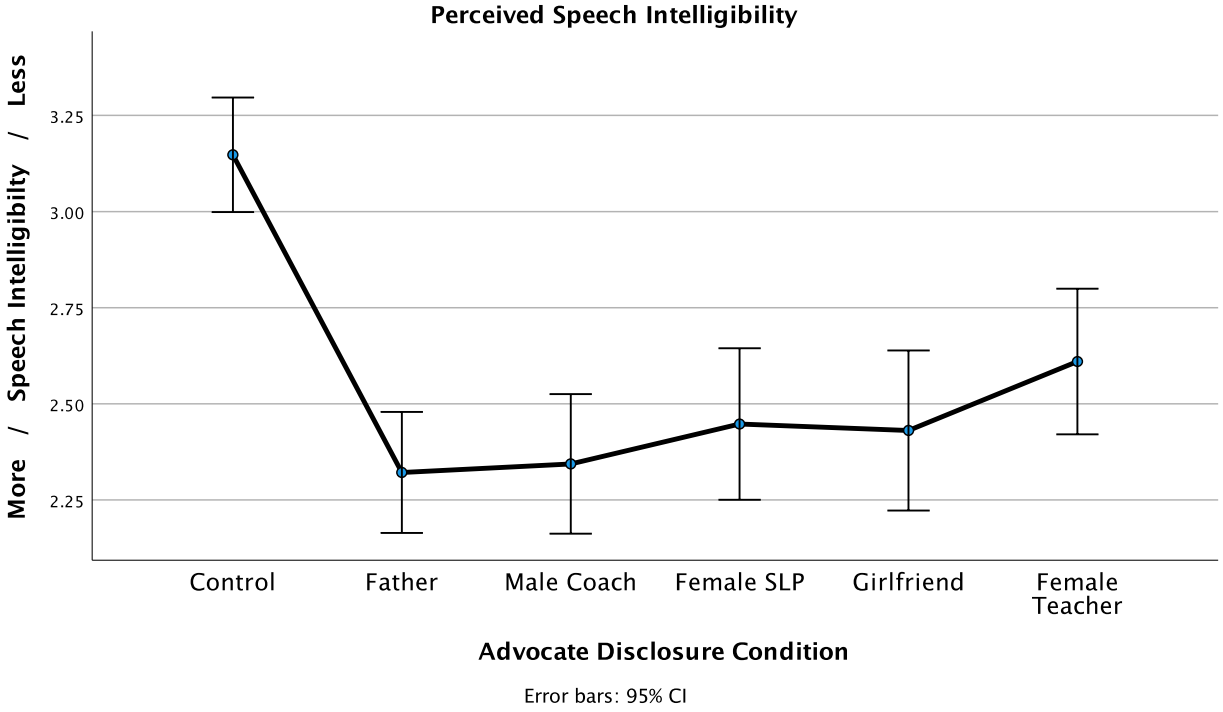
	F Statistic	P Value	Select Bonferroni Post-Hoc Comparisons
Speech Intelligibility	15.843	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, and p= .001, respectively).
Speech Fluency	20.656	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, and p< .000, respectively) Data also reveals male coach advocate disclosure significantly outperforms female teacher advocate disclosure (p= .027, respectively)
Speech Rate	7.971	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p= .021, p= .017, respectively)
Speech Volume	8.359	<.000	Father, male coach, and female SLP disclosure conditions yielded favorable between group differences relative to the control condition (p= .001, p< .000, p= .011, respectively) Data also reveals father, male coach, and female SLP advocate disclosure significantly outperforms female teacher advocate disclosure (p= .003, p< .000, p= .018, respectively)
Ease of Listening	28.206	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, p< .000, respectively) Data also reveals father and male coach advocate disclosure significantly outperforms female teacher advocate disclosure (p= .027, p= .010, respectively)

Degree of Handicap	27.918	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p < .000$, $p < .000$, $p = .003$, respectively) Data also reveals father, male coach, and female SLP advocate disclosure significantly outperforms female teacher disclosure ($p < .000$, $p < .000$, $p = .005$, respectively)
Success Related to Fluency	1.927	<.096	No significant main effects were perceived

Speech Intelligibility.

Data on perceived speech skills revealed a significant main effect in the speech intelligibility speech skill continuum, as detailed in Figure 3, [$F(5, 1225) = 15.843$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p < .000$, $p < .000$, and $p = .001$, respectively).

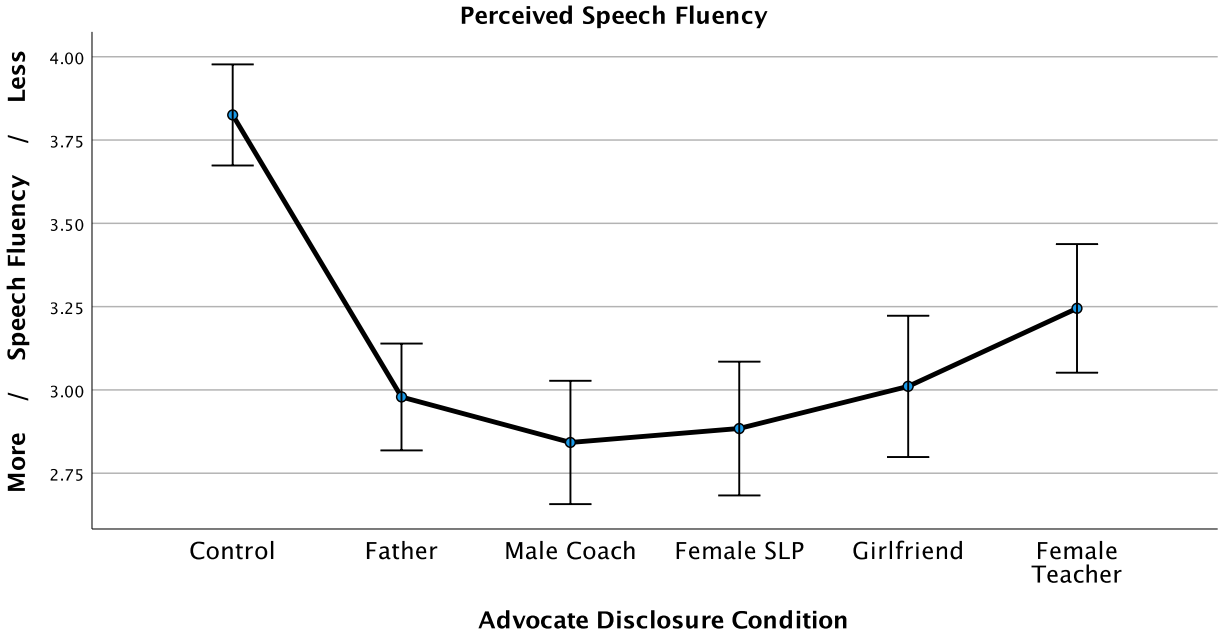
Figure 3: Speech Intelligibility



Speech Fluency.

Data on perceived speech skills revealed a significant main effect in the speech fluency speech skill continuum, as detailed in Figure 4, [F (5, 1225) = 20.656, p< .000]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, and p< .000, respectively). Bonferroni post-hoc comparisons also reveal male coach advocate disclosure significantly outperforms female teacher advocate disclosure (p= .027, respectively).

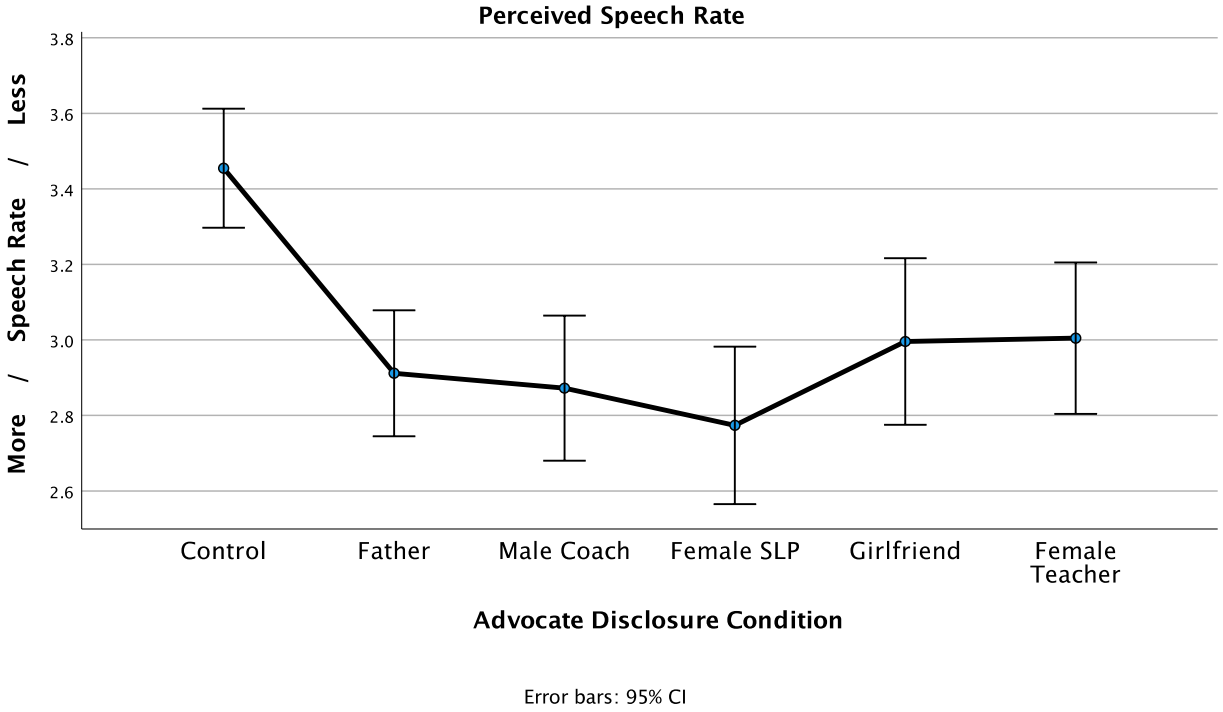
Figure 4: Speech Fluency



Speech Rate.

Data on perceived speech skills revealed a significant main effect in the speech rate speech skill continuum, as detailed in Figure 5, [$F(5, 1225) = 7.971$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p < .000$, $p = .021$, $p = .017$, respectively).

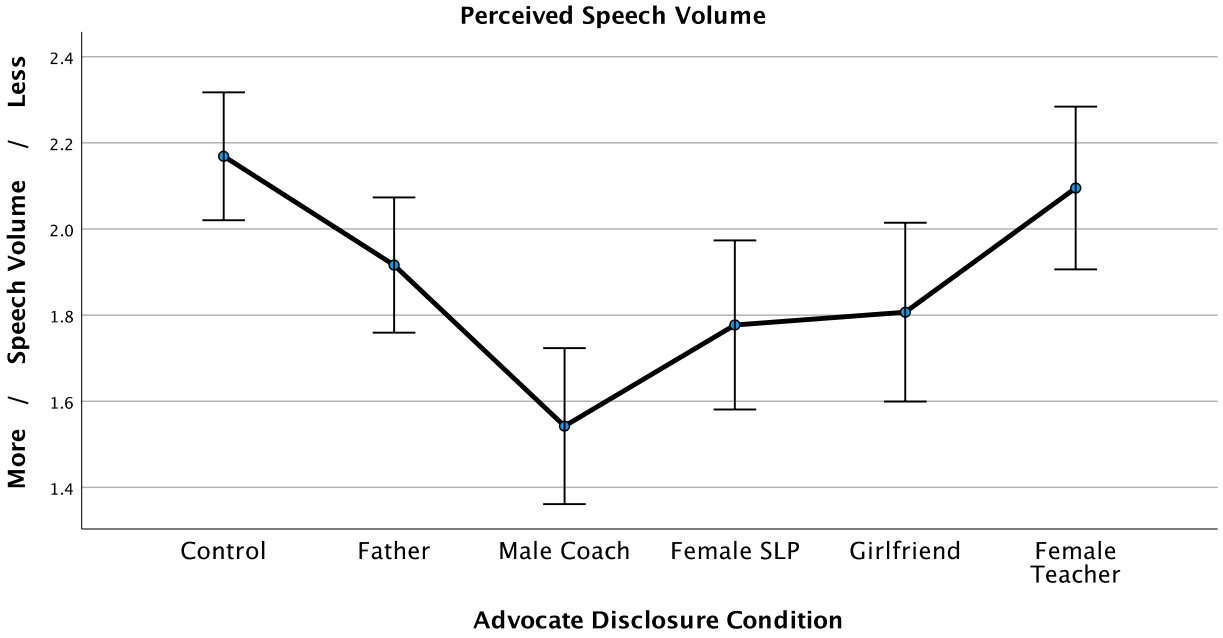
Figure 5: Speech Rate



Speech Volume.

Data on perceived speech skills revealed a significant main effect in the speech volume speech skill continuum, as detailed in Figure 6, [F (5, 1225) = 8.359, p< .000]. Bonferroni post-hoc comparisons reveal the father, male coach, and female SLP disclosure conditions yielded favorable between group differences relative to the control condition (p= .001, p< .000, p= .011, respectively). Bonferroni post-hoc comparisons also reveal father, male coach, and female SLP advocate disclosure significantly outperforms female teacher advocate disclosure (p= .003, p< .000, p= .018, respectively).

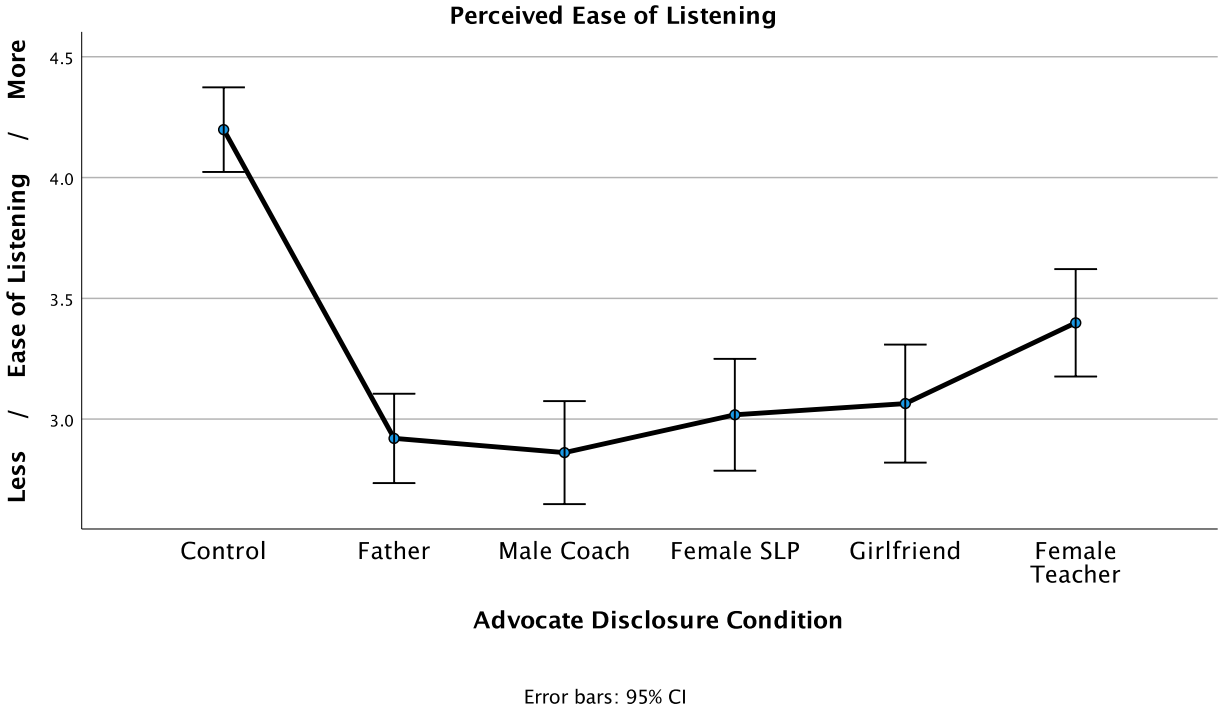
Figure 6: Speech Volume



Ease of Listening.

Data on perceived speech skills revealed a significant main effect in the ease of listening speech skill continuum, as detailed in Figure 7, [F (5, 1224) = 28.206, p< .000]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, p< .000, respectively). Bonferroni post-hoc comparisons also reveal father and male coach advocate disclosure significantly outperforms female teacher advocate disclosure (p= .027, p= .010, respectively).

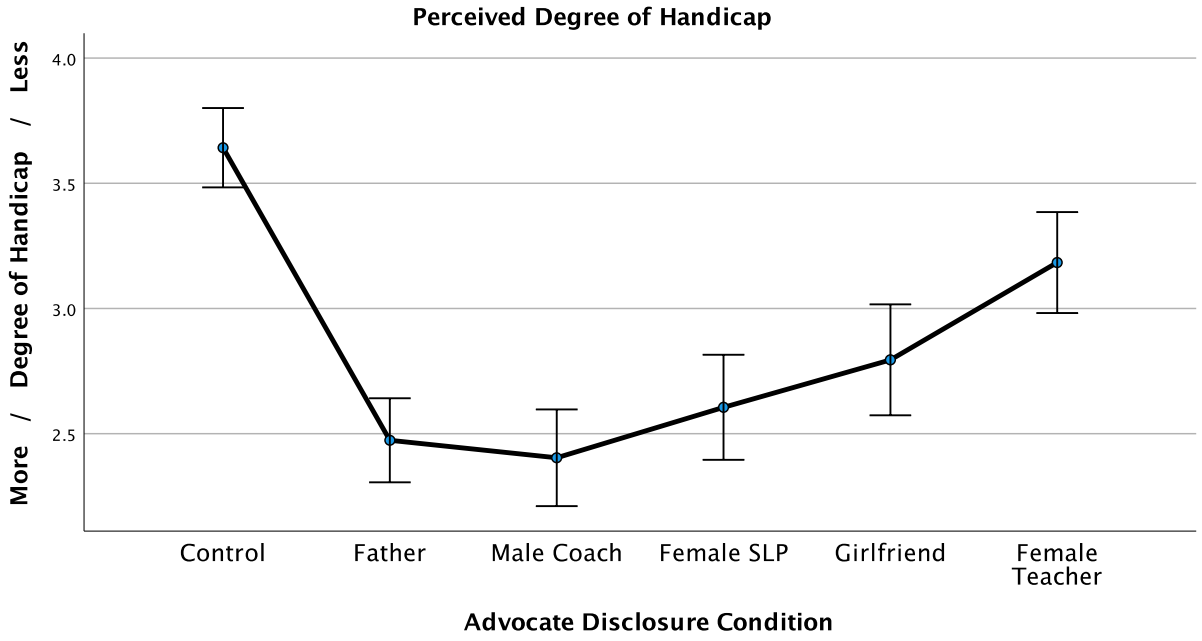
Figure 7: Ease of Listening



Degree of Handicap.

Data on perceived speech skills revealed a significant main effect in the degree of handicap speech skill continuum, as detailed in Figure 8, [$F(5, 1223) = 27.918$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p < .000$, $p < .000$, $p = .003$, respectively). Bonferroni post-hoc comparisons also reveal father, male coach, and female SLP advocate disclosure significantly outperforms female teacher disclosure ($p < .000$, $p < .000$, $p = .005$, respectively).

Figure 8: Degree of Handicap



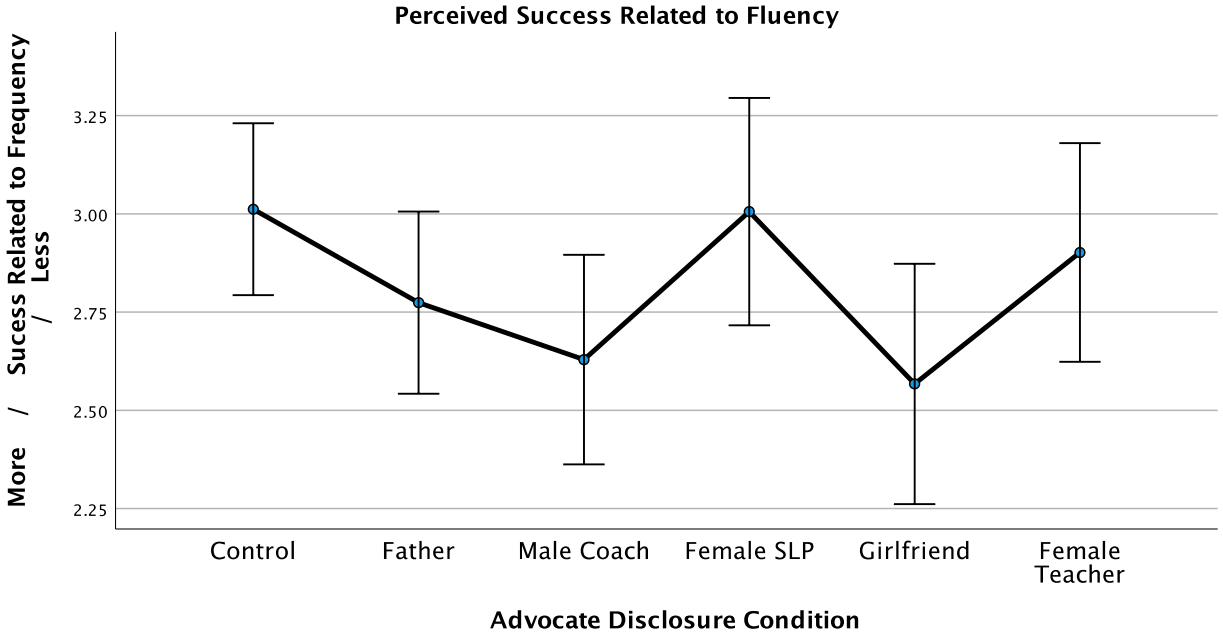
Likelihood of Professional Success.

Relative to perceptions of speech skills, no main effects were found significant in relation to the young adult male's likelihood of professional success. 93.2% of participants responded in support of professional success and 6.8% of participants responded in opposition of professional success.

Success Related to Fluency.

Relative to perceptions of speech skills, no main effects were found significant in relation to the young adult male's success related to fluency, as detailed in Figure 9, [$F(5, 1224) = 1.927$, $p = .087$].

Figure 9: Success Related to Fluency



Personality Characteristics

Survey results of perceived personal characteristics can be found in Table 3 and Figures 11-20. A main effect of stuttering disclosure was found significant on the perceptions of calm/nervous, reliable/unreliable, relaxed/tense, unafraid/fearful, intelligent/unintelligent, confident/insecure, friendly/unfriendly, outgoing/shy, competent/incompetent, and approachable/unapproachable.

Table 3: Personality Characteristics

	F Statistic	P Value	Select Bonferroni Post-Hoc Comparisons
Calm/Nervous	17.770	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, p= .040, respectively) Data also reveals father and male coach advocate disclosure significantly outperforms female teacher advocate disclosure (p< .000, p= .003, respectively)
Reliable/Unreliable	16.301	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p= .012, p< .000, p= .074, respectively) Data also reveals father and male coach advocate disclosure significantly outperforms female SLP advocate disclosure (p= .026, p= .005, respectively) and female teacher advocate disclosure (p= .003, p= .000, respectively)
Relaxed/Tense	27.298	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, p= .003, respectively) Data also reveals father and male coach advocate disclosure significantly outperforms female SLP advocate disclosure (p= .001, p= .014, respectively) and female teacher advocate disclosure (p< .000, p< .000, respectively)

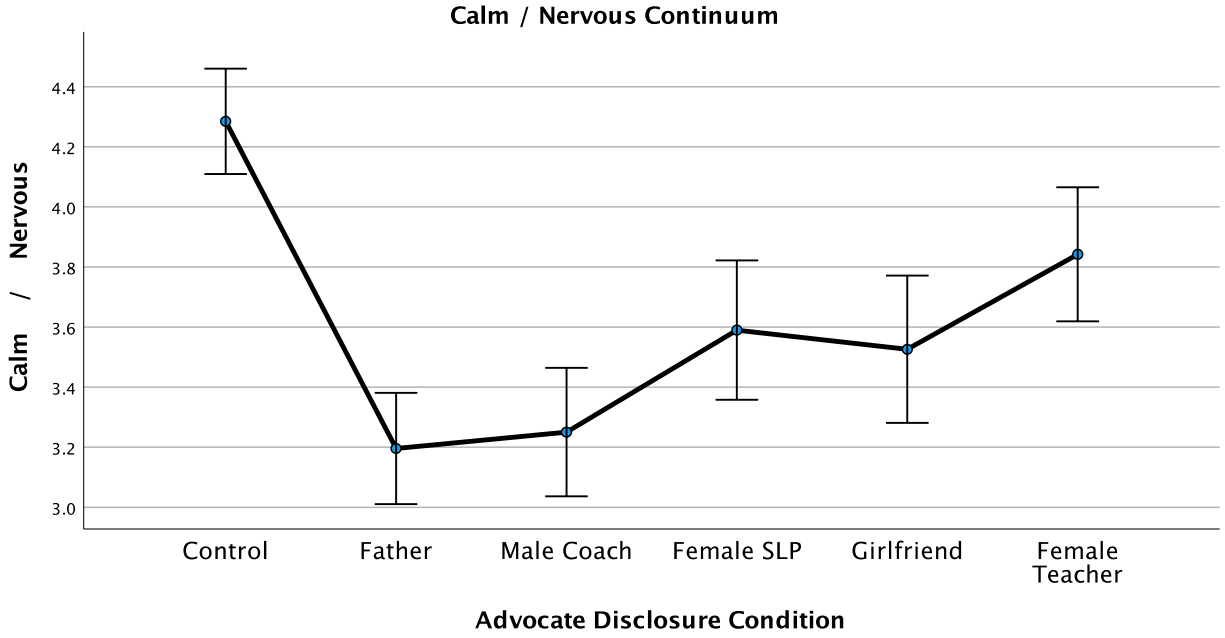
Unafraid/Fearful	28.147	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, p< .001, respectively) Data also reveals father and male coach advocate disclosure significantly outperforms female SLP advocate disclosure (p= .003, p= .005, respectively) and female teacher advocate disclosure (p< .000, p< .000, respectively)
Intelligent/Unintelligent	9.304	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p= .029, p< .000, p= .155, respectively)
Confident/Insecure	24.291	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, p< .000, respectively) Data also reveals father and male coach advocate disclosure significantly outperforms female SLP advocate disclosure (p= .001, p= .004, respectively) and female teacher advocate disclosure (p= .001, p= .004, respectively)
Friendly/Unfriendly	6.258	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p<= .003, p< .000, p= .058, p< .000, p= .020, respectively)

Outgoing/Shy	24.634	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, p< .000, respectively). Data also reveals father and male coach advocate disclosure significantly outperforms female SLP (p= .023, p= .018, respectively)
Competent/Incompetent	10.452	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p= .001, p< .000, p= .315, respectively) Data also reveals girlfriend advocate disclosure significantly outperforms female teacher advocate disclosure (p= .014, respectively)
Approachable/Unapproachable	8.753	<.000	Father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p= .002, p< .000, p= .072, respectively)

Calm/Nervous.

Data on perceived personality characteristics revealed a significant main effect in the calm/nervous personality characteristic continuum, as detailed in Figure 10, [$F(5, 1226) = 17.770$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p < .000$, $p < .000$, $p = .040$, respectively). Bonferroni post-hoc comparisons also reveal father and male coach advocate disclosure significantly outperforms female teacher advocate disclosure ($p < .000$, $p = .003$, respectively).

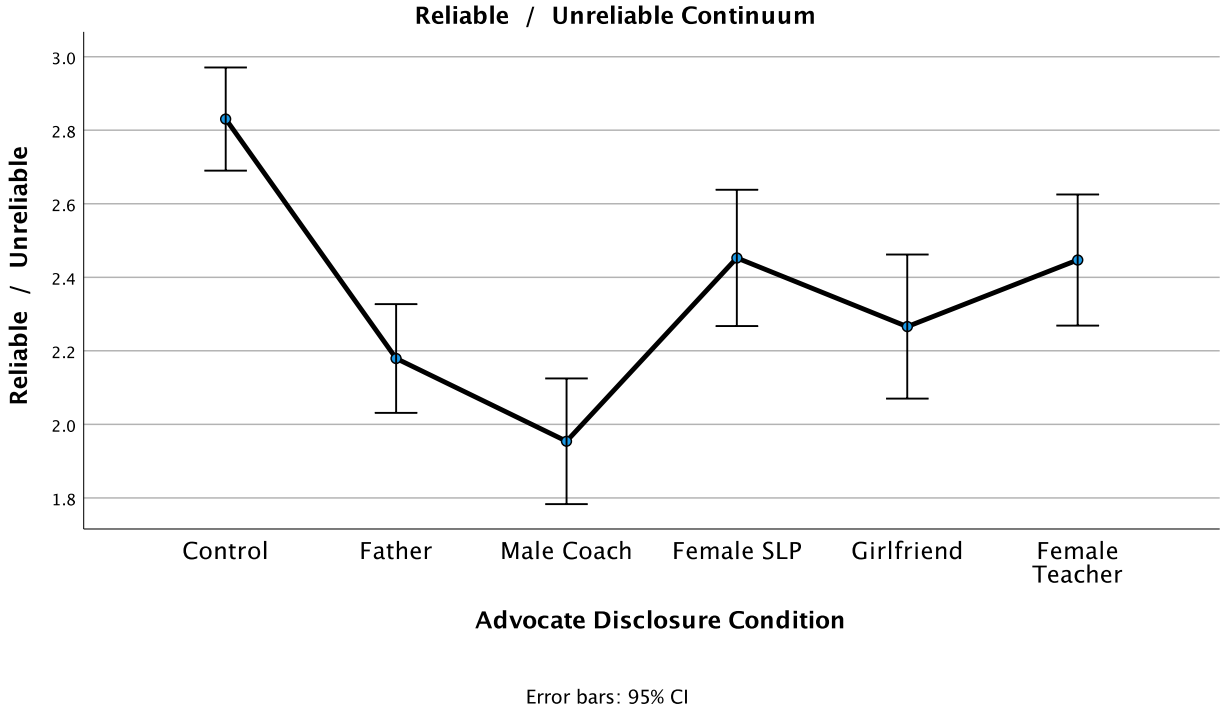
Figure 10: Calm/Nervous



Reliable/Unreliable.

Data on perceived personality characteristics revealed a significant main effect in the reliable/unreliable personality characteristic continuum, as detailed in Figure 11, [$F(5, 1225) = 16.301$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p = .012$, $p < .000$, $p = .074$, respectively). Bonferroni post-hoc comparisons also reveal father and male coach advocate disclosure significantly outperforms female SLP advocate disclosure ($p = .026$, $p = .005$, respectively) and female teacher advocate disclosure ($p = .003$, $p = .000$, respectively).

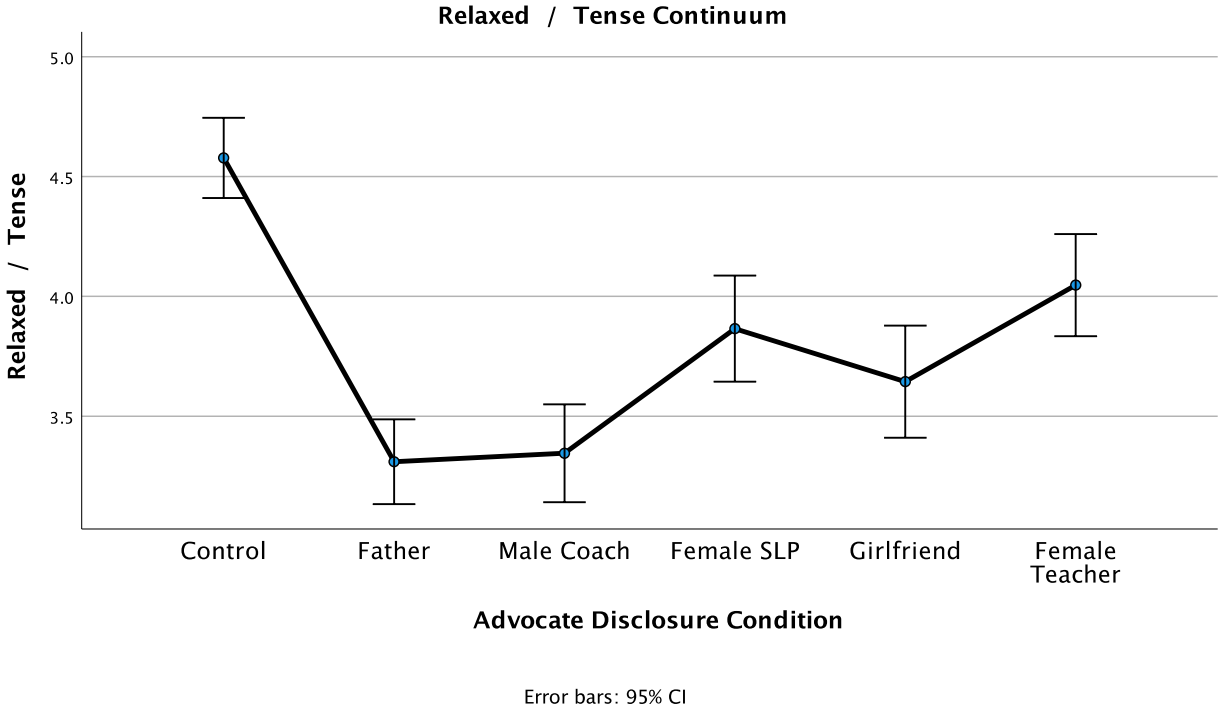
Figure 11: Reliable/Unreliable



Relaxed/Tense.

Data on perceived personality characteristics revealed a significant main effect in the relaced/tense personality characteristic continuum, as detailed in Figure 12, [F (5, 1226) = 27.298, p< .000]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p< .000, p< .000, p= .003, respectively). Bonferroni post-hoc comparisons also reveal father and male coach advocate disclosure significantly outperforms female SLP advocate disclosure (p= .001, p= .014, respectively) and female teacher advocate disclosure (p< .000, p< .000, respectively).

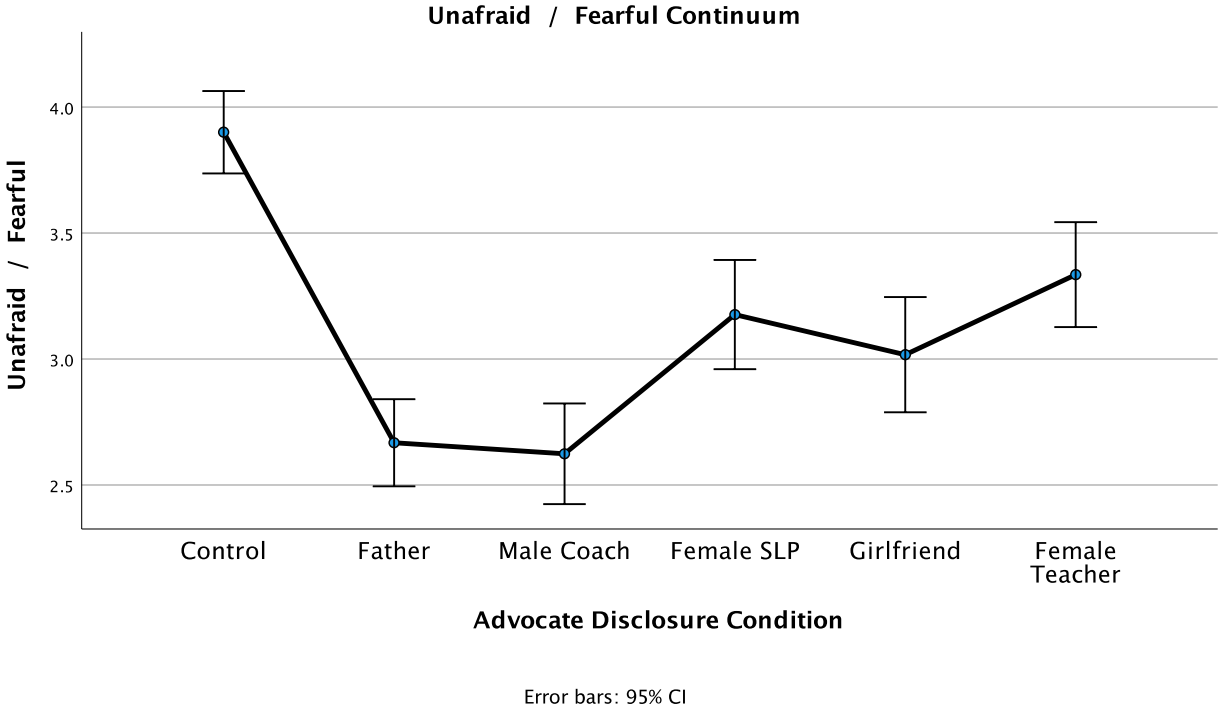
Figure 12: Relaxed/Tense



Unafraid/Fearful.

Data on perceived personality characteristics revealed a significant main effect in the unafraid/fearful personality characteristic continuum, as detailed in Figure 13, [$F(5, 1226) = 28.147$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p < .000$, $p < .000$, $p < .001$, respectively). Bonferroni post-hoc comparisons also reveal father and male coach advocate disclosure significantly outperforms female SLP advocate disclosure ($p = .003$, $p = .005$, respectively) and female teacher advocate disclosure ($p < .000$, $p < .000$, respectively).

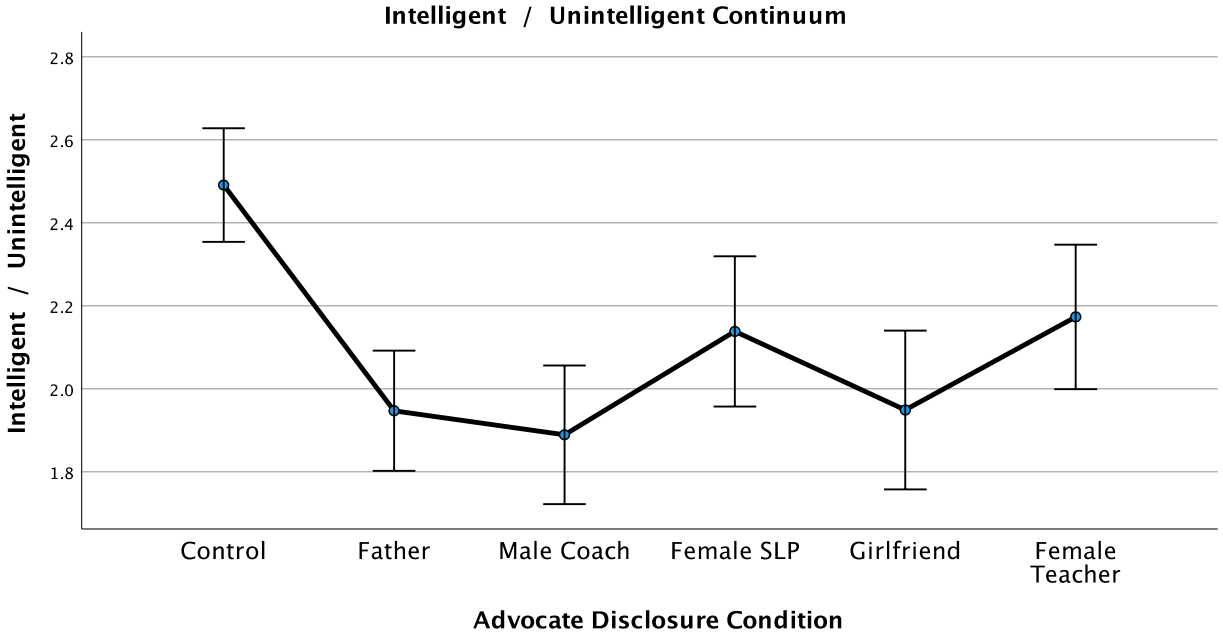
Figure 13: Unafraid/Fearful



Intelligent/Unintelligent.

Data on perceived personality characteristics revealed a significant main effect in the intelligent/unintelligent personality characteristic continuum, as detailed in Figure 14, [$F(5, 1225) = 9.304$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p = .029$, $p < .000$, $p = .155$, respectively).

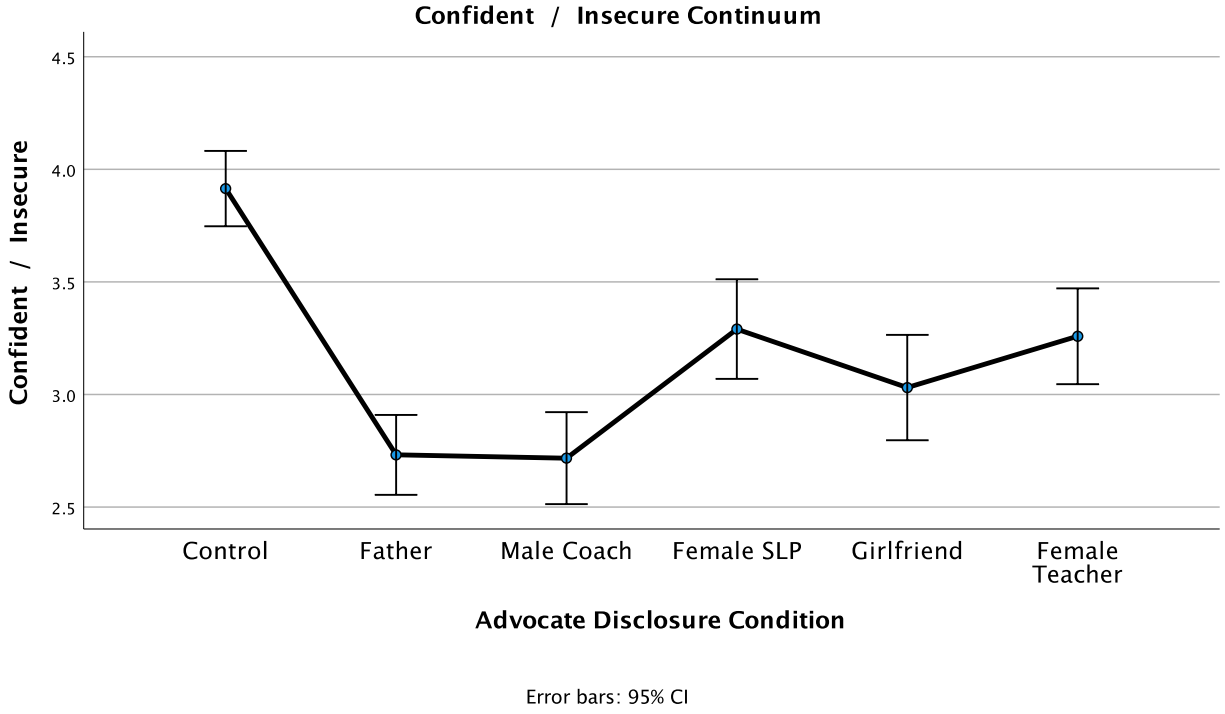
Figure 14: Intelligent/Unintelligent



Confident/Insecure.

Data on perceived personality characteristics revealed a significant main effect in the confident/insecure personality characteristic continuum, as detailed in Figure 15, [$F(5, 1224) = 24.291$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p < .000$, $p < .000$, $p < .000$, respectively). Bonferroni post-hoc comparisons also reveal father and male coach advocate disclosure significantly outperforms female SLP advocate disclosure ($p = .001$, $p = .004$, respectively) and female teacher advocate disclosure ($p = .001$, $p = .004$, respectively).

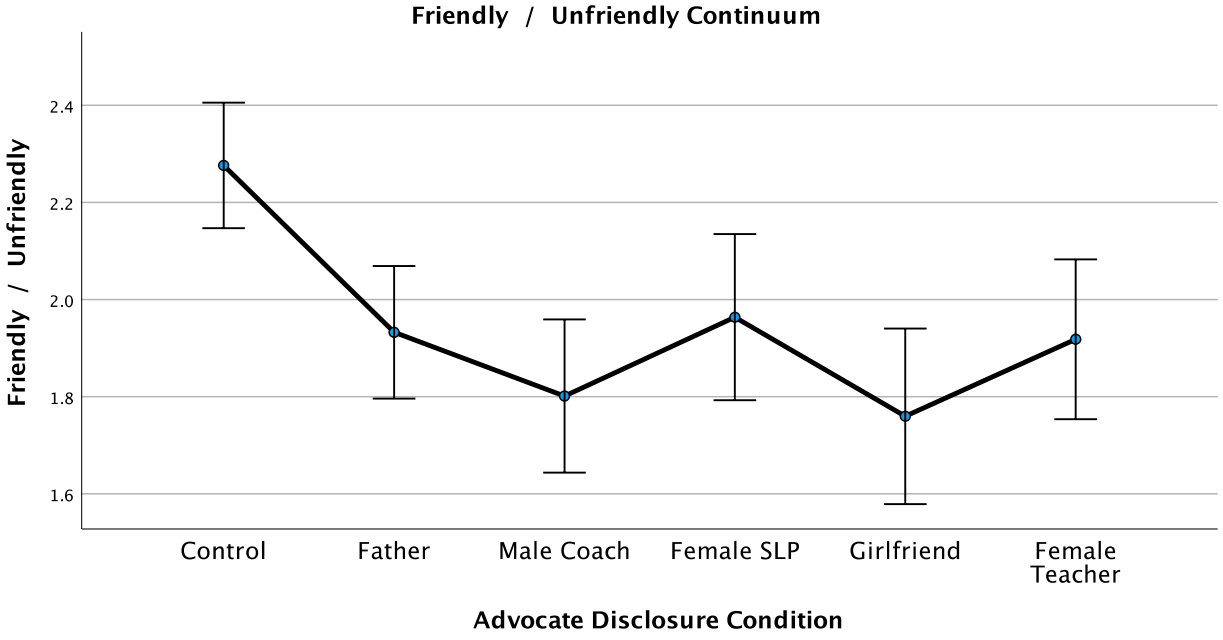
Figure 15: Confident/Insecure



Friendly/Unfriendly.

Data on perceived personality characteristics revealed a significant main effect in the friendly/unfriendly personality characteristic continuum, as detailed in Figure 16, [F (5, 1226) = 6.258, p< .000]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p<= .003, p< .000, p= .058, p< .000, p= .020, respectively).

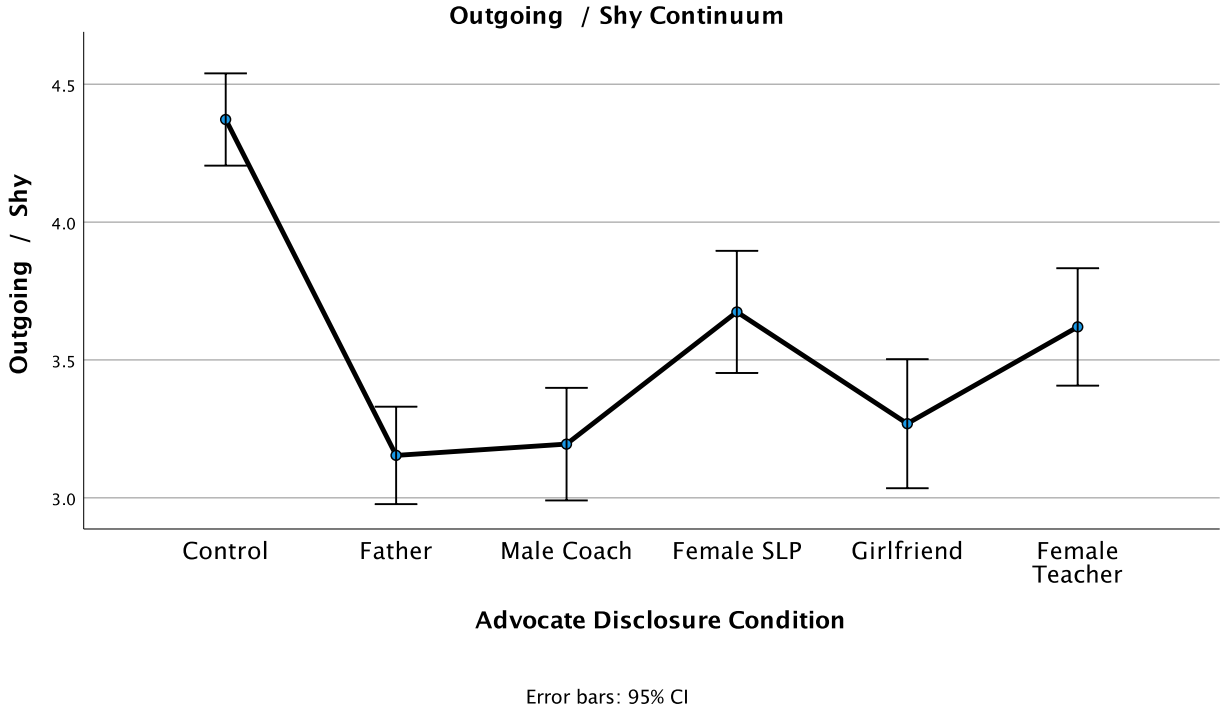
Figure 16: Friendly/Unfriendly



Outgoing/Shy.

Data on perceived personality characteristics revealed a significant main effect in the outgoing/shy personality characteristic continuum, as detailed in Figure 17, [$F(5, 1226) = 24.634$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p < .000$, $p < .000$, $p < .000$, respectively). Bonferroni post-hoc comparisons also reveals father and male coach advocate disclosure significantly outperforms female SLP ($p = .023$, $p = .018$, respectively).

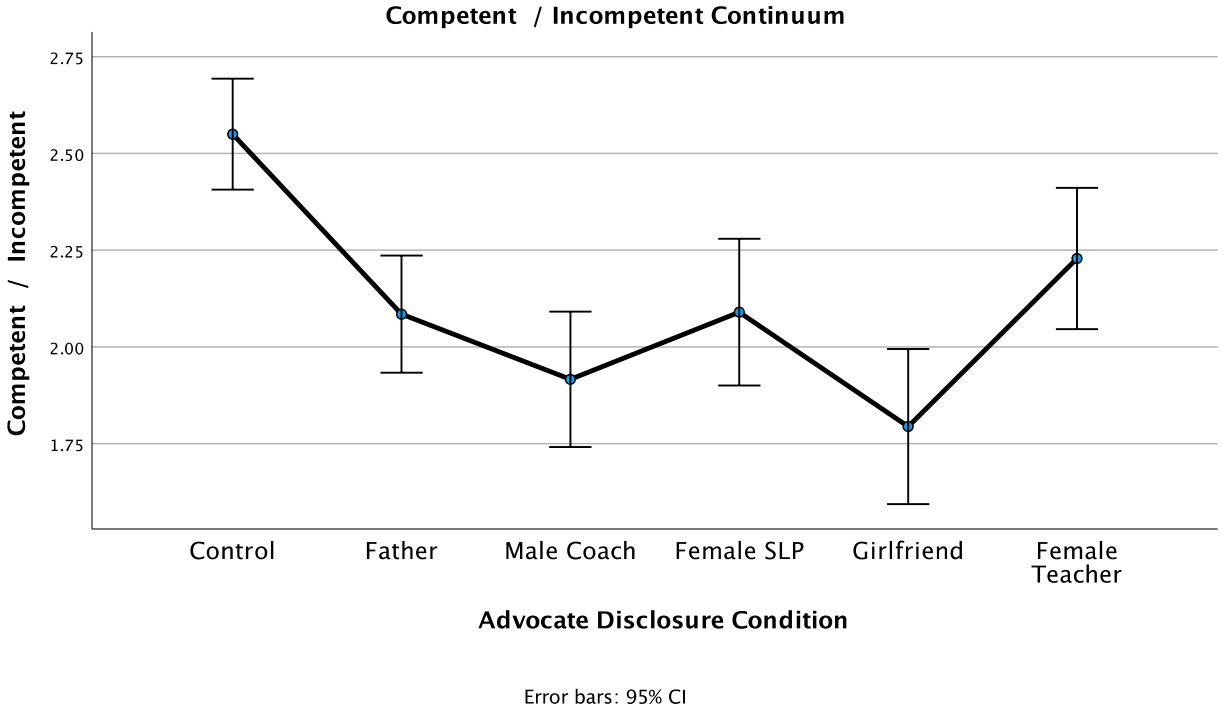
Figure 17: Outgoing/Shy



Competent/Incompetent.

Data on perceived personality characteristics revealed a significant main effect in the competent/incompetent personality characteristic continuum, as detailed in Figure 18, [F (5, 1226) = 10.452, p< .000]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition (p< .000, p< .000, p= .001, p< .000, p= .315, respectively). Bonferroni post-hoc comparisons also reveals girlfriend advocate disclosure significantly outperforms female teacher advocate disclosure (p= .014, respectively).

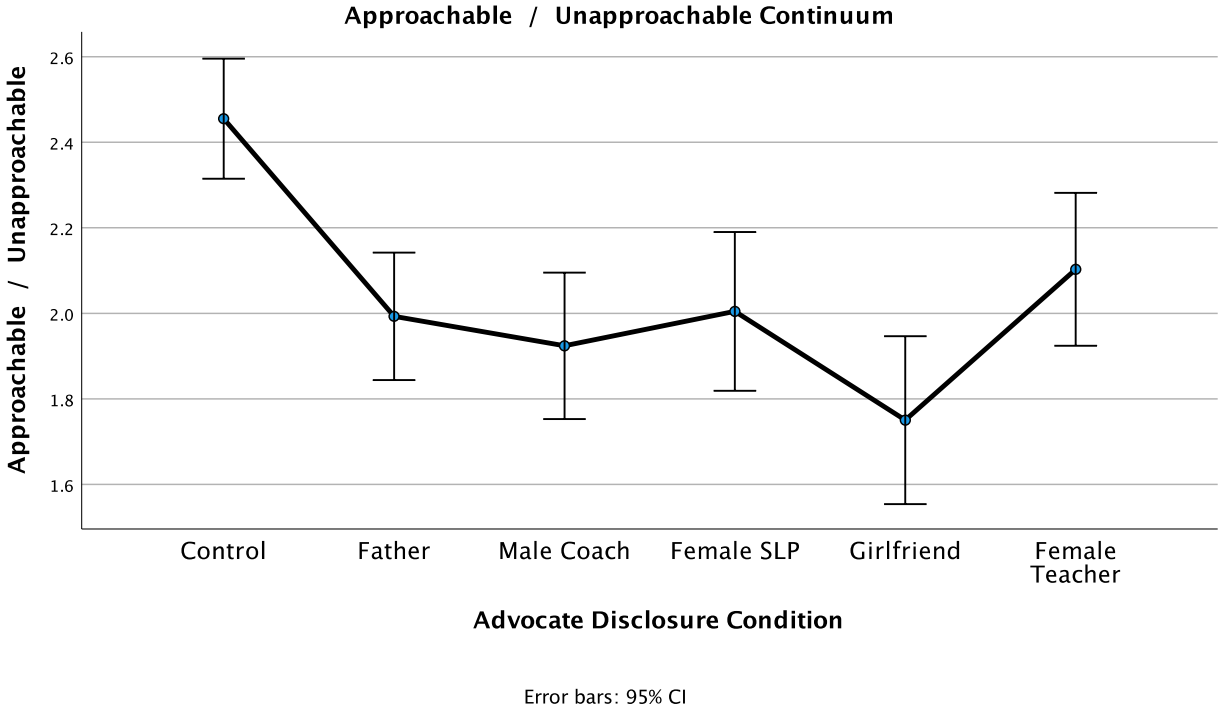
Figure 18: Competent/Incompetent



Approachable/Unapproachable.

Data on perceived personality characteristics revealed a significant main effect in the approachable/unapproachable personality characteristic continuum, as detailed in Figure 19, [$F(5, 1223) = 8.753$, $p < .000$]. Bonferroni post-hoc comparisons reveal the father, male coach, female SLP, girlfriend, and female teacher disclosure conditions yielded favorable between group differences relative to the control condition ($p < .000$, $p < .000$, $p = .002$, $p < .000$, $p = .072$, respectively).

Figure 19: Approachable/Unapproachable



DISCUSSION

The Effect of Advocate Disclosure on the Perceptions of Speech Skills and Personality Characteristics

Data results suggests the desirable effects of advocate disclosure on the perceptions of a young adult who stutters. Advocate disclosure decreases the less desirable perceptions of a PWS by informing listeners of their fluency disorder prior to verbal communication. Disclosure helped improve the perceptions of select speech skills, specifically speech intelligibility, speech fluency, speech rate, speech volume, ease of listening, and degree of handicap. No significant main effects were perceived in relation to the young adult male's likelihood of professional success and success related to fluency. Disclosure also helped improve the perceptions of all personality characteristics, specifically whether the PWS is calm/nervous, reliable/unreliable, relaxed/tense, unafraid/fearful, intelligent/unintelligent, confident/insecure, friendly/unfriendly, outgoing/shy, competent/incompetent, and approachable/unapproachable.

Less desirable perceptions create public stigma which labels PWS into categories considered different from their norm peers (Corrigan et al., 2015). By familiarizing the listeners with the person's fluency disorder, participants tend to view the PWS speech skills and personality characteristics better than they would without disclosure. Existing data suggests father, male coach, female SLP, girlfriend, and female teacher disclosure improves the overall perception of the PWS. Data also suggests the relevance of between-group differences to support the research study's significant efficacy. Presenting participants with variable disclosure

advocate video stimuli improves/ameliorates the perceptions of a PWS' speech skills and personality characteristics.

Negative misconceptions of a PWS can be minimized by acknowledging and advertising their fluency disorder (Healey et al., 2007). Advocate disclosure can bridge this gap through acknowledgment. By acknowledging and advertising a person's fluency disorder, listeners are automatically desensitized and less inclined to view them as less desirable. Consequently, this will facilitate listener responses so they can respond appropriately and maintain eye contact with the speaker (Rosenberg & Curtiss, 1954). If disclosed, a PWS is not as prone to experience unfounded negative prejudice such as feeling guarded, fearful, anxious, tense, nervous, shy, and non-assertive (Hinduja & Patchin, 2017). Unfounded negative prejudice stems from a negative listener perception so a PWS can desensitize their listeners through advocate disclosure stimuli. Additionally, this also promotes less discomfort and more self-acceptance. Consequently, this will help decrease less desirable bias's made towards the individual (Healey et al., 2007).

These data suggest how beneficial advocate disclosure is at improving people's perceptions of a young adult who stutters. In agreement with past research, data concludes that any disclosure helps improve people's opinions of a PWS regardless of which advocate is disclosing (Snyder et al., 2020). However, the efficacy of each advocate varies; for example, the father advocate and male coach advocate predominantly outperformed the female SLP and female teacher. Additionally, the girlfriend advocate disclosure provided between group differences between the father and male coach disclosure (most efficacious) and the female SLP and female teacher disclosure (least efficacious).

Since the PWS is a young adult male, it is possible that the father and male coach significantly outperformed the three female advocates as a result of gender matching.

Explanations for these data remain inconclusive, however two hypotheses are presented. As a result, these differential results may have occurred as a result of gender matching (Davis & Penner, 1986). The effects of gender matching were seen as more favorable when advocate roles matched the same sex as the PWS (Davis & Penner, 1986). Research is currently underway to measure the gender matching hypothesis relative to advocate disclosure on PWS (Snyder et al., in progress). Another explanation may be a gender effect relative to advocate roles in general (Gupta et al., 2013). Accordingly, differential results potentially occurred as a result of a gender effect, since male advocates significantly outperformed female advocates. Regardless, even though the disclosure advocates varied in performance, data suggests that any disclosure is better than no disclosure. Thus, there is strong evidence to support that any disclosure is helpful, regardless of the severity of the stutter.

Strengths and Limitations

Strengths of this research study resulted from the high number of participant responses that researchers were able to obtain through data collection. The large sample size proves the research study contains a stronger efficacy. Additionally, each survey question resulted in a main effect. This significantly proved the researcher's hypothesis in the benefits of advocate disclosure efficacy.

As a result of Covid-19, limitations of this study primarily resulted from the transition of an in-person data collection to an online format. Originally, researchers collected data in person at the University of Mississippi. Researchers were mid data collection when Covid-19 mandated the study to transition online.

Through the online format, researchers were unable to control any disturbances that might have affected the viewer's initial thoughts of the person who stutters. This modification in data collection potentially effected participant responses by creating unknown distractions. These unknown distractions emerged as a source of covariance. However, researchers trusted participant responses placed on each participant's personal code of conduct.

Shifting to online data collection was also revealed as a source of covariance. This was an unavoidable consequence of the Covid-19 pandemic. Furthermore, the observed covariance may actually reflect regression towards the mean, as online data collection the vast majority of the amount of data collected.

Additionally, some participants did not understand the definition of stuttering or what defines a person who stutters. This lack of knowledge may have resulted in skewed data responses. Lastly, the primary video stimulus was much longer in duration compared to the video presented in previous studies. The duration of the video, as well as the topic, could have reduced the participant's attention span, therefore, effecting the interpretation of the PWS.

Future Research

Further research in advocate disclosure could continue to explore the different types of disclosure that may affect the perceptions of a PWS. Deviating from the father, male coach, female SLP, girlfriend, and teacher advocates, and implementing new disclosure advocates could result in more effective data results. By introducing new advocates, the perceptions of a person who stutters will vary from previous research. Additionally, each advocate role (i.e., "coach" or "teacher") should have both a male and female representation, as a better means to discern the role of gender in advocacy.

What is the role of gender agreement between the PWS and their advocate? For example, will a male advocate's disclosure result in more significant data for a female or male patient? Will a female advocate's disclosure result in more significant data for a female or male patient? Therefore, future research may also include testing the effects of having the same vs. different gender advocate relative to the PWS.

By shortening the length of the primary video stimulus and changing the topic presented, participants might be more inclined to pay attention. This could positively influence their interpretation of the PWS. Furthermore, research could also expand on different participant genders and ages. By implementing a wider variety of participants, the variability in results will lead to new findings. Additionally, future researchers should also ensure procedural methods do not transition from an in-person to an online format. As a result of Covid-19, future procedural methods will vary from this study, but researchers should maintain the integrity of the research by committing to one method. Given the circumstances, this was out of the researcher's control, so future research in advocate disclosure should be executed through one method.

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Appendix A: Text of Stuttering Disclosure

"The video you are about to watch features [me, a person who stutters / my son who stutters / my player who stutters / one of my speech patients who stutters / my boyfriend who stutters / my student, a person who stutters]. You may see or hear me stutter during this video. I appreciate you taking the time to watch this video and complete a quick [brief] survey afterwards."

Appendix B: Speech Skills & Personality Characteristics Survey

SURVEY OF PERCEPTIONS OF A SPEAKER'S VIDEOTAPED PRESENTATION

I. SPEECH SKILLS: Please circle one number on each line to show your rating of the speaker's oral speech skills along each dimension. **For example**, for "Speech Intelligibility," a rating of "1" would indicate completely intelligible speech, and "7" would indicate completely unintelligible speech.

1.	Speech Intelligibility:							
Intelligible	1	2	3	4	5	6	7	**Unintelligible**
2.	Speech Fluency:							
Fluent	1	2	3	4	5	6	7	**Disfluent**
3.	Speech Rate:							
Appropriate Rate	1	2	3	4	5	6	7	**Inappropriate Rate**
4.	Speech Volume:							
Appropriate Volume	1	2	3	4	5	6	7	**Inappropriate Volume**
5.	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**
6.	Degree to which you feel the person is handicapped by his speech abilities:							
Not Handicapped	1	2	3	4	5	6	7	**Handicapped**
7.	In your opinion, is this person likely to succeed in their professional career?							
Yes					**No**			
8.	Is your perception of their professional success related to their speech fluency?							
No	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Yes**

II. PERSONAL CHARACTERISTICS: Please circle one number on each line to show your rating of the speaker 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 "7" would indicate that the speaker is judged to be extremely nervous.

1.	**Calm**	1	2	3	4	5	6	7	**Nervous**
2.	**Reliable**	1	2	3	4	5	6	7	**Unreliable**
3.	**Relaxed**	1	2	3	4	5	6	7	**Tense**
4.	**Unafraid**	1	2	3	4	5	6	7	**Fearful**
5.	**Intelligent**	1	2	3	4	5	6	7	**Unintelligent**
6.	**Confident**	1	2	3	4	5	6	7	**Insecure**
7.	**Friendly**	1	2	3	4	5	6	7	**Unfriendly**
8.	**Outgoing**	1	2	3	4	5	6	7	**Shy**
9.	**Competent**	1	2	3	4	5	6	7	**Incompetent**
10.	**Approachable**	1	2	3	4	5	6	7	**Unapproachable**

III. PARTICIPANT DEMOGRAPHIC INFORMATION:					
1. Gender:	Female	Male	2. Age:		
3. Race (please **circle** one):					
African American	Asian	Latin X	Native American (North America)	White	Other
4. Major (or profession):					
5. What year in college are you?					
Freshman	Sophomore	Junior	Senior	Graduate Student	Other
6. Number of **immediate** family members who stutter:					
7. Number of **extended** family members who stutter:					
8. Number of **friends** or **acquaintances** who stutter:					
9. Number of your total **previous/current instructors** who stutter:					