The Impact of Stress, Resilience, Grit, and Intolerance of Uncertainty on Job Satisfaction

by

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Abstract

The purpose of this study is to measure the relationship between and degree to which stress, grit, resilience, and intolerance of uncertainty is found in speech-language pathologists (SLPs) and to understand the impact of these constructs on SLP job satisfaction and professional quality of life while considering years of experience. Seventy-eight licensed SLPs completed a survey that measured their levels of job satisfaction, professional quality of life, stress, grit, resilience, and intolerance of uncertainty. The survey also accounted for years of experience and work setting. The results demonstrated ambivalence in SLP job satisfaction levels. Higher levels of resilience had a significant relationship with increased job satisfaction and professional quality of life. Job satisfaction was associated with reduced stress, and the correlations between job satisfaction and grit and intolerance of uncertainty were insignificant. Overall, these findings reflect that higher resilience and lower stress may contribute to greater job satisfaction and could be informative to SLP training programs, current SLPs, and SLP employers.

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List of Abbreviations

ANOVA	Analysis of Variance
ASHA	American Speech-Language-Hearing Association
BO	Burnout
CD-RISC-10	10-item Connor-Davidson Resilience Scale
CS	Compassion Satisfaction
Grit-O	Grit Scale
Grit-S	Short Grit Scale
IRB	Institutional Review Board
IUI-A	Intolerance of Uncertainty Inventory Part A
IUI-B	Intolerance of Uncertainty Inventory Part B
JSS	Job Satisfaction Survey
PSS-10	Perceived Stress Scale - 10 items
ProQOL	Professional Quality of Life Scale Version 5
SLP	Speech-Language Pathologist
SPSS	Statistical Package for the Social Sciences
STS	Secondary Traumatic Stress

Chapter I

Introduction

Career in Speech-Language Pathology

According to the American Speech-Language-Hearing Association (ASHA), a speech-language pathologist is defined as a professional whose goal is "to prevent, assess, diagnose, and treat speech, language, social communication, cognitive-communication, and swallowing disorders in children and adults" (American Speech-Language-Hearing Association [ASHA], n.d.). Speech-language pathology is one of many health-related helping professions because of the role it plays in shaping human communication (Brodsky & Cooke, 2000). Helping others successfully communicate in accessible and functional ways is foundational to the profession. Working as a speech-language pathologist (SLP) often involves interacting with others through various means to elicit and engage in some form of communication. At its core, the goal of an SLP is to improve client quality of life.

The U.S. Bureau of Labor Statistics indicated that prospective SLPs will be met with a job market growth estimate of 19% between 2022 and 2032 (BLS, 2023). An SLP, or clinician, treats clients across the lifespan with a variety of disorders and can be employed in many settings, such as hospitals, schools, and private practices. SLPs must be prepared to treat and counsel individuals with various communication and swallowing disorders (ASHA, n.d.). There is often behavioral uncertainty associated with disorders that an SLP diagnoses and treats, such as communication related to autism spectrum disorder (Townsend et al., 2022). When providing these services, everyday clinical situations can be difficult to predict because the therapeutic process is often accompanied by some degree of ambiguity and uncertainty. SLPs treat clients with significant variability in diagnoses as well as the severity of the problems and symptoms

presented by each client. There is also variability across employment settings and within settings. For example, an SLP in a hospital setting may have more medically fragile individuals on their caseload than a school SLP, who may provide more language and social therapy than a hospital SLP. Regardless of experience in the profession, it can be difficult to anticipate the way a session will go during the evaluation and treatment of clients, which may be more difficult for some SLPs to manage than others. SLPs likely vary in the degree to which they can successfully navigate unpredictable environments, which may lead to different levels of job satisfaction. Consideration of personal constructs may also contribute to job satisfaction.

According to ASHA (2021), 73.1% of certified speech-language pathologists are working full time. 53.5% of these individuals are employed in an educational setting, and 39.4% work in healthcare. Blood et al. (2002) found that 76.3% of school SLPs experienced moderate to high levels of job satisfaction. As SLPs, it is crucial to understand what job satisfaction is and the factors that can impact it. It is predicted that certain personal constructs may influence how comfortable an SLP may be facing unfamiliar circumstances and their overall job satisfaction when helping people progress through different types of situations. Given that an SLP can expect at least some degree of unpredictability on an everyday basis, constructs such as stress, intolerance of uncertainty, grit, and resilience may provide some insight into whether an SLP would be more or less satisfied in their job. It is important to determine if job satisfaction levels are influenced by personal qualities that could impact job performance and ambition.

Job Satisfaction

Job satisfaction evaluates an employee's contentment related to their job (Spector, 1997). Some specific aspects of this construct include pay, promotion, and coworkers. Essentially, an individual's level of job satisfaction indicates the degree of contentment that a worker has with

their occupation. Job satisfaction is an area of interest for many researchers because work consumes a large portion of the average person's time. For employees whose schedules adhere to the standard 40-hour work week, approximately 23.8% of their week will be spent working in some capacity. Assuming that an employee consistently sleeps at least 7 hours every night, which is the suggested daily sleep intake for adults, this individual would spend about 33.6% of their waking hours occupied with work (Watson et al., 2015). An individual's contentment with their job may have an impact on one's life outside of work. Studies have reported that job satisfaction and general satisfaction with life have a positive relationship (Garcia, 2003; Rice et al., 1980). Data reveals that higher job satisfaction levels indicate higher life satisfaction levels, with some evidence that there is a bidirectional relationship between job satisfaction and satisfaction with life (Unanue et al., 2017).

The construct of job satisfaction is not a static concept, but instead a variable experience (Smith et al., 1969). Job satisfaction has been evaluated in several ways, and the literature supports the Job Satisfaction Survey (JSS) as a measurement tool. The JSS consists of 9 subscales (pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, coworkers, nature of work, communication) and includes 36 questions (Spector, 1985). Also, the Professional Quality of Life Scale Version 5 (ProQOL 5) is a well-known instrument that assesses an individual's perceptions regarding their occupation, specifically related to a helping profession (Stamm, 2010). Professional quality of life is defined as a "quality one feels in relation to their work as a helper" (Stamm, 2010, p. 8). It includes compassion satisfaction, which is related to an individual's enjoyment of the work they perform in their chosen profession, and compassion fatigue, which includes burnout and secondary traumatic stress (Stamm, 2010). In a group of SLPs and audiologists who took the ProQOL, Ravi (2016)

indicated that the majority of participants expressed less burnout and secondary traumatic stress than the general population. 48.4% of the participants also demonstrated higher than average compassion satisfaction from their work (Ravi et al., 2016). It has been suggested that working in a helping profession could potentially strengthen an individual's resilience if they feel that they are having a significant impact on others (Stamm, 2002).

In general, measuring job satisfaction can benefit SLPs by making them more self-aware of their feelings towards their job, while also helping employers hire skilled workers to improve the employee experience (Blood et al., 2002). Job satisfaction in relation to general and specific factors of employment can be broken up into the short-term and long-term aspects of work (Smith et al., 1969). The short-term aspect refers to a person's view of their job related to present routine work responsibilities. The long-term aspect refers to the way that a person views their present job in contrast to other possible jobs (Kinicki et al., 2002; Smith et al., 1969). For the purposes of this paper, the authors will be primarily focused on the short-term aspect.

Due to potentially stressful work requirements, it is necessary to understand what personal qualities may contribute to the ability to better withstand the specific types of job pressure and stress that SLPs encounter (Wisniewski & Gargiulo, 1997). For SLPs, it is possible that work setting could influence an individual's level of job satisfaction. Different workplace environments present employees with unique benefits and obstacles. Some people may find working in a hospital more satisfying than working in a school, or vice versa. Different settings also come with different challenges, due to the population being served or the physical and emotional demands being placed on the clinician. For example, a private practice may potentially be more physically taxing for a clinician who works with young children with an abundance of energy, but a skilled nursing facility may be emotionally draining for a clinician who often faces

grief. In a study with audiologists, it was indicated that occupational setting played a role in job satisfaction, where private practice owners exhibited much greater satisfaction in comparison to those who worked for various other facilities (Saccone & Steiger, 2012). However, it is also possible that this finding is associated with the degree of autonomy experienced by the audiologists in their work as business owners.

A worker's motivation can also influence job satisfaction (Kinicki et al., 2002). Several factors have been identified that typically result in greater SLP job satisfaction. Blood et al. (2002) reported that SLP job satisfaction has a positive relationship with greater age, more years of experience, and decreased caseload in a public school setting. This indicates that job satisfaction can develop with more experience over time and indicates that there is an inverse relationship between job satisfaction and work-related expectations and requirements. If an employee regularly experiences a greater degree of contentment related to their occupation, this satisfaction may be an internal incentive to perform well on the job.

In addition to workplace motivation, it is important to consider how constantly varying procedures can impact an SLP's job satisfaction (Blood et al., 2002). According to Blood et al. (2002), SLPs must have the capacity to keep up with their growing areas and successfully implement new evidence into their clinical practice. They must apply their personal expertise to their scope of practice according to their occupational setting, as well as integrate techniques into their assessment and treatment according to the needs of the client. For example, an SLP in an acute care setting may invest in obtaining more advanced knowledge about topics such as dysphagia rather than school-based issues such as literacy. However, it may be beneficial to the SLP to exhibit a sufficient level of flexibility to move within the scope of practice from one domain to the next to accommodate their clients' needs. It is important to know what personal

qualities could make an SLP more or less satisfied in their career. This information may be useful from an educational perspective to identify factors that may lead someone to be more successful or happier as a SLP than others.

Stress

Psychological stress has been defined as the "particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 19). Most people consider stress to be a problem (Wisniewski & Gargiulo, 1997). In the context of the workplace, incidences of stress are a common theme. According to Wisniewski and Gargiulo (1997), work stress in an educational context can elevate with difficult productivity expectations. The concept of occupational stress is influenced by many elements, including the work atmosphere, which is considered to impact employee turnover (Campo et al., 2009). There is also evidence of a relationship between higher stress and negative factors impacting an individual's health (Cohen & Williamson, 1988).

In general, stress is a thoroughly studied construct by many disciplines. For example, in the literature regarding the practice of audiology, core concerns related to the workplace experience include "staff shortages," "administration duties," "paperwork and patient reports," "patient/family expectations of [the] audiologist to fix their hearing," and "amount of time available with each patient" (Giddens et al., 2022, p. 1083). The data from this study revealed that audiologists who perceive themselves to be under greater amounts of job stress or have lower levels of resilience were more likely to indicate greater levels of burnout. Defined by the World Health Organization (2018) as a condition caused by consistent and uncontrolled occupational stress, burnout could have negative implications for employees who experience its

effects. Job stress and related constructs are important aspects to consider because they could be indicators of an employee's quality of work experience and a predictor of satisfaction in their line of work. For the purposes of this study, the Perceived Stress Scale - 10 items (PSS-10) will be used to measure levels of stress that an individual SLP reportedly experiences related to their occupation.

It is crucial to investigate the job stress experienced by speech-language pathologists, as well as the common stressors associated with the profession. One study in the United Kingdom indicated that SLPs commonly exhibited moderate stress levels (Tatham et al., 1989). Some of the most prominent circumstances contributing to the stress experienced by the SLPs in this study included work pressure, inadequate staffing of clinicians, and insufficient administrative help. Other stress producing areas include time constraints and self-perception. However, in contrast to the results of other studies, there was no strong evidence of stress being linked to time spent working as an SLP or the caseload (Tatham et al., 1989). It is possible that more stress in professional environments may result in individuals having less job satisfaction, which could potentially alter an SLP's interest in dedicating their time and resources to clinical practice if it is a source of stress.

Grit

The construct of grit has been described as the "perseverance and passion for long-term goals" (Duckworth et al., 2007, p. 1087). According to Duckworth et al. (2007), individuals who exhibit high levels of grit likely have a strong sense of determination, desire, and commitment to achieve their aspirations. It is possible that grit is an indicator of success along with level of natural ability an individual possesses (Duckworth et al., 2007). Regardless of the circumstances, persons that possess the quality of grit remain true to their intentions and stay focused on their

target. A critical factor that sets grit apart from other constructs is the requirement of steadiness over a period of time, calling for a high degree of dedication, fascination, and endurance in relation to the goals of the individual (Duckworth et al., 2007). Comparable to the idea of conscientiousness, grit is a unique quality because it is an indicator of capacity for extensive endeavors (Duckworth et al., 2007).

Grit is often an attribute exhibited by individuals who have a significant level of achievement in their respective disciplines, and the level of grit individuals possess could provide information about potential for achievement (Duckworth et al., 2007). According to one study, students with higher levels of grit perseverance of effort were more likely to experience success in school (Jiang et al., 2019). It was also found that students with high levels of grit had a better GPA than individuals with lower levels of grit (Duckworth et al., 2007). There is also evidence which suggests that grit is associated with career success as an entrepreneur (Mueller et al., 2017). Grit is primarily composed of two aspects, consistency of interests and perseverance of effort (Duckworth et al., 2007). An individual's long-term commitment to their goal is measured by these factors. For example, consistency of interests assesses an individual's steady interest in a pursuit, and perseverance of effort indicates how invested an individual is in working towards their pursuit. Grit is different from perseverance because it is a quality that encompasses more than just persistence (Duckworth & Quinn, 2009). Won and Lee (2023) indicate that there is not a large quantity of long-term research available for the quality of grit. This is likely due to the fact that it is a relatively newer construct.

Grit has been measured using similar but distinct methods, such as the Grit-O and the Grit-S. The Grit-O is the original Grit Scale developed by Duckworth et al., and the Grit-S, or the Short Grit Scale, was developed by Duckworth and Quinn, as a shortened version of the Grit-

O (Duckworth & Quinn, 2009; Duckworth et al., 2007). They both require individuals to self-report answers to questions that will help determine their individual level of grit (Duckworth et al., 2007).

In regard to its presence in the workplace, grit is a favorable quality. It is suggested that grit exhibited a positive relationship with job satisfaction in individuals working in sales (Dugan et al., 2019). This indicates that grit could be a predictor of job satisfaction. In a study of grit in workers, there is also evidence that quality of life specific to work and general quality of life exhibit a positive relationship (Kim & Lee, 2022). However, according to one study, grit did not have a consequential correlation to the construct of job satisfaction, but rather contributed to decreasing stress related to employment, possibly due to a gritty person's ability to pay attention to the job at hand (Meriac et al., 2023). This indicates that stress could be a mediator in grit's relationship to job satisfaction**.** In addition to successful individuals, grit has been linked to commitment in areas such as military careers, sales jobs, and high school performance (Eskreis-Winkler et al., 2014). In each population involved in the Eskreis-Winkler et al. (2014) study, people with higher levels of grit were more inclined to stay true to their area of commitment. Another aspect of self that relates to grit is an individual's level of work ethic. Meriac (2023) holds the idea that both grit and work ethic are separate constructs that can relate to one's career.

Grit could also be an important construct in the context of team dynamics, particularly in the context of therapy. The client and clinician are an allied team working together towards a common goal, and a team's ability to work with each other could be impacted by each party's level of grit. In Won and Lee's (2023) study of grit and parents' thoughts regarding their child's grit and school work, it was found that the parental grit "was predictive of longitudinal changes in students' reported grit" (p. 9). Parents in this study who reported greater levels of grit were

correlated with children who had greater levels of this construct as well. If an SLP demonstrates a high level of grit, the impact of their grit on a client could be a beneficial factor in the team aspect of therapy.

Grit is a quality of interest in this study because there is currently little research on grit and SLPs and no known research on grit in relation to SLP job satisfaction. It would be valuable to know if it is a common trait in the average SLP. Persistence, consistency, and internal and external motivation are essential for a clinician to initiate and follow through with a long treatment process. Given that a major part of the SLP's job is documentation, it is interesting to consider the effects of grit in the context of creating and targeting unique long- and short-term goals with each client. A successful SLP must be able to sustain the effort of working towards a series of predetermined goals that can take weeks, months, or years to achieve. Similarly, depending on the setting, an SLP could work in an environment where they see the same clients for an extended period of time, requiring perseverance and a commitment to each individual. For example, a school based SLP may have children on their caseload for the duration of the student's academic career, which could take years of persevering effort towards clients and their goals. Similarly, an SLP in a skilled nursing facility may provide services to the same clients over a long period of time as well, pursuing long-term goals in a setting where the goal is to improve quality of life. However, an SLP in a setting such as a hospital, which has a higher patient turnover rate, may require less grit because they will not be engaging in long-term care for each patient.

Resilience

The construct of resilience can be understood as overcoming problems and distress and can also be applied to specific conditions experienced by an individual (Silverman et al., 2017).

Much debate exists regarding the definition of resilience, and no definition is universally accepted by researchers (Grant & Kinman, 2013). According to Bowling et al. (2022), resilience involves achieving stability when faced with difficult circumstances. It is defined as "the capacity to overcome adversity, hardship, trauma, stressors, and change or disruption" (Bowling et al., 2022, p. 501). At the center of most attempts to define resilience is an individual's response to a challenge, and it is accepted that adversity as well as positive adaptation are major components (Fletcher & Sarkar, 2013; Luthar, 2006). For the purposes of this study, adversity refers to hardships, and the concept of positive adaptation refers to one's ability to acclimate to various circumstances (Luthar & Cicchetti, 2000). Resilience differs from grit because grit includes more of a long-term devotion to a cause, project, or other activity requiring continuous dedication, whereas resilience reveals information about one's reaction to hardship (Perkins-Gough, 2013).

Resilience is important as a general construct because it indicates how well an individual may or may not respond to difficult circumstances. Resilience may prove to be a desirable quality in a work environment. It has been reported that resilience is beneficial for those in a helping profession because it can increase job satisfaction (Grant & Kinman, 2014). From an employer's perspective, investing company time and resources into training employees with greater levels of resilience could prove to be helpful because of their ability to successfully face difficulties, which is likely inevitable in most work environments. Several other studies reported evidence of a relationship between the constructs of resilience and job satisfaction in healthcare occupations (Larrabee et al., 2010; Mantas-Jiménez et al., 2022).

It has been suggested there is a relationship between increased resilience and decreased stress, as well as a relationship between quality of life and resilience (Kermott et al., 2019).

According to Connor and Davidson (2003), there is a relationship between increased resilience and decreased stress. This indicates that the construct of stress could be a mediator between resilience and job satisfaction, given that less workplace stress results in greater job satisfaction. People with resilience are more inclined to combat stress with positivity (Tugade & Fredrickson, 2004). These traits indicate that higher resilience may benefit an individual. There are many tools used to measure resilience, and one of the most widely used is the CD-RISC-10, or the 10-item Connor-Davidson Resilience Scale (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003).

Regarding the discipline of speech-language pathology, resilience would be a beneficial quality for an SLP to possess when caring for a client. In the context of helping professions, traits such as empathy and emotional intelligence are linked with resilience (Kinman & Grant, 2011). A successful SLP must have the capacity to be flexible and adjust during emotionally or mentally challenging situations. The occupation would benefit from having resilient professionals providing services to clients facing situations that require a difficult plan of treatment, or clients that are not as compliant with difficult therapeutic tasks. Certain jobs settings in this area may require a greater degree of resilience, such as jobs that have more emotionally or behaviorally difficult demands. Examples of this could be working with end-of-life care or in a setting that contains children with unpredictable behaviors. Due to the presence of stress as a potential mediator between resilience and workplace experience, it is predicted that higher resilience may lead to higher job satisfaction of SLPs in various employment environments.

Intolerance of Uncertainty

The construct of intolerance of uncertainty has been referred to as a series of "cognitive, emotional, and behavioral reactions to uncertainty in everyday life situations" (Freeston et al.,

1994, p. 792). Similarly, intolerance of uncertainty has been described as a person's unsatisfaction with any chance of something problematic happening to them (Dugas et al., 2001). According to one study, those who experience high levels of intolerance for uncertainty may find it difficult to endure through common ambiguities (Dugas et al., 2001). The unknown could also be seen by a person with high levels of intolerance of uncertainty as unsafe (Ladouceur et al., 2000). Individuals who are intolerant of uncertainty experience a strong distaste for the unpredictability of daily life because they anticipate that they may unknowingly or inadvertently be subjected to an undesired experience or outcome. They can have a pessimistic outlook on indefinite circumstances, or life in general, due to events that they see as unclear, as well as view the unknown as unbearable (Buhr & Dugas, 2002; Dugas et al., 2001).

Intolerance of uncertainty has been associated with several other qualities and conditions as a measure to predict an individual's reaction in the face of an indefinite outcome. For example, researchers found that a greater degree of intolerance of uncertainty was correlated with burnout in a study of doctors (Cooke et al., 2013). Intolerance of uncertainty has been linked to several other constructs, such as worry, anxiety, and problem-solving ability. The relationship between intolerance of uncertainty and worry has been widely investigated, and numerous studies tied intolerance of uncertainty to worry (Berenbaum et al., 2008; Dugas et al., 2001; Ladouceur et al., 2000). Worry involves an individual's preoccupation with "future events where there is uncertainty about the outcome…accompanied by feelings of anxiety" (MacLeod et al., 1991, p. 478). A person who is highly intolerant to uncertainty might exhibit an inclination to worry in a way that is disproportionate to the uncertain situation (Buhr & Dugas, 2002). Ladouceur et al. (2000) suggested that high levels of intolerance of uncertainty in a person could perpetuate chronic worrying by causing them to dwell on a series of "what if" questions. Dugas,

Gosselin, and Ladouceur (2001) found a strong correlation between intolerance of uncertainty and exorbitant worry in which more tolerance of uncertainty correlates with less worry (Ladouceur et al., 2000).

Intolerance of uncertainty has also been linked to anxiety (Dugas et al., 1997). Someone who has low tolerance for uncertainty will view unknown circumstances as uncomfortable and may be predisposed to experiencing fear (Dugas et al., 2001). It has been suggested that intolerance of uncertainty is a critical aspect of generalized anxiety disorder (Dugas et al., 1998). There is reasonable evidence to believe that addressing intolerance of uncertainty in counseling or therapy could lessen feelings of worry and be beneficial for treating anxiety (Ladouceur et al., 2000).

In addition, ties have been made between intolerance of uncertainty and potential problem-solving barriers. In Freeston et al.'s (1994) study about worry, their data revealed that people who worry have a greater need for evidence and experience distress when confronted with unclear circumstances. Evidence provides a sense of security; however, without evidence, worriers may excessively expect adverse scenarios (Freeston et al., 1994). It is believed that the response of an individual with high intolerance of uncertainty to a difficult situation may be unproductive, and their adverse response to uncertainty can lead to poor problem solving strategies (Freeston et al., 1994).

Intolerance of uncertainty has not yet been investigated in relation to speech-language pathology. It is possible that intolerance of uncertainty could impact the critical thinking process in a clinical setting, as observed in medical professionals (Strout et al., 2018). Measuring intolerance of uncertainty could indicate the degree to which a clinician will be able to comfortably proceed with an unfamiliar diagnosis or treatment plan. It is predicted that clinicians

with higher intolerance of uncertainty have more inhibition regarding personal goal progress, therapeutic goals, and unfamiliar communicative interactions. They may experience less motivation than colleagues who have lower intolerance of uncertainty. An individual with high intolerance may have trouble managing the demands of the ambiguity that an SLP experiences because much of the therapy process is uncertain. Even with years of experience, it is impossible for an SLP to anticipate how clients might respond emotionally or behaviorally during a session, so some SLPs may be more prone to resist or dwell on this uncertainty.

Justification

Job satisfaction is an important aspect of a career in the discipline of speech-language pathology. Satisfaction with one's career is important in any occupation, but this study is particularly relevant for SLPs because there is little literature available that examines this topic. It is important to determine how personal constructs, such as grit, resilience, and intolerance of uncertainty relate to one another and if they contribute to the degree of job satisfaction that a SLP experiences in their careers. It is also possible that stress may be a moderator between these personal constructs and job satisfaction levels. The personal characteristics listed above have been demonstrated to have an impact on job satisfaction more broadly, and current research indicates that individuals with higher grit and higher resilience levels are more likely to experience increased job satisfaction (Dugan et al., 2019; Mantas-Jiménez et al., 2022). The literature also indicated that stress is commonly related to an individual's career, particularly in educational settings (Wisniewski & Gargiulo, 1997). For an SLP who has higher levels of intolerance towards uncertain situations, it may be difficult to face unanticipated clinical situations (Dugas et al., 2001). Therefore, it is hypothesized that increased intolerance of uncertainty will lead to decreased job satisfaction in SLPs. Currently, there is no evidence within the discipline of speech-language pathology that relates these constructs to job satisfaction and area of specialization. The results found in this study may be informative for graduate school admissions, program development, clinical training, high school career counseling, and employers of SLPs. It may also provide SLPs with helpful information for career decisions.

The purpose of this study is to measure the degree to which stress, grit, resilience, and intolerance of uncertainty is found in SLPs and to understand the impact of the constructs on SLP professional quality of life and job satisfaction. The objective is to examine relationships

between each variable to determine which constructs have the greatest impact on professional quality of life and job satisfaction. It is hypothesized that higher levels of grit and resilience and lower levels of intolerance of uncertainty will have a significant relationship with increased professional quality of life and job satisfaction in SLPs. No other studies have examined grit, resilience, and intolerance of uncertainty in light of SLP careers in an empirical way.

It is hypothesized that stress will be a moderating factor between job satisfaction and each of the constructs. For example, an individual who possesses low levels of resilience that is experiencing high levels of occupational stress may experience a lower degree of job satisfaction than another individual who possesses low levels of resilience and is not under stress. The setting in which the SLP works will likely be a moderating factor as well. It is predicted that certain settings will correlate more strongly with specific constructs and that increased stress will decrease job satisfaction. Lastly, it is important to consider the amount of career experience a SLP has when considering these constructs. It is predicted that increased years of experience will lead to increased levels of resilience and decreased levels of intolerance of uncertainty. The specific research questions are as follow:

1. What is the relationship between both SLP quality of life and job satisfaction, and SLP stress, grit, resilience, and intolerance of uncertainty?
2. To what degree does stress moderate the relationship between job satisfaction and grit, resilience, and intolerance of uncertainty?
3. To what degree does stress moderate the relationship between professional quality of life and grit, resilience, and intolerance of uncertainty?
4. To what degree does years of experience moderate the relationship between job satisfaction and grit, resilience, and intolerance of uncertainty?

5. To what degree does years of experience moderate the relationship between professional quality of life and grit, resilience, and intolerance of uncertainty?
6. Does job satisfaction or professional quality of life differ across professional settings?

Chapter II

Methods

Participants

Seventy-eight participants completed the survey and were included in the analyses. To meet the inclusion criteria, each participant was required to speak and read English, possess a master's degree and certificate of clinical competence, and currently practice as a full-time employee in the United States. Participants who did not qualify according to the inclusion criteria would be taken to the end of the survey and their responses would not be included in the analysis. However, all seventy-eight participants met the inclusion criteria.

Materials

A one hundred and fifty-three item survey was developed through the platform Qualtrics (Qualtrics, 2024). The survey examines six aspects: (I) Demographic and Background Questionnaire, (II) Job Satisfaction Survey (Spector, 1985), (III) Professional Quality of Life Scale Version 5 (Stamm, 2010), (IV) Grit Scale (Duckworth et al., 2007), (V) Perceived Stress Scale – 10 items (Cohen & Williamson, 1988), (VI) 10-item Connor-Davidson Resilience Scale (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003), and (VII) Intolerance of Uncertainty Inventory (Gosselin et al., 2008).

Demographic and Background Questionnaire

A demographic and background questionnaire was included to gather demographic region, education level, race, gender, years of experience, primary employment setting, secondary employment setting, and type of employment from all participants.

Job Satisfaction Survey

The Job Satisfaction Survey (JSS) consists of 9 subscales (pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, coworkers, nature of work, communication) that contain a total of 36 questions. The goal of the JSS is to assess a person's perception of their work, and it can be used to measure job satisfaction in occupational contexts such as "human service, public, and nonprofit sector organizations" (Spector, 1985, p. 694). The range of the total scale score is 36 to 216 with higher scores indicating higher job satisfaction. Each question is rated by an individual using a 6-point Likert-type scale, and the internal consistency reliability has been found to be adequate. When studied against another measure, it was found that validity ranged from .61 to .80 when subscales of each tool were paralleled (Spector, 1985).

Professional Quality of Life Scale Version 5

The Professional Quality of Life Scale Version 5 (ProQOL 5) is a 30-item tool used to measure the quality of life experienced as a result of employment in a helping profession (Stamm, 2010). The components of the ProQOL 5 are compassion satisfaction (CS) and compassion fatigue (CF), which encompasses the aspects of burnout (BO) and secondary traumatic stress (STS). The scoring for the subscales ranges from 10-50. A higher CS score likely results in a greater degree of professional satisfaction, whereas a higher BO score signals a more significant level of burnout. For the STS portion, a higher score suggests higher levels of secondary traumatic stress due to one's job. The CS portion of the scale was observed to have inter-item correlations that were significant (Hemsworth et al., 2018). Sufficient reliability and validity for the constructs has been demonstrated with a Cronbach's alpha of 0.88 for CS, 0.75

for BO, and 0.81 for STS for this measure (Stamm, 2010). The ProQOL 5 subscale scores were dependent variables to quantitatively measure SLP professional quality of life.

Perceived Stress Scale - 10 Items

The Perceived Stress Scale - 10 items (PSS-10) assesses stress levels in individuals (Cohen & Williamson, 1988). It has been previously used by researchers to evaluate participants' relative degree of stress (Gaddy et al., 2020). It is a 10-item, 5-point Likert-type scale using typical and reverse scoring. Scores range from 0 to 40, and lower scores indicate lower stress levels. Sufficient evidence has been demonstrated for this scale's validity and reliability, with a reliability of 0.78 (Cohen & Williamson, 1988). The PSS-10 total score was an independent variable to quantitatively measure SLP self-perceived stress.

Grit Scale

The Grit Scale (Grit-O) contains 12 items, 6 of which target the consistency of interests aspect and 6 of which target the perseverance of effort aspect (Duckworth et al., 2007). An example of a question targeting consistency of interests is "I become interested in new pursuits every few months," and an example of a question targeting perseverance of effort is "setbacks don't discourage me" (Duckworth et al., 2007). One total score is produced from the 5-point Likert-type scale, where a higher score represents a high level of grit, and a lower score represents a low level or absence of grit. An individual can score between 1 and 5. According to Duckworth et al. (2007), the internal consistency of consistency of interests and perseverance of effort exhibits sufficient values at .85 for the entire scale. The Grit-O total score was an independent variable to quantitatively measure SLP self-reported grit.

Connor-Davidson Resilience Scale 10

This study measures resilience using the CD-RISC-10, or the 10-item Connor-Davidson Resilience Scale (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003). Modified from the original 25-item scale, the CD-RISC-10 measures resilience with 10 questions that are rated by the participant. Scores range from 0 to 40 with greater scores resulting in an individual exhibiting increased resilience. It is a 5-point Likert-type scale, and answer choices exist on a continuum from not true at all to true nearly all the time. There is evidence to support the reliability of the CD-RISC-10 at a Cronbach's alpha 0.85 (Campbell-Sills & Stein, 2007).

Intolerance of Uncertainty Inventory

There are several methods used to measure the construct of intolerance of uncertainty, including the Intolerance of Uncertainty Inventory, or the IUI (Gosselin et al., 2008). The IUI consists of Part A (15 items) and Part B (30 items) for a total of 45 items intended to assess an individual's reaction to uncertain circumstances using a 5-point Likert type scale (Gosselin et al., 2008). Part A aims to broadly measure a person's degree of resistance towards uncertainty, and Part B aims to measure certain variables that an individual may experience because of their feelings towards uncertainty. Part B reflects information regarding 6 subscales (Avoidance, Doubt, Overestimation, Worry, Control, and Reassurance). For the purposes of this paper, the authors will be focusing primarily on the participant responses to Part A of the IUI because of an interest in measuring how an individual responds to uncertainty rather than measuring the resulting phenomena that accompany intolerance of uncertainty. Part A scores can range from 15 to 75, and Part B scores can range from 30 to 150. Higher scores in each category indicate a higher perceived degree of intolerance of uncertainty. Originally created in French, the IUI demonstrates sound psychometric properties in both the original and the English version. The

original IUI demonstrates adequate convergent validity, internal consistency, and reliability, with a Cronbach's alpha value of 0.92 for Part A and 0.96 for Part B (Gosselin et al., 2008).

Procedure

A survey was trialed with SLP students to evaluate the design, format, and usability of the survey within the Qualtrics platform. This information was used to improve the survey format, and slight alterations were made to the format of the survey after the test period. Study methods approval was obtained from the Auburn University Institutional Review Board (IRB) prior to participant recruitment. Participants were primarily recruited using strategies involving social media and professional organization communities. Information regarding participation was posted on the primary researcher and university department's SLP-related social media and professional pages, including a link to take the survey. This information was publicly available to Facebook users, and the targeted group of participants for this survey were licensed SLPs currently working in the profession. Individuals who were interested in completing the survey clicked on the link to the survey platform to review the informed consent letter. The informed consent letter provided interested participants of the expected time commitment, possible risks, and benefits related to participation in this study. After reviewing, participants were asked to select whether they agreed to participate in the study by selecting "yes" or "no." Participants were informed that there was no reward for participating, that participation in this study was voluntary, and that any information provided was considered confidential. Data obtained from the survey remained anonymous.

Survey Development and Distribution

The survey was designed to be available on multiple types of browsers and accessed by various devices, such as a smart phone, tablet, or computer. Participants were informed that

the survey was designed to be completed in approximately 20 to 30 minutes. The researchers disclosed the risks and benefits related to participation in this study. All announcements and reminders were scheduled to be posted at convenient times for working individuals.

Chapter III

Manuscript

Career in Speech-Language Pathology

Speech-language pathology is one of many health-related helping professions because of the role it plays in shaping human communication (Brodsky & Cooke, 2000). A speech-language pathologist (SLP) must be prepared to assess, treat, and counsel individuals with various communication and swallowing disorders to improve client quality of life (ASHA, n.d.). When providing these services, everyday clinical situations can be difficult to predict because the therapeutic process is often accompanied by some degree of ambiguity. There is often behavioral uncertainty associated with disorders that an SLP diagnoses and treats, such as communication related to autism spectrum disorder, which may be more difficult for some to manage than others (Townsend et al., 2022). SLPs likely vary in the degree to which they can successfully navigate challenging environments, which may lead to different levels of job satisfaction.

The U.S. Bureau of Labor Statistics indicated that prospective SLPs will be met with a job market growth estimate of 19% between 2022 and 2032 (BLS, 2023). According to ASHA (2021), 73.1% of certified speech-language pathologists are working full time. 53.5% of these individuals are employed in an educational setting, and 39.4% work in healthcare. Blood et al. (2002) found that 76.3% of school SLPs experienced moderate to high levels of job satisfaction. As SLPs, it is crucial to understand what job satisfaction is and the factors that can impact it. It is predicted that certain personal constructs may influence how comfortable an SLP will be when facing unfamiliar circumstances and their overall job satisfaction. Given that an SLP can expect at least some degree of unpredictability on an everyday basis, constructs such as stress,

intolerance of uncertainty, grit, and resilience may provide some insight into whether an SLP would be more or less satisfied in their job.

Job Satisfaction

Job satisfaction evaluates an employee's contentment related to their job (Spector, 1997). Job satisfaction is an area of interest for many researchers because work consumes a large portion of the average person's time. For employees whose schedules adhere to the standard 40-hour work week, approximately 23.8% of their week will be spent working in some capacity. Assuming that an employee consistently sleeps at least 7 hours every night, which is the suggested daily sleep intake for adults, this individual would spend about 33.6% of their waking hours occupied with work (Watson et al., 2015). An individual's contentment with their job may have an impact on one's life outside of work. Studies have reported that job satisfaction and general satisfaction with life have a positive relationship (Garcia, 2003; Rice et al., 1980). Data reveals that higher job satisfaction levels indicate higher life satisfaction levels, with some evidence that there is a bidirectional relationship between job satisfaction and satisfaction with life (Unanue et al., 2017). In general, measuring job satisfaction can benefit SLPs by making them more self-aware of their feelings towards their job, while also helping employers hire skilled workers to improve the employee experience (Blood et al., 2002).

The construct of job satisfaction is not a static concept, but instead a variable experience (Smith et al., 1969). Job satisfaction has been evaluated in several ways, and there is literature to support the Job Satisfaction Survey (JSS) as a measurement tool. Also, the Professional Quality of Life Scale Version 5 (ProQOL 5) is a well-known measure of an individual's perceptions regarding their occupation, specifically related to a helping profession (Stamm, 2010). Professional quality of life is defined as a "quality one feels in relation to their

work as a helper" (Stamm, 2010, p. 8). It includes compassion satisfaction, which is related to an individual's enjoyment of the work they perform in their chosen profession, and compassion fatigue, which includes burnout and secondary traumatic stress (Stamm, 2010). In a group of SLPs and audiologists who took the ProQOL 5, Ravi (2016) indicated that the majority of participants expressed less burnout and secondary traumatic stress than the general population. 48.4% of the participants also demonstrated higher than average compassion satisfaction from their work (Ravi et al., 2016). It has been suggested that working in a helping profession could potentially strengthen an individual's resilience if they feel that they are having a significant impact on others (Stamm, 2002).

Due to potentially stressful work requirements, it is necessary to understand what personal qualities may contribute to the ability to better withstand the specific types of job pressure and stress that SLPs encounter (Wisniewski & Gargiulo, 1997). Different workplace environments present employees with unique benefits, obstacles, and challenges, depending on the physical and emotional demands placed on the clinician. In a study with audiologists, it was indicated that occupational setting played a role in job satisfaction, where private practice owners exhibited much greater satisfaction in comparison to those who worked for various other facilities (Saccone & Steiger, 2012). However, it is also possible that this finding is associated with the degree of autonomy experienced by the audiologists in their work as business owners.

A worker's motivation can also influence job satisfaction (Kinicki et al., 2002). Several factors have been identified that typically result in greater SLP job satisfaction. Blood et al. (2002) reported that SLP job satisfaction has a positive relationship with greater age, more years of experience, and decreased caseload in a public school setting. This indicates that job satisfaction can develop with more experience over time and indicates that there is an inverse

relationship between job satisfaction and work-related expectations and requirements. If an employee regularly experiences a greater degree of contentment related to their occupation, this satisfaction may be an internal incentive to perform well on the job. It is important to know what personal qualities could make an SLP satisfied in their career. This information may be useful from an educational perspective to identify factors that may lead someone to be more successful or happier as a SLP than others.

Stress

Psychological stress has been defined as the "particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 19). According to Wisniewski and Gargiulo (1997), work stress in an educational context can elevate with difficult productivity expectations. The concept of occupational stress is influenced by many elements, including the work atmosphere, which is considered to impact employee turnover (Campo et al., 2009). There is also evidence of a relationship between higher stress and negative factors impacting an individual's health (Cohen & Williamson, 1988).

In general, stress is a thoroughly studied construct by many disciplines. For example, in the audiology literature, core concerns related to the workplace experience include "staff shortages," "administration duties," "paperwork and patient reports," "patient/family expectations of [the] audiologist to fix their hearing," and "amount of time available with each patient" (Giddens et al., 2022, p. 1083). This study indicates that audiologists who perceive themselves to be under greater amounts of job stress or have lower levels of resilience are more likely to have greater levels of burnout. Burnout could have negative implications for employees

who experience its effects and has been defined as a condition caused by consistent and uncontrolled occupational stress (World Health Organization, 2018)

Job stress and related constructs are important aspects to consider for the SLP because they could be indicators of an employee's quality of work experience and a predictor of satisfaction in their line of work. One study in the United Kingdom indicated that SLPs commonly exhibited moderate stress levels (Tatham et al., 1989). Some of the most prominent circumstances contributing to the stress experienced by these SLPs included work pressure, inadequate staffing of clinicians, and insufficient administrative help. Other stress producing areas include time constraints and self-perception (Tatham et al., 1989). It would be valuable to determine if stress differs across work settings due to the unique demands and expectations of each setting. It is possible that more stress in professional environments may result in individuals having less job satisfaction, which could potentially alter an SLP's interest in dedicating their time and resources to clinical practice if it is a source of stress.

Grit

The construct of grit has been described as the "perseverance and passion for long-term goals" (Duckworth et al., 2007, p. 1087). According to Duckworth et al. (2007), individuals who exhibit high levels of grit likely have a strong sense of determination, desire, and commitment to achieve their aspirations. Regardless of the circumstances, persons that possess the quality of grit remain true to their intentions and stay focused on their target. A critical factor that sets grit apart from other constructs is the requirement of steadiness over a period of time, calling for a high degree of dedication, fascination, and endurance in relation to the goals of the individual (Duckworth et al., 2007). Comparable to the idea of conscientiousness, grit is a unique quality because it is an indicator of capacity for extensive endeavors (Duckworth et al., 2007).

It is possible that grit is an indicator of success along with level of natural ability an individual possesses (Duckworth et al., 2007). According to one study, students with higher levels of grit perseverance of effort are more likely to experience success in school (Jiang et al., 2019). It was also found that students with high levels of grit had a better GPA than individuals with lower levels of grit (Duckworth et al., 2007). There is also evidence which suggests that grit is associated with career success as an entrepreneur (Mueller et al., 2017). Grit is primarily composed of two aspects, consistency of interests and perseverance of effort (Duckworth et al., 2007). An individual's long-term commitment to their goal is measured by these factors. For example, consistency of interests assesses an individual's steady interest in a pursuit, and perseverance of effort indicates how invested an individual is in working towards their pursuit. Grit is different from perseverance because it encompasses more than just persistence (Duckworth & Quinn, 2009). The Grit-O is the Grit Scale developed by Duckworth et al., which requires individuals to self-report answers to questions that will help determine their individual level of grit (Duckworth et al., 2007).

Grit is a favorable quality in the workplace. It is suggested that grit exhibited a positive relationship with job satisfaction in individuals working in sales (Dugan et al., 2019). This indicates that grit could be a predictor of job satisfaction. In a study of grit in workers, there is also evidence that quality of life specific to work and general quality of life exhibit a positive relationship (Kim & Lee, 2022). However, according to one study, grit did not have a consequential correlation to the construct of job satisfaction, but rather contributed to decreasing stress related to employment, possibly due to a gritty person's ability to pay attention to the job at hand (Meriac et al., 2023). This indicates that stress could be a mediator in grit's relationship to job satisfaction. In addition to successful individuals, grit has been linked to commitment in

areas such as military careers, sales jobs, and high school performance (Eskreis-Winkler et al., 2014). In each population involved in the Eskreis-Winkler et al. (2014) study, people with higher levels of grit were more inclined to stay true to their area of commitment.

Grit is a quality of interest in this study because there is currently little research on grit and SLPs and no known research on grit in relation to SLP job satisfaction. It would be valuable to know if it is a common trait in the average SLP. Persistence, consistency, and internal and external motivation are essential for a clinician to initiate and follow through with a long treatment process. A successful SLP must be able to sustain the effort of working towards a series of long- and short-term goals that can take weeks, months, or years to achieve. Similarly, depending on the setting, an SLP could work in an environment where they see the same clients for an extended period, requiring perseverance and a commitment to each individual. For example, a school based SLP may have children on their caseload for the duration of the student's academic career, which could take years of persevering effort.

Resilience

The construct of resilience can be understood as overcoming problems and distress and can also be applied to specific conditions experienced by an individual (Silverman et al., 2017). Much debate exists regarding the definition of resilience, and no definition is universally accepted by researchers (Grant & Kinman, 2013). According to Bowling et al. (2022), resilience involves achieving stability when faced with difficult circumstances. It is defined as "the capacity to overcome adversity, hardship, trauma, stressors, and change or disruption" (Bowling et al., 2022, p. 501). At the center of most attempts to define resilience is an individual's response to a challenge, and it is accepted that adversity as well as positive adaptation are major components (Fletcher & Sarkar, 2013; Luthar, 2006). Resilience differs from grit because grit

includes more of a long-term devotion to a cause, project, or other activity requiring continuous dedication, whereas resilience reveals information about one's reaction to hardship (Perkins-Gough, 2013).

Resilience is important as a general construct because it indicates how well an individual may or may not respond to difficult circumstances. Resilience may prove to be a desirable quality in a work environment. It has been reported that resilience is beneficial for those in a helping profession because it can increase job satisfaction (Grant & Kinman, 2014). Several other studies reported evidence of a relationship between the constructs of resilience and job satisfaction in healthcare occupations (Larrabee et al., 2010; Mantas-Jiménez et al., 2022).

It has been suggested there is a relationship between increased resilience and decreased stress, as well as a relationship between quality of life and resilience (Kermott et al., 2019). According to Connor and Davidson (2003), there is a relationship between increased resilience and decreased stress. This indicates that the construct of stress could be a mediator between resilience and job satisfaction, given that less workplace stress results in greater job satisfaction. People with resilience are more inclined to combat stress with positivity (Tugade & Fredrickson, 2004). These traits indicate that higher resilience may benefit an individual.

Regarding the discipline of speech-language pathology, resilience would be a beneficial quality for an SLP to possess when caring for a client. In the context of helping professions, traits such as empathy and emotional intelligence are linked with resilience (Kinman & Grant, 2011). Certain jobs settings with difficult demands may require a greater degree of resilience. It is predicted that higher resilience may lead to higher job satisfaction in SLPs in various employment environments.

Intolerance of Uncertainty

The construct of intolerance of uncertainty has been referred to as a series of "cognitive, emotional, and behavioral reactions to uncertainty in everyday life situations" (Freeston et al., 1994, p. 792). Similarly, intolerance of uncertainty has been described as a person's unsatisfaction with any chance of something problematic happening to them (Dugas et al., 2001). According to one study, those who experience high levels of intolerance for uncertainty may find it difficult to endure through common ambiguities (Dugas et al., 2001). Individuals who are intolerant of uncertainty experience a strong distaste for the unpredictability of daily life because they anticipate that they may unknowingly or inadvertently be subjected to an undesired experience or outcome. They can have a pessimistic outlook on indefinite circumstances, or life in general, due to events that they see as unclear, as well as view the unknown as unbearable (Buhr & Dugas, 2002; Dugas et al., 2001).

Intolerance of uncertainty has been associated with several other qualities and conditions as a measure to predict an individual's reaction in the face of an indefinite outcome. For example, researchers found that a greater degree of intolerance of uncertainty was correlated with burnout in a study of doctors (Cooke et al., 2013). Also, numerous studies have tied intolerance of uncertainty to worry (Berenbaum et al., 2008; Dugas et al., 2001; Ladouceur et al., 2000). A person who is highly intolerant to uncertainty might exhibit an inclination to worry in a way that is disproportionate to the uncertain situation (Buhr & Dugas, 2002). Intolerance of uncertainty has also been linked to anxiety (Dugas et al., 1997). In addition, ties have been made between intolerance of uncertainty and potential problem-solving barriers. In Freeston et al.'s (1994) study, the data revealed that people who worry have a greater need for evidence and experience distress when confronted with unclear circumstances. Evidence provides a sense of

security; however, without evidence, worriers may excessively expect adverse scenarios (Freeston et al., 1994). It is believed that the response of an individual with high intolerance of uncertainty to a difficult situation may be unproductive, and their adverse response to uncertainty can lead to poor problem solving strategies (Freeston et al., 1994).

Intolerance of uncertainty has not yet been investigated in relation to the SLP. It is possible that intolerance of uncertainty could impact the critical thinking process in a clinical setting, as observed in medical professionals (Strout et al., 2018). Measuring intolerance of uncertainty could indicate the degree to which a clinician will be able to comfortably proceed with an unfamiliar diagnosis or treatment plan. It is predicted that clinicians with higher intolerance of uncertainty have more inhibition regarding goal achievement and unfamiliar communicative interactions. An individual with high intolerance may have trouble managing the demands of the ambiguity that an SLP experiences because much of the therapy process is uncertain. Even with years of experience, it can be difficult for an SLP to anticipate how clients will respond, so some SLPs may be more prone to resist this uncertainty.

Purpose

The purpose of this study was to measure the degree to which stress, grit, resilience, and intolerance of uncertainty is found in SLPs and to understand the impact of the constructs on SLP professional quality of life and job satisfaction. The objective was to examine relationships between each variable to determine which constructs have the greatest impact on professional quality of life and job satisfaction. It is hypothesized that higher levels of grit and resilience and lower levels of intolerance of uncertainty will have a significant relationship with increased professional quality of life and job satisfaction in SLPs and that stress may be a moderator between these personal constructs. It is also predicted that increased stress will decrease job

satisfaction. No other studies have empirically examined grit, resilience, and intolerance of uncertainty in SLP professionals using quantitative measures. The specific research questions are as follow:

1. What is the relationship between both SLP quality of life and job satisfaction, and SLP stress, grit, resilience, and intolerance of uncertainty?
2. To what degree does stress moderate the relationship between job satisfaction and grit, resilience, and intolerance of uncertainty?
3. To what degree does stress moderate the relationship between professional quality of life and grit, resilience, and intolerance of uncertainty?
4. To what degree does years of experience moderate the relationship between job satisfaction and grit, resilience, and intolerance of uncertainty?
5. To what degree does years of experience moderate the relationship between professional quality of life and grit, resilience, and intolerance of uncertainty?
6. Does job satisfaction or professional quality of life differ across professional settings?

Methods

Survey Development and Procedure

Study methods approval was obtained from the Auburn University Institutional Review Board (IRB) prior to participant recruitment. A Qualtrics (Qualtrics, 2024) survey was developed to measure job satisfaction, professional quality of life, stress, resilience, grit, and intolerance of uncertainty in currently practicing SLPs. Survey development was iterative to improve the format, increase ease, and allow for availability on multiple types of browsers and accessed by various devices, such as a smart phone, tablet, or computer. The survey was designed to be

completed in approximately 20 to 30 minutes. Participation in this study was voluntary and there was no reward for participating.

Survey Design

A one hundred and fifty-three item survey was developed through the platform Qualtrics (Qualtrics, 2024). The survey examined six aspects: (I) Demographic and Background Questionnaire, (II) Job Satisfaction Survey (Spector, 1985), (III) Professional Quality of Life Scale Version 5 (Stamm, 2010), (IV) Grit Scale (Duckworth et al., 2007), (V) Perceived Stress Scale – 10 items (Cohen & Williamson, 1988), (VI) 10-item Connor-Davidson Resilience Scale (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003), and (VII) Intolerance of Uncertainty Inventory (Gosselin et al., 2008). The survey questions were not included due to copyright regulations.

Demographic and Background Questionnaire

A demographic and background questionnaire was included to gather demographic region, education level, race, gender, years of experience, primary employment setting, secondary employment setting, and type of employment from all participants.

Job Satisfaction Survey

The Job Satisfaction Survey (JSS) contains 36 items and consists of 9 subscales: pay, promotion, supervision, fringe benefits, contingent rewards, operating procedures, coworkers, nature of work, communication (Spector, 1985). The goal of the JSS is to assess a person's perception of their work, and it can be used to measure job satisfaction in occupational contexts such as "human service, public, and nonprofit sector organizations" (Spector, 1985, p. 694). The range of the total scale score is 36 to 216 with higher scores indicating higher job satisfaction. Score information for the JSS is consistent with Spector's (1994) parameters, where total scale

scores between 36 and 108 indicate dissatisfaction, 108 and 144 indicate ambivalent satisfaction, and 144 and 216 indicate satisfaction. Similarly, each JSS subscale score between 4 and 12 indicates dissatisfaction, 12 and 16 indicates ambivalent satisfaction, and 16 to 24 indicates satisfaction. Each question is rated by an individual using a 6-point Likert-type scale, and the internal consistency reliability has been found to be adequate. When studied against another measure, it was found that validity ranged from .61 to .80 when subscales of each tool were paralleled (Spector, 1985). The JSS total score was a dependent variable to quantitatively measure SLP job satisfaction.

Professional Quality of Life Scale Version 5

The Professional Quality of Life Scale Version 5 (ProQOL 5) is a 30-item, 5-point Likert-type scale used to measure the quality of life experienced as a result of employment in a helping profession (Stamm, 2010). The components of the ProQOL 5 are compassion satisfaction (CS) and compassion fatigue (CF), which encompasses the aspects of burnout (BO) and secondary traumatic stress (STS). The scoring for the subscales ranges from 10-50. ProQOL 5 subscale score of 22 or below is considered low, from 23 to 41 is considered moderate, and 42 or greater is considered a high score for each respective subscale (Stamm, 2010). A higher CS score likely results in a greater degree of compassion satisfaction, whereas a higher BO score signals a more significant level of burnout. For the STS portion, a higher score suggests higher levels of secondary traumatic stress due to one's job. The CS portion of the scale was observed to have inter-item correlations that were significant (Hemsworth et al., 2018). Sufficient reliability and validity for the constructs has been demonstrated with a Cronbach's alpha of 0.88 for CS, 0.75 for BO, and 0.81 for STS for this measure (Stamm, 2010). The ProQOL 5 subscale scores were dependent variables to quantitatively measure SLP professional quality of life.

Perceived Stress Scale - 10 Items

The Perceived Stress Scale - 10 items (PSS-10) assesses stress levels in individuals (Cohen & Williamson, 1988). It has been previously used by researchers to evaluate participants' relative degree of stress (Gaddy et al., 2020). It is a 10-item, 5-point Likert-type scale using typical and reverse scoring. Scores range from 0 to 40, and lower scores indicate lower stress levels. Sufficient evidence has been demonstrated for this scale's validity and reliability, with a reliability of 0.78 (Cohen & Williamson, 1988). The PSS-10 total score was an independent variable to quantitatively measure SLP self-perceived stress.

Grit Scale

The Grit Scale, or Grit-O, contains 12 items, 6 items targeting the consistency of interests and 6 items targeting the perseverance of effort (Duckworth et al., 2007). An example of a question targeting consistency of interest is "I become interested in new pursuits every few months," and an example of a question targeting perseverance of effort is "setbacks don't discourage me" (Duckworth et al., 2007). One total score is produced from the 5-point Likert-type scale, where a higher score represents a high level of grit, and a lower score represents a low level or absence of grit. An individual can score between 1 and 5. In two studies with adults, Duckworth et al. (2007) reports mean grit scores of 3.41 and 3.65. According to Duckworth et al. (2007), the internal consistency exhibited sufficient values at .85 for the entire scale. The Grit-O total score was an independent variable to quantitatively measure SLP self-reported grit.

Connor-Davidson Resilience Scale 10

This study measures resilience using the CD-RISC-10, or the 10-item Connor-Davidson Resilience Scale (Campbell-Sills & Stein, 2007; Connor & Davidson, 2003). Modified from the original 25-item scale, the CD-RISC-10 measures resilience with 10 questions that are rated by

the participant. Scores range from 0 to 40 with greater scores resulting in an individual exhibiting increased resilience. It is a 5-point Likert-type scale, and answer choices exist on a continuum from not true at all to true nearly all the time. There is evidence to support the reliability of the CD-RISC-10 at a Cronbach's alpha 0.85 (Campbell-Sills & Stein, 2007). The CD-RISC-10 total score was an independent variable to quantitatively measure SLP self-reported resilience.

Intolerance of Uncertainty Inventory

The Intolerance of Uncertainty Inventory (IUI) was administered to measure the construct of intolerance of uncertainty in this study (Gosselin et al., 2008). The IUI consists of Part A (15 items) and Part B (30 items) for a total of 45 items used to assess an individual's reaction to uncertain circumstances using a 5-point Likert type scale (Gosselin et al., 2008). Part A aims to broadly measure a person's degree of resistance towards uncertainty, and Part B aims to measure certain variables that an individual may experience because of their feelings towards uncertainty. Part B reflects information regarding 6 subscales (Avoidance, Doubt, Overestimation, Worry, Control, and Reassurance). For the purposes of this paper, the authors will be focusing primarily on the participant responses to Part A of the IUI because of an interest in measuring how an individual responds to uncertainty rather than measuring the resulting phenomena that accompany intolerance of uncertainty. Part A scores can range from 15 to 75, and Part B scores can range from 30 to 150. Higher scores in each category indicate a higher perceived degree of intolerance of uncertainty. Originally created in French, the IUI demonstrates sound psychometric properties in both the original and the English version. The original IUI demonstrates adequate convergent validity, internal consistency, and reliability, with a Cronbach's alpha value of 0.92 for Part A and 0.96 for Part B (Gosselin et al., 2008). The IUI-

A subscale score was an independent variable to quantitatively measure SLP intolerance of uncertainty.

Survey Recruitment

Participants were primarily recruited using strategies involving social media and professional organization communities. Information regarding participation was posted on the primary researcher and university department's SLP-related social media and professional pages, including a link to take the survey. This information was publicly available to Facebook users, and the targeted group of participants for this survey were licensed SLPs currently working in the profession.

Individuals who were interested in completing the survey clicked on the link to the survey platform to review the informed consent letter. The informed consent letter provided interested participants of the expected time commitment, possible risks, and benefits related to participation in this study. After reviewing, participants were asked to select whether they agreed to participate in the study by selecting "yes" or "no." If selecting to participating, participants were asked a series of question to determine whether they met the study's inclusion criteria. The inclusion criteria were that the participant must have indicated that they speak and read English, possess a master's speech-language pathology degree, hold a certificate of clinical competence, and currently practice as a full-time employee in the United States. Individuals who did not meet the inclusion criteria were redirected to the end of the survey, and their responses were not included in the analysis.

Participants

One hundred and twenty-two participants initiated the survey. However, seventy-eight participants completed the survey and were included in the analyses. The data obtained from the

survey remained anonymous. Participants were informed that any information provided was considered confidential.

Results

Data Analysis

Survey data was extracted from Qualtrics, and completion of the full survey was examined using Excel. Data analysis was completed using IBM Statistical Package for the Social Sciences (SPSS) Version 29. For each variable tested, descriptive statistics were obtained, and the mean and standard deviations were identified. The strength of relationships between the variables was assessed using Pearson correlation coefficients. Relationships between variables were investigated using regression analyses and one-way analyses of variance (ANOVA).

Demographics and Background

Seventy-eight individuals both satisfied the inclusion criteria requirements and completed the survey. The inclusion criteria were established upon the initiation of the survey and incorporated in the first three questions presented to the participant. All participants met the inclusion criteria. After the results were examined, it was determined that one hundred and twenty-two participants began the survey, and forty-four participants did not finish the survey. The following results reflect a report on the findings from the respondents that finished the survey.

Table 1.
Participant Demographics

Demographic Variable ($N = 78$)	*n*	%
Gender		
Female	73	93.6
Male	2	2.6
No Response	3	3.8
Race*		
White	73	93.6
More than one race	1	1.3
Other	0	0
Asian	0	0
Black or African American	0	0
American Indian/Alaska Native	0	0
Native Hawaiian/Pacific Islander	0	0
No Response	4	5.1
Ethnicity		
Non-Hispanic	69	88.5
Hispanic	4	5.1
Other	1	1.3
No Response	4	5.1
Demographic Region		
South	47	60.3
Midwest	11	14.1
Northeast	11	14.1
West	9	11.5
Highest Level of Education		
Master's Degree	75	96.2
Ph.D.	1	1.3
Ed.D.	1	1.3
Other	1	1.3

Note. N = total number of complete responses; *n* = number of respondents; % = percentage of respondents; * = multiple choices allowed.

Upon the commencement of the survey, a questionnaire was administered to obtain data about the participant. Questions were administered to participants regarding their current demographic region in the United States, education level, gender, race, years and degree of experience, primary employment setting, secondary employment setting, and type of employment. As reported in Table 1, respondents most commonly self-reported as white, Non-Hispanic females with master's degrees who currently practice in the southern United States. The survey was reportedly accessed by respondents using Facebook (66.7%; n = 52), Instagram (5.1%; n = 4), ASHA Community Group (24.4%; n = 19), and other means (3.8%; n = 3).

Experience and Setting

Participants were asked questions pertaining to their primary setting and work experience. The majority of respondents indicated that they have either 6-10 years of experience as an SLP (23.1%; *n* = 18) or more than 21 years as their experience level (24.4%; *n* = 19), as reported in Table 2. The respondents were prompted to select the three primary areas of ASHA's Big 9 that they spend the largest percentage of their day treating in their full-time employment setting. Language, speech sound disorders, and swallowing were most frequently reported, according to Table 2. Table 2 presents SLP Experience. Also, all major settings within the discipline were represented in the data obtained from this survey apart from corporate speech-language pathology. The majority of participants claimed education (38.5%; *n* = 30) or health care (37.2%; *n* = 29) as their primary employment setting. Table 3 presents SLP setting.

Participants were asked a series of questions that examined their level of job satisfaction. The mean total score on the JSS was 133.5 (*SD* = 32.0), and the score range was 141. These scores revealed that most individuals reported ambivalent levels of job satisfaction (Spector, 1994). See Table 4 for Descriptive Statistics. The SLPs in this study reported promotion and pay

as their greatest sources of dissatisfaction, according to data from the JSS subscales. Operating conditions are another aspect of employment in which SLPs appear to be less than satisfied. Participants in this study indicated ambivalent satisfaction regarding their fringe benefits and contingent rewards. However, SLPs reported greatest satisfaction with their nature of work, followed by supervision, coworkers, and communication within the workplace.

The mean score on the ProQOL CS was 39.45 (*SD* = 7.01). The mean score on the ProQOL CF was 47.27 (*SD* = 11.13), with a mean score on the ProQOL BO of 24.7 (*SD* = 6.3) and ProQOL STS of 22.6 (*SD* = 6.2). This indicates that SLPs experienced a moderate degree of both compassion satisfaction and burnout, and a low degree of secondary traumatic stress (Stamm, 2010). Correlation coefficients were derived for the 5 job and 4 personal construct scales using the Bonferroni approach to control for type I error across the 45 correlations. A *p*-value of less than .001 (.05/45 =.001) was required for significance. Table 5 displays the correlation analysis and reveals that 35 out of the 45 correlations were statistically significant.

Table 2.
SLP Experience

Experience	*n*	%
Years of Experience		
1-2 years	13	16.7
3-5 years	11	14.1
6-10 years	18	23.1
11-15 years	11	14.1
16-20 years	6	7.7
21 years or more	19	24.4
ASHA Big 9*		
Language	62	26.5
Speech Sound Disorders	38	16.2
Swallowing	29	12.8
Cognitive	28	12.0
Communication Modalities	27	11.5
Social	21	9.0
Voice and Resonance	7	3.0
Fluency	0	0
Hearing	0	0
No response	21	9.0

Note. n = number of respondents; % = percentage of respondents; * = multiple choices allowed.

Table 3.
SLP Setting

Setting	*n*	%
Core Setting		
Education	30	38.5
College/University	2	2.6
Health Care	29	37.2
Private Practice	14	17.9
Corporate Speech-Language Pathology	0	0
Local/State/Federal Government Agency	3	3.8
Education Setting		
Early Intervention	1	1.3
Preschool	6	7.7
K-12	23	29.5
Health Care Setting		
Hospital	20	25.6
Residential Health Care Facility	8	10.3
Nonresidential Health Care Facility	1	1.3
Government Setting		
Public Health Department	1	1.3
Uniformed Service	2	2.6
Employed by more than one employer		
Yes	20	25.6
No	58	74.4
Secondary/Tertiary Employment Setting*		
Education	4	5.1
College/University	1	1.3
Health Care	8	10.3
Private Practice	2	2.6
Corporate Speech-Language Pathology	0	0
Local/State/Federal Government Agency	4	5.1

Note. n = number of respondents; % = percentage of respondents. * = multiple choices allowed.

Table 4.
Descriptive Table of Scales and Subscales

Scale	*M*	*SD*	Range
JSS	133.5	32.0	141
Pay	10.9	5.9	20
Promotion	10.3	4.7	19
Supervision	18.9	5.4	20
Fringe Benefits	14.0	5.3	19
Contingent Rewards	13.1	5.4	20
Operating Procedures	11.8	4.0	16
Coworkers	18.8	4.3	20
Nature of Work	19.2	4.0	20
Communication	16.6	4.8	20
ProQOL 5			
CS	39.5	7.0	38
CF	47.3	11.1	54
BO	24.7	6.3	33
STS	22.6	6.2	29
IUI-A	37.4	12.7	56
IUI-B	77.8	27.1	112
Grit-O	3.5	0.55	2.67
PSS-10	17.9	7.2	39
CD-RISC-10	27.0	6.8	39

Note. *M* and *SD* represent mean and standard deviation. JSS= Job Satisfaction Survey. ProQOL 5= Professional Quality of Life Scale Version 5. CS= compassion satisfaction. CF= compassion fatigue. BO= burnout. STS= secondary traumatic stress. IUI-A= Intolerance of Uncertainty Inventory Part A. IUI-B= Intolerance of Uncertainty Inventory Part B. Grit-O= Grit Original Scale. PSS-10= Perceived Stress Scale – 10 items. CD-RISC-10= 10-item Connor-Davidson Resilience Scale.

Stress

Participants were asked about their perceived levels of stress. Table 5 presents correlation results. The mean total score on the PSS-10 was 17.9 (*SD* = 7.2). Stress was observed to have a significant positive relationship with STS ($r(76) = .62$, $p < .001$), BO ($r(76) = .72$, $p < .001$), CF ($r(76) = .75$, $p < .001$), IUI-A ($r(76) = .63$, $p < .001$), and IUI-B ($r(76) = .68$, $p < .001$). A significant negative relationship was demonstrated between stress and CS ($r(76) = -.47$, $p < .001$), JSS ($r(76) = -.53$, $p < .001$), resilience ($r(76) = -.70$, $p < .001$), and grit ($r(76) = -.37$, $p < .001$). These results reveal that SLPs exhibiting a high degree of stress may also experience greater secondary traumatic stress, burnout, and compassion fatigue levels which may decrease their ability to handle intolerance of uncertainty and demonstrate resilience and grit. These findings also indicate that individuals who experience less stress may have greater compassion satisfaction, job satisfaction, resilience, and grit.

Grit

Respondents were asked questions regarding their grittiness. The mean total score on the Grit-O was 3.5 (*SD* = 0.6). The score range was 32. Grit was observed to have a significant positive relationship with resilience ($r(76) = .55$, $p < .001$). A significant negative relationship was demonstrated between grit and BO ($r(76) = -.37$, $p < .001$) and stress ($r(76) = -.37$, $p < .001$), according to Table 5. No significant relationship was observed between grit and job satisfaction, secondary traumatic stress, compassion satisfaction, compassion fatigue, and intolerance of uncertainty-A and B. These results suggest that SLPs with high levels of grit may demonstrate high levels of resilience, and a less gritty SLP may experience greater burnout in their work.

Table 5.

Significance for Pairwise Comparison for Relationship between Stress and Variables

Scale	*M*	*SD*	STS	BO	CF	CS	JS	IUI-A	IUI-B	Resilience	Grit
1. STS	22.6	6.1	-	-	-	-	-	-	-	-	-
2. BO	24.7	6.3	.59**	-	-	-	-	-	-	-	-
			[.43,.72]								
3. CF	47.3	11.1	.89**	.90**	-	-	-	-	-	-	-
			[.83,.93]	[.84,.93]							
4. CS	39.5	7.0	-.39**	-.80**	-.67**	-	-	-	-	-	-
			[-.57,-.19]	[-.87,-.70]	[-.78,-.52]						
5. JS	133.5	32.0	-.44**	-.77**	-.68**	.64**	-	-	-	-	-
			[-.60,-.24]	[-.85,-.66]	[-.78,-.54]	[.49,.76]					
6. IUI-A	37.4	12.7	.45**	.45**	.51**	-.34	-.32	-	-	-	-
			[.25,.61]	[.25,.61]	[.32,.65]	[-.53,-.13]	[-.51,-.11]				
7. IUI-B	77.8	27.1	.50**	.49**	.56**	-.35	-.28	.86**	-	-	-
			[.31,.65]	[.30,.64]	[.38,.69]	[-.53,-.13]	[-.47,-.06]	[.79,.91]			
8. Resilience	27.0	6.8	-.45**	-.69**	-.64**	.55**	.41**	-.53**	-.62**	-	-
			[-.61,-.26]	[-.79,-.55]	[-.76,-.49]	[.38,.69]	[.21,.58]	[-.67,-.35]	[-.74,-.46]		
9. Grit	3.5	0.6	-.09	-.37**	-.26	.33	-.18	-.24	-.36*	.55**	-
			[-.30,.14]	[-.55,-.16]	[-.46,-.04]	[.11,.51]	[-.05,.39]	[-.44,-.02]	[-.54,-.15]	[.37,.69]	
10. Stress	17.9	7.2	.62**	.72**	.75**	-.47**	-.53**	.63**	.68**	-.70**	-.37**
			[.46,.74]	[.59,.81]	[.63,.83]	[-.63,-.28]	[-.68,-.35]	[.47,.74]	[.54,.78]	[-.80,-.57]	[-.55,-.16]

Note. M and *SD* represent mean and standard deviation. Values in brackets indicate the 95% confidence intervals for each correlation. * indicates *p =.001*. ** indicates *p <.001*. STS= professional quality of life secondary traumatic stress. BO= professional quality of life burnout. CF= professional quality of life compassion fatigue. CS= professional quality of life compassion satisfaction. JS= job satisfaction. IUI-A= intolerance of uncertainty part A. IUI-B = intolerance of uncertainty part B.

Resilience

Participants were asked questions that targeted their resiliency. The mean total score on the CD-RISC-10 was 27.0 (*SD* = 6.8). The score range was 39. Resilience was observed to have a significant positive relationship with CS ($r(76) = .55$, $p < .001$), grit ($r(76) = .55$, $p < .001$), and JSS ($r(76) = .41$, $p < .001$). A significant negative relationship was demonstrated between resilience and STS ($r(76) = -.45$, $p < .001$), BO ($r(76) = -.69$, $p < .001$), CF ($r(76) = -.64$, $p < .001$), stress ($r(76) = -.70$, $p < .001$), IUI-A ($r(76) = -.53$, $p < .001$), and IUI-B ($r(76) = -.62$, $p < .001$). See Table 5 for Descriptive Statistics. These results reveal that SLPs who have more resilience may experience more compassion satisfaction and job satisfaction and less intolerance of uncertainty, compassion fatigue, secondary traumatic stress, and burnout.

Intolerance of Uncertainty

Respondents were asked a series of questions that examined their level of intolerance of uncertainty. See Table 5 for Descriptive Statistics. The mean score on the IUI-A was 37.4 (*SD* = 12.7). The score range was 56. IUI-A was observed to have a significant positive relationship with stress ($r(76) = .63$, $p < .001$), STS ($r(76) = .45$, $p < .001$), BO ($r(76) = .45$, $p < .001$), CF ($r(76) = .51$, $p < .001$), and IUI-B ($r(76) = .86$, $p < .001$). IUI-A demonstrated a significant negative relationship with resilience ($r(76) = -.53$, $p < .001$). No significant relationship was demonstrated between IUI-A and job satisfaction, compassion satisfaction, grit. Also, the mean score on the IUI-B was 77.8 (*SD* = 27.1). The score range was 112. IUI-B was observed to have a significant positive relationship with stress ($r(76) = .68$, $p < .001$), STS ($r(76) = .50$, $p < .001$), BO ($r(76) = .49$, $p < .001$), CF ($r(76) = .56$, $p < .001$), and IUI-A ($r(76) = .86$, $p < .001$). IUI-B was observed to have a significant negative relationship with resilience ($r(76) = -.62$, $p < .001$). No significant relationship was demonstrated between IUI-B and job satisfaction, compassion

satisfaction, and grit. SLPs who have more intolerance of uncertainty report higher levels of secondary traumatic stress, burnout, and compassion fatigue, which may lead to reported levels of lower levels of resilience.

Job Satisfaction Regression

Regression analyses were conducted to examine the concurrent association between job satisfaction and grit, intolerance of uncertainty, and resilience. Stress and experience were tested as moderators in the analyses. Each moderator was tested in a separate regression analysis because stress and experience were conceptualized to be a component of job satisfaction, rather than an independent adjustment construct. Hierarchical regression analyses included the 4 predictors on the first step and the interactions between the moderator and intolerance of uncertainty, grit, and resilience on second step. The interactions between the moderators and grit, intolerance of uncertainty-A, and resilience were entered on the second step to determine whether stress and experience significantly moderated the association between job satisfaction and grit, intolerance of uncertainty, and resilience, as reported in Table 6.

Table 6.

Standardized Regression Coefficients Linking Job Satisfaction, Stress, Grit, Intolerance of Uncertainty, and Resilience

	Outcome variables		
	Job Satisfaction	ProQOL CS	ProQOL CF
Stress as Moderator			
Stress	-.495**	-.162	.572***
Grit	-.060	.037	.119
Intolerance of Uncertainty Part A	.036	-.013	.018
Resilience	.120	.413**	-.296*
F (4, 73)	7.491***	8.667***	26.792***
R^2	.291	.322	.595
Experience as Moderator			
Experience	.004	$.200^{+}$	-.143
Grit	-.058	.024	.125
Intolerance of Uncertainty Part A	-.137	.011	.162
Resilience	.372*	.520***	-.605***
F (4, 73)	4.225**	9.638***	16.514***
R^2	.188	.346	.475

Note. Age was included as a covariate in all regression models.
$^{+}p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$. ProQOL CS= professional quality of life compassion satisfaction. ProQOL CF= professional quality of life compassion fatigue.

Job satisfaction was associated with stress, such that SLPs reported greater job satisfaction with reduced stress. The regression with the stress and the predictor variables was significant, $R^2 = .291$, adjusted $R^2 = .252$, $F(4, 73) = 7.491$, $p < .001$. The interactions were not significant, $R^2 = .301$, adjusted $R^2 = .231$, $F(3, 70) = .344$, $p = .794$. Job satisfaction was associated with lower levels of stress ($B = -2.211$, $SE = .679$, $\beta = -.495$, $p = .002$) and accounted for 49% of the variance observed in job satisfaction. This finding indicates that stress has a significant impact on job satisfaction.

The regression with the experience and predictor variables was significant, $R^2 = .188$, adjusted $R^2 = .144$, $F(4, 73) = 4.225$, $p = .004$. The regression with the interactions was not significant, $R^2 = .235$, adjusted $R^2 = .158$, $F(3, 70) = 1.422$, $p = .244$. Job satisfaction was not associated with experience, but was associated with resilience, such that job satisfaction is associated with greater resilience ($B = 1.747$, $SE = .684$, $\beta = .372$, $p = .013$) and accounted for 37% of the variance observed in job satisfaction. Experience does not appear to significantly influence job satisfaction; whereas, resilience does appear to have an influence job satisfaction. These findings indicate that both stress and resilience influence job satisfaction with stress accounting for a larger proportion of the variance.

Professional Quality of Life Compassion Satisfaction and Fatigue

Regression analyses were conducted to examine the concurrent association between professional quality of life and grit, intolerance of uncertainty part A, and resilience. Stress and experience were tested as moderators in the analyses. Each moderator was tested in a separate regression analysis because stress and experience were conceptualized to be a component of professional quality of life, rather an independent adjustment construct. Hierarchical regression analyses included the 4 predictors on the first step and the interactions between the moderator and intolerance of uncertainty-A, grit, and resilience on second step. The interactions between the moderators and grit, intolerance of uncertainty-A, and resilience were entered on the second step to determine whether stress and experience significantly moderated the association between professional quality of life and grit, intolerance of uncertainty-A, and resilience, according to Table 6.

Professional quality of life compassion satisfaction was associated with resilience. The regression with stress and predictor variables was significant, $R^2 = .322$, adjusted $R^2 = .285$, $F(4,$

73) = 8.667, $p < .001$. The regression with the interactions was not significant, $R^2 = .350$, adjusted $R^2 = .285$, $F(3, 70) = 1.019$, $p = .390$. Professional quality of life compassion satisfaction was associated with higher resilience ($B = .425$, $SE = .157$, $\beta = .413$, $p = .008$) and accounted for 41% of the variance observed in professional quality of life compassion satisfaction. This finding indicates that resilience has a significant impact on professional quality of life compassion satisfaction.

The concurrent association between Professional Quality of Life compassion fatigue and stress, grit, intolerance of uncertainty-A, and resilience were also tested. Professional quality of life compassion fatigue was found to be associated with both stress and resilience. The regression with the stress and predictor variables was significant, $R^2 = .595$, adjusted $R^2 = .573$, $F(4, 73) = 26.792$, $p < .001$. The regression with the interactions was not significant, $R^2 = .607$, adjusted $R^2 = .568$, $F(3, 70) = .723$, $p = .542$. Professional quality of life compassion fatigue was associated with stress ($B = .889$, $SE = .179$, $\beta = .572$, $p < .001$) and resilience ($B = -.483$, $SE = .193$, $\beta = -.296$, $p = .014$). Stress accounted for 57% of the variance observed in professional quality of life compassion fatigue; whereas resilience accounted for 29%. The findings suggest that stress accounts for a larger proportion of the variance in professional quality of life compassion fatigue. Both stress and resilience account for an individual's compassion fatigue, with stress having more of an influence than resilience.

Regressions were also conducted with the experience and the predictor variables. The regression with experience and predictor variables was significant, $R^2 = .346$, adjusted $R^2 = .310$, $F(4, 73) = 9.638$, $p < .001$. The regression with the interactions was not significant, $R^2 = .357$, adjusted $R^2 = .292$, $F(3, 70) = .401$, $p = .753$. Professional quality of life compassion satisfaction was associated with more experience ($B = .786$, $SE = .400$, $\beta = .200$, $p = .053$) and higher

resilience (B = .535, SE = .135, β = .520, p = <.001). Experience accounted for 20% of the variance observed in professional quality of life compassion satisfaction; whereas, resilience accounted for 52%. Both experience and resilience contributed to professional quality of life compassion satisfaction with resilience having a greater influence on compassion satisfaction than experience.

The concurrent association between Professional Quality of Life compassion fatigue and experience, grit, intolerance of uncertainty-A, and resilience were also tested. The regression with the experience and predictor variables was significant, R^2 = .475, adjusted R^2 = .446, F(4, 73) = 16.514, p < .001. The regression with the interactions was not significant, R^2 = .480, adjusted R^2 = .428, F(3, 70) = .208, p = .890. Professional quality of life compassion fatigue was associated with lower resilience (B = -.987, SE = .191, β = -.605, p = <.001). Resilience accounted for 60% of the variance observed in professional quality of life compassion fatigue. This finding indicates that professional quality of life compassion fatigue is mist impacted by resilience.

Setting, Job Satisfaction, and Professional Quality of Life

Three one-way analyses of variance (ANOVA) were conducted to evaluate the relationships between professional setting and job satisfaction, professional quality of life compassion satisfaction, and professional quality of life compassion fatigue. The independent variable, professional setting, included six levels: education, university, healthcare private practice, corporate, and government. The dependent variables were overall job satisfaction, professional quality of life compassion satisfaction, and professional quality of life compassion fatigue. Results found that professional setting did not significantly determine the reported level of job satisfaction, F(4,73) = 1.096, p = .365, professional quality of life compassion satisfaction,

$F(4,73) = 1.168$, $p = .332$, or professional quality of life compassion fatigue, $F(4,73) = 1.294$, $p = .281$. This indicates that these outcomes are not significantly related to professional settings. See Table 6 for Descriptive Statistics.

Discussion

This study was designed to investigate the relationships between stress, resilience, grit and intolerance of uncertainty and their impact on SLP job satisfaction and professional quality of life. Many variables exhibited relationships as expected. The results support the hypotheses that higher levels of resilience have a significant relationship with increased job satisfaction and professional quality of life. It was also found that increased job satisfaction is associated with reduced stress, but stress does not appear to moderate the relationship between job satisfaction and resilience, grit, and intolerance of uncertainty. This is contrary to the hypothesis that stress is a moderating factor between professional quality of life and job satisfaction in relation to each construct. Moderate to strong positive relationships were observed between stress and intolerance of uncertainty, professional quality of life compassion fatigue, and professional quality of life secondary traumatic stress, and moderate to strong negative relationships were observed between stress and grit, resilience, job satisfaction, and professional quality of life compassion satisfaction, according to correlation coefficients relationship strengths (Ratner, 2009). Job satisfaction also demonstrated a moderate to strong positive relationship with resilience, as well as a moderate to strong negative relationship between job satisfaction and intolerance of uncertainty. However, the correlation significance between grit and job satisfaction, secondary traumatic stress, compassion fatigue, compassion satisfaction, and intolerance of uncertainty-A and B were either weak or nonsignificant. Intolerance of uncertainty-A and B also did not demonstrate significant relationships with job satisfaction,

professional quality of life compassion satisfaction, and grit. This does not support the hypotheses that high grit, high resilience, and low intolerance of uncertainty have a significant relationship with increased job satisfaction and professional quality of life. These findings reflect that higher resilience and lower stress may contribute to greater job satisfaction and could be informative to SLP training programs, current SLPs, and SLP employers.

Job Satisfaction and Professional Quality of Life

The data from this study supports the literature that resilience is tied to increased job satisfaction (Mantas-Jiménez et al., 2022). Resilience and compassion satisfaction were the only variables positively related to job satisfaction. This is consistent with the findings of Shatté et al. (2017) that resilience correlates with job satisfaction. Compassion satisfaction and resilience demonstrated a moderate positive relationship as well, indicating that the more resilience an individual has, the more likely they may be to experience compassion satisfaction at their workplace. Stress, compassion fatigue, burnout, and secondary traumatic stress all exhibited negative relationships with job satisfaction, indicating that increased levels of these qualities will likely decrease an individual's satisfaction with work. Grit and intolerance of uncertainty demonstrated no significant relationship with job satisfaction, meaning that the constructs do not appear to influence one another. It is possible that grit moderates the relationship between resilience and job satisfaction. Grit may be a means by which resilience is developed, given that grit does not influence job satisfaction but correlates with higher resilience.

Professional quality of life compassion satisfaction has a positive relationship with resilience and a negative relationship with stress. This confirms that SLPs who experience a great degree of compassion satisfaction in their careers will likely be resilient and less stressed. Professional quality of life burnout and secondary traumatic stress demonstrated a positive

relationship with stress, indicating that rates of burnout and secondary traumatic stress might be higher in stressed SLPs. Professional quality of life burnout has a negative relationship with grit, suggesting that grittier SLPs may experience less burnout. Interestingly, no relationship exists between grit and professional quality of life secondary traumatic stress or compassion satisfaction. Also, resilience corelates negatively with professional quality of life burnout, secondary traumatic stress, and compassion fatigue. The greater resilience an individual experiences, the lower the professional quality of life burnout, secondary traumatic stress, and compassion fatigue. The results concur with the literature regarding the presence of intolerance of uncertainty and increased burnout (Cooke et al., 2013). In relation to professional quality of life burnout, secondary traumatic stress, and compassion fatigue, intolerance of uncertainty-A and B exhibited a positive relationship, revealing that greater intolerance of uncertainty is associated with more compassion fatigue in all aspects.

Interestingly, no differences were observed in SLP job satisfaction and professional quality of life between settings. However, it appears that some degree of stress is a common part of the SLP experience. While the sample from this study reported higher than average stress, it is likely that this stress is the product of a variety of different reasons. For example, a school SLP may experience stress due to a large caseload and an abundance of paperwork, and a private practice SLP may be stressed because of quota and performance demands. In contrast, a hospital SLP may exhibit higher stress levels due to unpredictability, billing and reimbursement protocols, and the emergent nature of the job. However, the data from this study reveals that constructs, such as resilience, may influence job satisfaction more than stress. Individuals beginning a career in speech-language pathology may find it useful to assess their personal level of resilience, considering that both job satisfaction and professional quality of life compassion

satisfaction are related positively to resilience. Incorporating resilience education and training into academic programs may influence students to increase their resilience and ultimately receive more satisfaction from their work as an SLP. Conversely, resilience was observed to increase with years of experience as an SLP, indicating that time may contribute to the development of resilience. Both job satisfaction and professional quality of life compassion satisfaction are also negatively related to stress, indicating that individuals who are in a high stress environment may experience less satisfaction and quality of life in their workplace. This information may be useful from the perspective of an employer who desires to retain workers or improve workplace conditions for their employees.

Overall, it appears that job satisfaction and professional quality of life are positive and desirable constructs. The data suggests that there is room for improvements to be made to increase levels of SLP job satisfaction, considering that the scores reflect ambivalence in SLP job satisfaction according to the JSS score interpretation. See Table 4 for Descriptive Statistics regarding JSS total score and subscale scores. Subscale scores indicated that SLPs experience the most dissatisfaction with their promotion and pay. It may be worthwhile for employers to talk to their employees about how they can improve in the aspects of work outlined in the JSS to increase their overall employee satisfaction, specifically pay, promotion, operating procedures (Spector, 1985). Scores were lower than average on these three subscales, indicating that job satisfaction appears to be lower as a result of poor pay, promotion, and operating procedures. It is possible that discussion with management regarding raises, opportunities for upward mobility, and standardizing office protocols could make workers more satisfied. Conversely, data from this study may encourage employers to continue supporting employees with opportunities for open communication and a positive coworker dynamic, supervision relationship, and nature of work.

SLPs reported overall job satisfaction in the previously listed areas, so it is recommended that employers attempt to maintain these satisfaction levels and make improvements when possible. Similarly, SLP professional quality of life subscale scores indicated a moderate level of compassion satisfaction, moderate level of burnout, and low level of secondary traumatic stress among participants. This indicates that SLPs experience average levels of compassion satisfaction regarding their employment in a helping profession. Results reveal that SLPs experience a moderate degree of burnout. This may be an area of interest for SLPs to monitor and increase awareness of their own levels of burnout to lessen potentially harmful side effects. However, SLPs experienced borderline low to moderate levels of secondary traumatic stress, indicating that participants are less likely to internalize the disturbing experiences of the individuals they help.

Experience and Stress

Approximately 70% of the individuals who participated in this survey have been employed as an SLP for more than 5 years. The positive correlation between experience and resilience indicates that more years of experience as an SLP are associated with increased resilience. The longer an SLP has practiced in the profession, the greater their resilience, indicating that the capacity for overcoming stressful situations may develop over time. This information suggests that newer SLPs may gain insight from seeking the advice or mentorship of a more experienced SLP. The mentoring SLP can provide the novice SLP with strategies for maintaining stability in stressful environments. In contrast, no relationship exists between experience and job satisfaction. This data indicates that SLPs reported various levels of job satisfaction despite their years of experience.

The PSS-10 total scale scores revealed that most individuals reported higher than average levels of stress (Cohen & Williamson, 1988). All variables are related to stress as expected. If grit and resilience scores were high, stress scores were low. This indicates that grit could be desirable in the workplace because grittier employees may be able to better persevere through situations that produce stress. Because consistently high stress levels can cause serious health issues and be detrimental to numerous organs in the body, SLPs may consider taking steps to decrease stress, such as through a nutritious diet, exercise, and good relationships with coworkers (Bhui et al., 2016; Chettri et al., 2021). However, intolerance of uncertainty-A and B demonstrated a positive relationship with stress, indicating that greater levels of uncertainty results in higher stress. It is possible that the discomfort associated with higher levels of uncertainty contributes towards the elevated stress and burnout. These findings of this study are in agreement with the literature (Giddens et al., 2022; Meriac et al., 2023). The results support the idea that a grittier, more resilient individual may experience less overall stress in the workplace. This aligns with data from a study by Shatté et al. (2017) suggesting that more resilient employees demonstrated decreased stress levels. It is likely that resilient SLPs are more skilled in handling stress as compared to less resilient SLPs (Connor & Davidson, 2003).

Grit

While grit does not appear to influence job satisfaction, it does have a relationship with some of the other variables in this study. The scale scores revealed that most individuals reported average levels of grit (Duckworth et al., 2007). A positive relationship is demonstrated between grit and resilience, meaning that higher grit scores correlated with higher resilience scores. It is possible that gritty and resilient SLPs have the capacity to persevere through long-term, difficult situations with patients, respond effectively during difficult challenges, and maintain passion for

their profession. These qualities would be beneficial in a long-term therapy setting, such as a school system or skilled nursing facility.

Resilience

SLPs in the current study reported lower levels of resilience in comparison to a random sample in the United States (Campbell-Sills et al., 2009). Resilience among the SLPs in this study correlates negatively with intolerance of uncertainty-A and B. The greater resilience an individual experiences, the lower the intolerance of uncertainty. Increased resilience and low intolerance of uncertainty could be a beneficial combination for the average SLP because it likely indicates a greater capacity for endurance in unpredictable environments. A more resilient and uncertainty tolerant SLP may have a greater drive to overcome obstacles despite the potential for an undesired clinical outcome. For example, an SLP with high resilience and low intolerance of uncertainty may have less inhibition for working towards goals with a challenging patient who has had a recent, sudden decline. Also, greater resilience may help SLPs successfully manage stressful, unpredictable work environments. In a study of physicians, resilient doctors were more likely to be more tenacious (Eley et al., 2013). Therefore, resilient SLPs may also possess this quality and apply it in the workplace. Employers may consider investing in resilience training for their employees to positively influence the fulfillment of work duties (Vanhove et al., 2016). Increasing resilience through workplace training could be beneficial for SLPs who do not naturally display high levels of resilience. Resilience levels may be informative for an SLP training program as a measure of a student's ability to overcome difficulties in respect to both academic and clinical challenges. If a student demonstrates greater resilience, they may demonstrate more grit in the classroom and less inhibition towards situations

with a patient. Resilience could be a valuable factor in evaluating a student's capacity to handle stress and a heavy workload.

Intolerance of Uncertainty

Intolerance of uncertainty did not relate to all variables as expected. The mean and standard deviation of the Part A and Part B scale scores revealed that most SLPs reported higher levels of intolerance of uncertainty than the sample included in the validation study (Gosselin et al., 2008). SLPs who have a high intolerance for unknown situations may also experience worry, due to the connection that has been demonstrated between intolerance of uncertainty and worry (Berenbaum et al., 2008; Dugas et al., 2001; Ladouceur et al., 2000). If an SLP is constantly preoccupied with worries from their workplace, it is possible that this may affect the quality of their services or cause them to worry about their job outside of their typical work hours.

The IUI-A and IUI-B subscale score averages for individuals who participated in this study indicate that SLPs scored higher than average on Part A and Part B. Because IUI-A examines an individual's resistance to uncertainty, this elevated IUI-A average indicates a higher resistance to unpredictable situations. The relatively high IUI-B levels observed could indicate the presence of the qualities measured by the IUI-B in SLPs in this study, including doubt, worry, and avoidance. Despite an insignificant relationship to job satisfaction and compassion satisfaction, this increased resistance may be an important factor for working SLPs to monitor during their career. SLPs with greater aversion to uncertainty may experience more difficulty with execution of daily work requirements as a therapist. SLPs with more inhibition towards uncertainty may be less confident in their ability to engage with clinical challenges or unfamiliar patients.

There is evidence to suggest that an individual with high intolerance of uncertainty may chronically struggle to prepare for the future (Yang et al., 2021). This could have negative implications and is likely due to an innate distaste for the unpredictability of the future. Students exploring this occupation and current SLPs should be aware that higher intolerance of uncertainty may lead to increased burnout. This is a consideration for individuals who frequently experience discomfort related to uncertainty because it indicates that they are at risk for burnout. Individuals who are aware of their high levels of intolerance of uncertainty might consider taking precautions to guard themselves against burnout, including adopting effective methods of handling stress and seeking uplifting relationships (Gabriel & Aguinis, 2022). Employers who desire to reduce burnout may also consider encouraging clear communication and authentic workplace connections (Gabriel & Aguinis, 2022). Additionally, this study may inform SLP training programs by providing them with information regarding the potential for burnout in individuals with higher intolerance of uncertainty. It may be beneficial for programs to consider implementing experiences that will allow students to grow in this area, such as providing opportunities for desensitization to uncertainty triggers and access to mentorship. Exposure and desensitization to unpredictable clinical scenarios could help students expand their knowledge of potential responses to a difficult situation and allow them to draw from past experiences when faced with similar scenarios in the future. A dedicated mentor during the graduate school experience may allow students to voice questions and concerns that trigger negative feelings associated with intolerance of uncertainty, which would be a beneficial alternative to suppressing their fears. The data in this study may also help students considering this career anticipate their personal level of intolerance of uncertainty and identify areas in their lives that may be contributing towards their higher levels of intolerance.

Limitations

A limitation of this study is the use of self-reporting as a means to complete the scale for each variable. It is possible that respondents exhibited bias in their self-perception of job satisfaction, professional quality of life, stress, resilience, grit, and intolerance of uncertainty levels. For example, if an individual happened to take this survey after an unusually difficult day at work, the results of their scale scores may not truly represent their typical level of job satisfaction. The respondent may also be experiencing extreme personal stress due to life circumstances outside of work, which could elevate PSS-10 scores. This person might appear to be highly stressed and unsatisfied with their job according to their scale scores, when they may typically be more satisfied on less difficult days. Also, over half of the participants reported the south as their demographic region. It would be beneficial to gather more data related to SLPs with a balance between the demographic areas. Collecting more participant data from a randomized sample across the United States could be a way to conduct additional research regarding SLP job satisfaction in light of these constructs. The number of individuals who completed the survey may also be a limitation. A larger sample of participants would be desirable for similar studies that follow.

Future Directions

More research is needed to learn about how stress, grit, resilience, and intolerance of uncertainty impact SLP job satisfaction and professional quality of life. Further study of these constructs is recommended, including the relationship between job satisfaction and other constructs with grit as a moderator. Study of additional qualities, such as ambition and flexibility in regard to SLPs, would be of interest because there is minimal literature available on the subject. Investigating SLP ambition and flexibility levels may provide more insight into

additional aspects of SLP achievement and reaction to uncertainty. Also, it would be advantageous to repeat this study with a larger sample size with participant data representing each primary employment setting and Big 9 area. This would provide more data regarding the distribution of SLPs working in each setting and their corresponding levels of job satisfaction. In addition, future investigation of stress related to setting may be valuable. While job satisfaction and professional quality of life did not differ across professional settings, it would be interesting to research how stress compares across the different SLP settings. It would be beneficial to examine the factors relating to stress, investigate each component that contributes to SLP stress, and determine steps that can be implemented to increase SLP job satisfaction. For example, it would be beneficial to study individual SLP stress levels when comparing workload and caseload in varying occupational environments. Lastly an area of future research to consider is how this information can be applied to improve the retention and work environment of SLPs. Because SLP job satisfaction was ambivalent across the respondents, it may be beneficial for employers to further investigate the areas of employment that SLPs are more or less satisfied in to gather data on how they can enhance the experience of their workers.

Conclusion

The current study investigated job satisfaction, professional quality of life, stress, grit, resilience, and intolerance of uncertainty levels among seventy-eight SLPs. The resulting data provided valuable knowledge about the degree to which an SLP demonstrates each of these constructs and the relationships between them. The majority of participants demonstrated an ambivalent degree of job satisfaction, meaning that their level of contentment lies between satisfied and dissatisfied (Spector, 1994). Stress was determined to have moderate negative impacts on job satisfaction, whereas resilience exhibited a moderate positive influence on job

satisfaction. This evidence is valuable for students to know who are considering becoming SLPs, training SLP programs, SLPs considering employment options within the discipline, and employers of SLPs. Individuals with greater resilience and compassion satisfaction towards their work may experience greater contentment, happiness, and job satisfaction in their career. Resilience and compassion satisfaction may be factors in retention of practicing SLPs and considered in how to develop training programs.

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Department of Speech, Language, and Hearing Sciences

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

INFORMATION LETTER

for a Research Study entitled

"Impact of Stress, Grit, Resilience, and IU on SLP Job Satisfaction"

You are invited to participate in a research study to examine factors that may contribute to a speech-language pathologist's job satisfaction. The study is being conducted by Dr. Laura Plexico, Professor and Department Chair in the Auburn University Department of Speech, Language, and Hearing Sciences, and Lauren Boyd, Master's student in the Auburn University Department of Speech, Language, and Hearing Sciences. You are invited to participate because you have graduated from a graduate-level speech-language pathology program and are age 19 or older.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete an online survey containing 162 questions. Your total time commitment will be approximately 20-30 minutes.

Are there any risks or discomforts? The risks associated with participating in this study are the potential for breach of confidentiality. To minimize these risks, we will not ask for any identifying information, keep all responses anonymous, and use all reasonable security measures. Responses will be stored within Qualtrics software and will not be linked to any IP addresses.

Are there any benefits to yourself or others? Benefits to others may include advancing the science and understanding of the factors that influence SLP job satisfaction. We cannot promise you that you will receive any or all of the benefits described.

Will you receive compensation for participating? No compensation will be provided for participation in this study.

Are there any costs? There are no costs to participate in this study.

If you change your mind about participating, you can withdraw at any time by closing your browser window. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you've submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision

about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University or the Department of Speech, Language, and Hearing Sciences.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide by not asking identifying information and storing all data behind the secure system of Qualtrics and password protected computers. Information collected through your participation may be published in a professional journal, and/or presented at a professional meeting

If you have questions about this study, please contact Dr. Laura Plexico at lwp0002@aburn.edu. You may print a copy of this information letter to keep.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE CLICK ON THE LINK BELOW.

YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.

_____

Investigator Date

Lauren Boyd 08-27-2023

Co-Investigator Date

The Auburn University Institutional Review Board has approved this document for use from _____ to _____. Protocol #_____

LINK TO SURVEY

Version Date: 8/21/2023

The Auburn University Institutional Review Board has approved this Document for use from
09/07/2023 to ----------
Protocol # 23-440 EX 2309