INTELLECTUAL HUMILITY: IMPLICATIONS FOR RECEIVING CLINICAL SUPERVISORY FEEDBACK

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ABSTRACT

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Research on intellectual humility has grown over the past decade, illustrating many possible areas of exploration and application. The current study sought to explore how intellectual humility impacts the skills and growth of counselors-in-training through response to supervisory feedback. Participants from counseling training programs at a large university in the southwestern United States completed a self-report survey which assessed training characteristics, feedback receptivity, and self-reported skills. Those with the highest and lowest intellectual humility scores were recruited to participate in the qualitative portion of the project in which participants engaged in a Think-aloud Protocol while reading supervisory feedback. Additionally, iMotions software was used to assess facial emotional expression while participants read the feedback. Results did not support hypotheses related to the quantitative portion of this project but patterns did emerge from the qualitative arm which suggests differences in how individuals with low or high IH respond to supervisory feedback. These results provide an opportunity for further exploration in the relationship between intellectual humility and counselor education/practice.

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Chapter One: Introduction

Intellectual humility (IH) has grown as a topic of inquiry within the realm of psychological research over the last decade. Though a precise definition for IH continues to evolve as the construct is researched and debated, most theorists agree that IH is a beneficial phenomenon, which allows recognition of the fallibility of one's own beliefs or opinions (e.g., Leary et al., 2017). Along those lines, this construct may also include appropriate attention to the evidence for a belief (both strengths and limitations), which may influence its accuracy (Haggard et al., 2018). IH appears to be particularly relevant in academic settings where individuals are frequently exposed to new information.

The current sociopolitical climate has highlighted divisiveness and misunderstanding among many groups in the United States, demonstrating a general lack of intellectual humility in our culture and fueling recent increases in related research. Given the evidence suggesting that much of what people believe is incomplete, biased, or completely incorrect (e.g., Gilovich & Griffin, 2010), IH could be a potential psychological antidote to the difficulties caused by the human tendency to maintain high levels of confidence in our own accuracy. Intellectual humility, as it is presently conceptualized, should guide individual behavior within intellectual settings, leading to increased knowledge and understanding. Intellectual humility is considered an epistemic or intellectual virtue, which is central to lifelong learning (Baehr, 2013). As such, possessing IH should benefit students and predict facets of academic functioning and success.

To date, research on IH has included philosophical theorizing, construct and assessment development, and exploration of interrelationships among psychological variables to some extent. Very few studies have examined IH in applied situations and, given the recency of research focus on intellectual humility, many areas are lacking comprehensive exploration and

evaluation. Given the characteristics of IH, this disposition could be of importance within counselor education and training (i.e., educational programs aimed to train professional counselors). Specifically, IH would likely benefit counselors-in-training as it should allow them to better receive and respond to supervisory feedback.

The current study sought to understand the relationship between IH and counselor-in-training skills and growth, and to explore processes related to receiving performance feedback. The following sections will more fully introduce the key concepts, as well as describe the study, including the primary research questions, limitations, and delimitations.

Key Concepts

Intellectual Humility

Philosophers and scholars as early as Aristotle have discussed topics of intellectual virtue, describing them as distinct from moral virtue (Aristotle, et al., 2011). Intellectual virtues are primarily related to the rational part of the individual, including methods by which people arrive at truth (Aristotle, et al., 2011). Intellectual virtue can be acquired through teaching, according to Aristotle, making them targets for intervention. Psychological theorists have also engaged with the topic (e.g., Baltes, 1993) and suggest that intellectual virtues represent a dimension of character in line with lifelong learning (Baehr, 2013).

Roberts and Wood (2003; 2007) initially described intellectual humility as an independent virtue, which has inspired recent considerations. They position IH within a group of intellectual virtues, which collectively represent a flourishing intellectual life. Their explanation of the construct includes low concern for intellectual status, intrinsic desire for truth, and low intellectual domination. Especially relevant in their proposition is the contrast between humility and vanity/arrogance, indicating that IH is characterized as an absence of concern for self-

importance (Roberts & Wood, 2007). In line with Aristotle's perspective that the expert should avoid the twin extremes of excess and deficiency, IH has been proposed to be the theoretical mid-point between intellectual arrogance and servility (Church & Samuelson, 2020). Research has continued to focus on intellectual humility, but the development of a clear conceptual definition and measurement of the construct is still evolving. Further exploration of previous research and conceptual explanations of intellectual humility are included in the literature review.

Counselor Supervision and Feedback

Counselor education is a field focused on training students to professionally apply theories and principles of counseling. This field contains a wide variety of degree programs (e.g., clinical mental health counseling, marriage and family counseling, counseling psychology, school counseling) at various levels (e.g., M.A., Ph.D., Ed.S.). Within all these programs are embedded practical experiences so that students may learn and apply counseling skills in simulated and real settings. When engaging in these practicum experiences, legal and ethical requirements stipulate that counselors-in-training must be supervised in order to protect the client and help the trainee develop. According to the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) standards, students should be supervised (via recording) or live and provided with formative and summative evaluations of their counseling performance (CACREP, 2016).

Clinical supervision grew from models of apprenticeship found in various professional fields wherein a student would learn the work by observing, assisting, and receiving feedback from a proficient member of that field (Smith, 2009). Because research has indicated that clinical knowledge and skills are not as easily transferable as the master-apprentice model implies

(Falender & Shafranski, 2008), supervision has continued to evolve into various models with research to demonstrate efficiency. Depending on which of these models is being utilized, supervisors may play various roles (e.g., didactic instructor, provider of personal support/encouragement, facilitator of growth, consultant).

One key aspect of supervision that spans all models is that feedback must be provided to the counseling trainee. This feedback aimed at improving the student's skills often includes both acknowledgement of the student's strengths and constructive criticism. It can take various forms depending on the supervision model and the supervisor that is providing feedback. Feedback has been researched broadly within the context of learning, demonstrating its importance within the learning process (e.g., Hattie and Timperley, 2007). Similarly, feedback has become the focus of research within counselor training (Swank & McCarthy, 2015). Counseling students receive feedback consistently from instructors, peers, supervisors, and clients to sharpen their counseling skills. Given the importance of feedback in the developmental process of counselors-in-training, it is important to explore how these students perceive feedback and process the information presented to them regarding their performance.

Purpose and Significance of this Study

Acknowledging the partial nature of one's understanding and valuing others' intelligence are important skills for continuing to learn and coexist with others in intellectual settings. IH is poised to be a possible intervention point for increasing collaborative understanding and intellectual growth across various topics and situations, especially within educational settings.

The current research aims to explore how intellectual humility may influence counseling skills training for individuals enrolled in graduate degree programs for counseling. Specifically, if IH predicts counselor-in-training skills development, professional growth, and processes

related to receiving feedback. Understanding the processes by which counselors-in-training receive and make meaning of feedback has significant implications for the field of counselor education as well as education in all the helping professions. Training service providers capable of utilizing feedback constructively to continue to develop impacts not only the students, but all of the clients/patients they will work with in the future.

Research Questions

This study aims to determine if IH is related to counselor-in-training growth and feedback receptivity related to performance in a counseling setting. To achieve this, qualitative and quantitative data will be collected from counselors-in-training and course instructors within beginning-level practicum courses. Specific research questions are as follows:

1. Is intellectual humility related to self-rated counseling skills performance?
2. Does IH predict faculty-rated growth across a semester of counseling skills training?
3. Does receptivity to supervisor feedback mediate the relationship between IH and counselor-in-training growth across the semester?
4. Does IH predict cognitive processes in response to supervisor feedback evaluating counseling skills for counselors-in-training?

Limitations and Delimitations of Current Study

The current project has both delimitations to manage the scope of the research and limitations due to the nature of the study. Participants were drawn through convenience sampling of accessible counselors-in-training, so selection bias may impact the generalizability of the findings. The sample was based on available and willing participants, which resulted in a small overall size. Another potential delimitation is volunteer bias and the notion that the individuals who chose to participate in this study may be inherently different than those who did not, further

compromising generalizability. Additionally, only a handful of participants will be engaged in the qualitative portion of the study to maintain feasibility. Since this study will not include an experimental design, causal conclusions cannot be drawn from this research.

Summary

Intellectual humility is a construct that has gained recent research interest and may be a valuable trait for counselors and counselors-in-training. Counselor training occurs within academic settings and requires students to practice counseling skills and receive performance feedback to hone their skills. This research explores the relationship between IH and counselor-in-training characteristics, skills, and growth, as well as processes related to performance feedback.

Chapter 2: Review of Literature

Psychological research on intellectual humility, inspired from philosophy, has increased over the past decade. Theorists have explored if IH operates as a state or trait, debated the construct's core features and boundaries, created ways to measure it, and examined how it relates to other psychological variables. As research examining intellectual humility continues to expand, more potential applications for the construct arise. Within the existing literature, IH has been heralded as a possible antidote to uncivil political discourse (Krumrei-Mancuso & Newman, 2016), evaluated as a predictor of information processing and memory accuracy (Deffler et al., 2016), and proposed as a beneficial construct within educational settings (Porter et al., 2020). One area that has yet to be explored is how intellectual humility relates to professional counseling and counselors-in-training. Specifically, does intellectual humility benefit counselors-in-training through their clinical learning experiences?

In the following literature review I explore the relationship between intellectual humility and counselor training by: (1) reviewing the existing research literature related to intellectual humility, including its history, measurement, and relationships to other relevant psychological constructs; (2) providing an overview of research from counselor education related to supervision and feedback in counselor skill development, and (3) identifying ways in which IH potentially interacts with counseling training.

Intellectual Humility

Humility, as a virtue, has been studied from multiple perspectives over time (e.g., philosophy, theology, psychology). Since the early 2000's, there has been substantial development in the research on general humility from an integrative psychological perspective (Tangney, 2000), resulting in identification of various subtypes of the construct (e.g., cultural

humility, relational humility). Establishing subtypes of humility suggests that there are contextual effects that may modify general humility enough to consider them as separate constructs entirely. Intellectual humility is one distinctive subtype of general humility that is directly important in situations related to knowledge and intellect. Davis et al. (2015) demonstrated differentiation between general and intellectual humility utilizing factor analytics, finding that their respective latent structures were different (though correlated). Additionally, the two constructs demonstrate different patterns of relationships with other variables of interest (e.g., need for cognition, objectivism, lack of superiority; Davis et al., 2015).

Since intellectual humility has been called a sub-type of humility, examining definitions of general humility gives some guidance to defining the construct. Often, humility has been defined in antonymic ways: humility is the opposite of arrogance and narcissism (e.g., Worthington, 2008); humility is not self-deprecation or low self-esteem (Roberts & Wood, 2003). Many conceptualizations of humility include maintaining an accurate view of self and having strong moral character. Tangney (2000) offered a thorough description of humility based on definitions from philosophy, psychology, and theology, which includes five main themes: accurate assessment of one's abilities, acknowledgement of one's limitations, openness to new ideas, keeping one's achievements in perspective, relatively low self-focus, and appreciation of the value of all things. Tangney emphasized that humility is not simply modesty, nor the absence of arrogance, but that it holds its own unique set of characteristics involving intrapersonal and interpersonal factors.

These themes are important to consider as they may apply to the facets of intellectual humility, however, research findings from general humility should not automatically be applied to the understanding of intellectual humility due to their differences (Leary, 2018). Descriptions

of general humility often focus on how people conceptualize their achievements and positive characteristics (e.g., a person does not feel entitled to special treatment due to their accomplishments; Leary & Banker, 2018). This contrasts with conceptualizations of IH which focus on the individual's beliefs rather than themselves (e.g., a person recognizes the fallibility of their opinions irrespective of how they view themselves). The focus on general humility centers on the individual's self-perception whereas the focus of intellectual humility is on their thoughts or beliefs. While somewhat unlikely, an individual might be generally humble but demonstrate a lack of intellectual humility (e.g., a clergy member who is humble but is unwilling to acknowledge belief systems that differ from their own). Given the differences between the two constructs, it is important to explore how IH operates across individuals and settings.

When conceptualizing IH, it is useful to consider examples of observable behavior that may represent it. While intellectual arrogance is arguably easier to recognize in others (i.e., a know-it-all who is blind to their own limitations), intellectual humility can also be spotted in certain situations. For example, collaboration between bipartisan politicians in which both sides genuinely try to understand the viewpoints of the other, or a theorist who can acknowledge the inaccuracy of their theory after years of work. A person demonstrating intellectual humility is able to strike a balance between dogmatically rejecting a dissenting viewpoint and quickly yielding in the face of intellectual conflict (Vorobej, 2011). IH may be more difficult to identify than intellectual arrogance in daily life and it has also proven to be more difficult to define in research.

As is true for general humility, IH is sometimes discussed in relation to its opposites. A few theorists contend that IH is merely the opposite of intellectual arrogance (e.g., Roberts & Wood, 2003), however, many others consider it to be a mid-point between intellectual arrogance

and intellectual servility (e.g., Haggard et al., 2018). Possessing IH means that people hold their beliefs tentatively because they are aware of limitations within their evidence or perspective rather than having a lack of self-confidence (Leary, 2018). It involves walking the midline between intellectual arrogance and self-depreciation (Church and Samuelson, 2020). This conceptual midline is directly reflective of the golden mean established by Aristotle in his descriptions of ethical living (Aristotle et al., 2011). Several studies have supported the idea that IH is different from an underestimation of strengths (e.g., Whitcomb et al., 2015). Given evidence from the literature, the current research will consider IH as a theoretical midpoint between intellectual arrogance and servility.

Intellectual humility, as the name implies, exists within the intellectual domain. In support of this view, intellectual humility is more predictive than general humility of need for cognition, openness to experience, and objectivism, all dispositions that primarily concern intellectual activities (Davis et al., 2016). Intellectual humility has been called an epistemic virtue that includes recognition of one's intellectual limitations, discomfort with these limitations, and motivation to overcome limitations through learning (Haggard et al., 2018). Epistemic virtues are those characteristics or traits which promote intellectual flourishing and seeking of truth (Sosa, 1991).

Whitcomb et al. (2017) suggests IH is characterized by cognitive, motivational, behavioral, and emotional responses. On the other hand, Leary et al. (2018) classified IH as a fundamentally cognitive phenomenon that can be characterized as an internal assessment regarding the self that manifests outwardly in openness to alternative ideas and lack of conceit. There has been some level of conceptual murkiness within the definitions of intellectual humility, leaving questions to be answered. Does IH include behavioral or motivational factors

or is it simply a state of mind? Is IH interpersonal or intrapersonal? Various theorists have sought to clarify these questions over the last decade, sometimes arriving at different conclusions (Du and Cai, 2020).

Definitions of Intellectual Humility

As previously mentioned, researchers have begun exploring the construct of IH in recent years, resulting in many perspectives on defining the construct's core features and boundaries. The following section will focus primarily on psychological (as opposed to philosophical) exploration of the construct due to its applicability within the current research study. A recent review identified 18 distinct definitions of intellectual humility (Porter et al., 2021). The existing definitions of IH were developed through different avenues, some offered ad hoc, others deliberately generated through empirical research, and still more created in collaboration with philosophers or philosophical accounts (Porter et al., 2021). Several of the more prominent definitions and information about debated facets are reviewed below in order to provide background for the comprehensive definition utilized in the current research project.

An evolutionary approach to describe the construct posits that involvement of the ego or lack thereof with one's beliefs marks the difference between intellectual arrogance and intellectual humility (Gregg & Mahadevan, 2014). That is, humans often demonstrate preference for their own theories (or beliefs) simply because they are attributed to themselves. Opposingly, IH involves a lack of over-involvement of one's ego with one's viewpoints (Wayment & Bauer, 2008). In light of this, intellectual humility becomes increasingly important given the propensity of humans to hold misinformation and false beliefs. Research has long established that people consistently overestimate the accuracy of their own beliefs (e.g., Fischhoff, Slovic, & Lichtenstein, 1977), and that cognitive bias compromises the ability to make decisions and can

lead to misguided actions (Deffler, Leary, & Hoyle, 2016). This separation of ego from perspective allows for the discussion of opposing views without defensiveness (McElroy et al., 2014). Intellectually humble individuals should show an inclination for seeking truth, even at the expense of their original beliefs. The separation between one's ego and opinion is one aspect of IH from the literature that I believe assists in conceptual understanding of the construct. The notion that a person's opinions or beliefs are not unduly considered to be a part of the self seems to be an important, underlying element of intellectual humility.

Leary (2018) defines IH as "recognizing that a particular personal belief may be fallible, accompanied by an appropriate attentiveness to limitations in the evidentiary basis of that belief and to one's own limitations in obtaining and evaluating relevant information" (p. 2). Intellectual limitations may include cognitive deficits or mistakes, gaps in knowledge, etc. Church (2016) suggests IH is doxastic (i.e., pertaining to beliefs), which falls in line with the meta-cognitive descriptors that other theorists have utilized, and suggests that the virtue means valuing one's own beliefs as you ought. In this sense, one should accurately value beliefs or opinions based on relevant evidence and circumstance. However, determining that information is exceedingly difficult. Leary et al. (2017) holds the most prominent unidimensional view of IH within the literature.

While most theorists agree the core feature of IH is as Leary defines it (above), the majority take a multi-dimensional approach to IH suggesting facets beyond the core feature (e.g., Witcomb et al., 2015; Krumrei-Mancuso & Rouse, 2016). While a unidimensional understanding may be more simplistic and easier to measure, it neglects the complexity of the construct. The multi-dimensional approach aligns with my understanding of IH, which includes features beyond the recognition of one's intellectual limitations. Christen, Robinson, and Alfano (2014) used a

thesaurus-based psycholexical analysis, which suggested that IH has three primary characteristics (e.g., the sensible self, the discreet self, and the inquisitive self) along with three opposing vices (the underrated other, the underrated self, and the overrated self).

Whitcomb et al., (2015) posits that possessing intellectual humility to obtain some other aim (e.g., promotion, reputation, monetary gain) does not attain the virtue of intellectual humility, suggesting that motivation must be considered when examining the construct. For example, if intellectual humility is demonstrated simply to maintain the regard of others, one would not be truly intellectually humble. Whitcomb and colleagues also illustrate a difference between the virtue of IH and the character trait of IH, indicating the trait does not require the same qualifiers. In a similar vein, Leary (2018) suggested that encumbering IH with motivational factors muddies the waters conceptually speaking. Whitcomb et al., (2015) concludes that IH is primarily owning one's intellectual limitations and giving proper attentiveness to them. Alfano et al. (2017) also identified motivational components of IH, along with cognitive, affective, and behavioral aspects. The four core dimensions identified by that group are: open-mindedness, intellectual modesty, corrigibility, and engagement.

Haggard et al. (2018) suggested there are three primary facets of IH: owning one's intellectual limitations, love of learning, and appropriate discomfort with one's intellectual limits. The first part, owning one's limitations, includes acknowledgment and acceptance of the gaps in one's knowledge and the impact those may have. The second facet, love of learning, captures the desire to gain more knowledge and is somewhat in line with the Whitcomb et al. (2015) argument that motivation matters. The final aspect, appropriate discomfort with limitations, relates to the degree of attentiveness being proper rather than preoccupation (in line

with intellectual servility). Haggard et al. (2018) concludes that leaving out any of the facets may indicate non-virtuous or false IH.

Samuelson et al. (2015) explored lay understanding of intellectual humility to generate a portrait of an intellectual humble person and explore how implicit theories contrast with explicit theories of the construct. Interestingly, Samuelson and colleagues (2015) found approximately 40% overlap between descriptors of an intellectually humble individual compared to a wise individual suggesting conceptual overlap in the two constructs. They identified particular epistemic, self-oriented, and other-oriented dimensions from their data. This falls in line with the previous, multi-faceted definitions of the construct.

Thus far, intellectual humility's features include acknowledging the fallibility of one's knowledge (primarily cognitive), discomfort with one's limitations (primarily emotional), appreciation for learning and filling knowledge gaps (primarily motivational). Samuelson et al. (2015) incorporates interpersonal features, a debate that continues within the literature and is further explored in the following section.

Interpersonal versus Intrapersonal

Some debate has focused on whether or not IH is interpersonal in nature. Some researchers contend that IH is intrapersonal, reflecting a private assessment of one's own beliefs (Leary et al., 2017). Haggard et al. (2018) suggests IH is a metacognitive disposition marked by the recognition that one's beliefs may be fallible and attention to evidence, which does not directly incorporate relational processes. Leary et al. (2017) examined IH as it related to several interpersonal processes, including reactions to disagreement, reactions to people who change their attitudes. However, they posit that despite the implications for interpersonal process, the interpersonal is not a core feature of the construct.

Alternatively, McElroy et al. (2014) states that IH is fundamentally relational in nature because it involves regulating interactions with others. They characterized IH as having insight about one's limits, openness to new ideas, and the ability to present one's ideas in a non-offensive manner and receive contrary feedback without taking offense. They go on to posit that IH is very important in competitive settings or when negotiation is occurring. Allies of this perspective point to evidence that IH includes low concern for one's epistemic status relative to others as well as the capacity to be non-defensive in disagreements.

Still other researchers conceptualize IH as some combination of intra- and interpersonal characteristics (e.g., Alfano et al., 2017; Krumrei-Mancuso & Rouse, 2016). From this perspective, IH contains both willingness to consider new evidence and being able to interact with those holding opposing viewpoints respectfully (Krumrei-Mancuso & Ruse, 2016). This conceptualization is in line with my current understanding of intellectual humility, which contains both intrapersonal and interpersonal features. Intellectual humility contains the ability to interact with others' knowledge or ideas making it social.

Comprehensive Definition

Taken together, these definitions provide a sufficiently complete picture of the various characteristics and domains of IH identified within the literature. In reviewing these definitions, most all emphasize recognition of one's intellectual limitations, which can include acknowledging gaps in one's knowledge as well as not claiming to know more than is appropriate. Thus, IH appears to be a distinct trait that involves the capacity to accurately identify one's intellectual abilities, knowledge, and limitations. In addition to this core feature, I believe that IH includes a separation of one's ego and one's viewpoint (Gregg & Mahadevan, 2014; Krumrei-Mancuso & Rouse, 2016), openness to revising one's viewpoint (e.g., Haggard et

al., 2018; Krumrei-Mancuso & Rouse, 2016), and interpersonal features (e.g., Samuelson et al., 2015; McElroy et al., 2014). Recognizing these additional aspects of intellectual humility reflects its complexity and provides guidance for how the construct should be measured in research (i.e., using a multi-dimensional scale).

How does IH Develop?

Like other psychological traits, there exist questions regarding what characteristics or situations may affect IH. Though influences of IH have not been readily explored in the literature, some speculation based upon related topics is worthy of review. Identifying the situational and dispositional influences on IH may provide guidance regarding possible intervention points for future research.

Given that most (if not all) human traits show some level of heritability (Vukasovic & Bratko, 2015), it would not be surprising if IH also had some genetic basis. Similar constructs, such as openness, demonstrate significant levels of heritability (e.g., Power & Pluess, 2015). Additionally, some research suggests that cognitive overconfidence has genetic underpinnings (Cesarini et al., 2009). Importantly, genetic predisposition for any trait does not indicate that individual responses or behavior are outside of personal control or experiential/situational influence. Although psychological characteristics are impacted by genetics, traits are often also influenced by people's experiences.

People's cultural surroundings drastically influence both individual characteristics and social interactions to varying degrees. Research shows that cultural differences impact the degree to which people value openness and flexibility (e.g., Hofstede, 1991) as well as tolerance for uncertainty (Hofstede, 2001). If strict rules and laws are emphasized, IH would likely be threatening thereby reducing it in the general population. Religion and culture often go hand-in-

hand, influencing human thoughts, feelings, and behavior. Religious dogmatism is negatively associated with IH (Krumrei-Mascuso, 2018).

In addition to religion and culture, socialization through upbringing and education may impact IH. Social learning, through observation of parents or teachers, may impact development of IH in children and adolescents (Bandura, 1971). Role models may differ in their encouragement of openness as well as their demonstration of uncertainty and conflict management. Consistently seeing a parent or teacher demonstrate intellectual humility through response to questions or discussion regarding opposing viewpoints could drastically impact an individual's propensity to develop IH. If IH develops as a result of socialization, social learning theory could be harnessed in order to design interventions targeting the construct.

IH and Other Psychological Variables

Researchers have explored how IH relates to personality traits (e.g., Hopkin, Hoyle, & Toner, 2014; Krumrei-Mancuso, 2017; Porter & Schumann, 2018) and other psychological variables (e.g., Leary et al., 2017; Hoyle et al., 2016). IH appears to be relevant for matters of fact (e.g., memory of an event) as well as matters of opinion (e.g., political attitudes). Not surprisingly, IH relates to other manifestations of open- and closed-mindfulness in predictable ways (discussed below). Intellectual humility is distinguished from other reasons people may be open to the possibility that their beliefs are wrong. IH resembles openness but openness is a much broader concept which entails ways in which people approach many aspects of life (McCrae & Sutin, 2009).

One way that individuals who are high in IH interact differently than those who are low in IH is that those high in IH tend to be more open-minded and are, thus, less threatened when presented with new ideas (Zhang et al., 2018). Zhang et al. (2018) suggests that ideological

differences can cause division and make individuals feel threatened. Additionally, ideological homogeneity may contribute to an individuals' experience of belonging. Thus, when ideological differences arise, individuals may feel a weaker sense of belonging and lower group solidarity. However, it appears that individuals who are high in IH do not experience much of a decrease in their sense of belonging when they are in ideologically diverse communities. Zhang et al (2018) indicates that this may be because those who are high in IH may value engagement with those who are different from them so they may feel more comfortable in diverse groups. In fact, IH has been found to be important in moderating the relationship between diversity and belongingness in religious groups (Zhang et al., 2018) as well as being related to higher levels of religious tolerance (Hook et al., 2017).

IH has been connected to several pro-social attitudes and perhaps signals part of the positive spiral (Krumrei-Mancuso, 2017). Indeed IH, is associated with increased tolerance toward others and is not related to conformity (Krumrei-Mancuso & Rouse, 2016). Meagher et al. (2020) found that self- and peer-reported IH were associated with openness and agreeableness during conversations about a contentious sociopolitical issue. Bak and Kutnik (2021) found IH is predicted positively by self-esteem and negatively by narcissism, both constructs which have implications for the individual and the larger groups with whom they interact.

A benefit of intellectual humility is the recognition that one's own perspective is always going to be limited. This recognition leaves a student well positioned to learn as much as possible from peers and to strive to capture as much of the expertise of the professoriate as possible. Research has demonstrated that IH predicts mastery behaviors when learning in both lab and real-life settings (Porter et al., 2020). Individuals who score higher in IH demonstrate more attentiveness to strength of evidence (Leary et al., 2017) and show greater interest in

understanding why people disagree with them (Porter & Schumann, 2017). Deffler, Leary, and Hoyle (2016) examined the relationship between recognition memory and IH, finding that individual differences in IH may reflect how people process information and judge what they do and do not know. This finding may demonstrate differential attentional processing while learning new information, which inspires additional questions about how intellectual humility influences other features of information processing (e.g., working memory).

Zmigrod et al., (2019) explored how IH relates to other cognitive constructs (i.e., cognitive flexibility, intelligence) finding that both are valuable and demonstrating that compensatory effects exist when the other was low. Therefore, IH likely plays a flexible but significant role in relation to other cognitive constructs within a person's cognitive life. Research suggests that IH is positively associated with several cognitive styles, such as need for cognition, epistemic curiosity, and open-mindedness (Krumrei-Mancuso & Rouse, 2016; Porter & Schumann, 2018). IH is negatively associated with constructs reflecting need for epistemic certainty, like close-mindedness, need for closure, and dogmatism (e.g., Leary et al., 2017; Altemeyer, 2002). Samuelson and Church (2015) theorize about the ability of intellectual humility to mitigate some of the cognitive biases and epistemic vices that plague human's attempts to know truth. Someone who jumps to conclusions based on intuition fails to be intellectually humble, whereas someone who thinks carefully in most situations would likely demonstrate IH characteristics.

Low IH is not only a problem for the accuracy of people's beliefs but also is likely to result in interpersonal conflict. Stanley, Sinclair, and Seli (2020) found that IH was associated with increased willingness to be friends with people who have opposing political views as well as perceiving them more favorably. Bowes et al. (2020) found that IH buffers against affective

polarization, especially in the context of strong political beliefs. Given the negative impact of affective polarization (i.e., believing the opposing party to be immoral and unlikable), IH is posed to greatly benefit political discourse. Similarly, De keersmaecker et al. (2021) found that IH mediated the relationship between cognitive ability and freedom of speech support for all social-ideological groups. While these results are largely political in context, they likely have implications for interpersonal conflict more generally.

Measures of Intellectual Humility

Lack of consensus about the definition of intellectual humility has resulted in subsequent difficulty creating an appropriate measure to assess the construct. All standard measures that exist in the literature are self-report (or other-report) in nature. Psychologists often utilize self-report measures due to their efficiency and economical nature and they have proved to be valid for many constructs. There exists some debate as to the validity of self-report measures for intellectual humility, given the propensity for social desirability bias however, empirical evidence does not support this concern. Despite this, researchers agree that IH is best measured using a variety of measures.

Hook et al. (2017) suggests using behavioral measures, but there exists a lack of agreed-upon methods to assess IH. Woolner (2020) measured possible neurophysiological correlates of IH using an EEG as did Danovitch et al. (2019), though these types of measurement are still in their infancy. A recent systematic review identified 16 unique questionnaires measuring the construct (Porter et al., 2021). In a review of these measures of IH, all of the questionnaires were found to assess for awareness of one's intellectual limitations. Some measures incorporate private awareness of intellectual fallibility, while others tap external manifestations of this

awareness. And several items reflect awareness and expression of one's ignorance. Each of the existing measures utilize self-report items with Likert-response scales.

The differences between these measures further demonstrates the lack of consensus regarding the construct of IH. In addition to the varying content coverage within the measures of IH, some measures utilize a single factor versus others that utilize a multi-dimensional factor structure. The multi-dimensional measures contain two or more subscales established through factor analytics providing additional information to reflect the complexity of the construct. It's important to note that the creation and validation of these scales varies from those created ad hoc (e.g., Jarvinen et al., 2017), those empirically developed (e.g., Samuelson et al., 2015; Krumrei-Mancuso & Rouse, 2016), and those developed directly from or in collaboration with philosophical themes (e.g., Haggard et al., 2018; Leary et al., 2017).

State versus Trait

Almost all research has evaluated IH as a psychological trait (i.e., a characteristic that shows consistency across time and situations). However, IH may also be conceptualized as a state (i.e., a characteristic that is variable across situations and time). Theorists have suggested that this characteristic may be relatively consistent while still showing variability (Leary, 2018). For example, someone who is intellectually humble may demonstrate that characteristic most of the time except when considering their religious beliefs. Or an expert in a field may shed their humility when discussing their area of expertise.

Hoyle et al., (2016) demonstrated that people may be intellectually humble in regard to some of their beliefs while being arrogant about others. IH appears to demonstrate levels of domain-specificity that are like other personality characteristics, which have within-person variability (Fleeson, 2004). Research suggests that IH can be manipulated in the short-term

(Porter & Schumann, 2018), consistent with both state and trait qualities. Accordingly, research may benefit from assessing IH within a specific domain should that be relevant to the research questions.

Summary

A limitation noted by researchers who have studied IH is the almost exclusive reliance on self-report measures (see Hook et al., 2017; Krumrei-Mancuso, 2017). Originally, it was thought that a construct like humility would be difficult to measure through self-report due to a paradox in which those who are actually high in humility would rate themselves lower because of the nature of humility (Tangney, 2000). However, there is very little empirical literature to support this idea and, in fact, many self-report measures have been successfully validated (Davis et al., 2016). Hook et al. (2017) suggests using behavioral measures to further understand IH and provide additional information to the current self-report measures. However, measuring behavior may not accurately reflect IH depending on one's definition of the construct.

In order to capture the features most in line with this study's operational definition of intellectual humility, the Comprehensive Intellectual Humility Scale (Krumrei-Mancuso & Rouse, 2016) will be utilized. This scale includes not only the core feature of IH (i.e., recognition of one's intellectual limitations) within one subscale, but also includes three additional subscales. The remaining subscales represent separation of ego and intellect, openness to revising one's viewpoint, and respect for others' viewpoints. Additional information about the measures of the study can be found in the methods section.

Counselor Education

Counselor education is a broad field devoted to the research and practice related to training programs for those seeking to become counselors/therapists (Seligman & Baldwin,

1972). The literature on counselor training has included empirical exploration of many approaches aimed to increase counselor effectiveness (e.g., Buser, 2008). Counselor educational programs include didactic courses focused on basic psychology, theories of counseling, skills training, and supervision of counselors-in-training (CACREP, 2015). Clinical competence in trainees is the primary goal of training programs and has generated a good deal of research attention. Although methodological difficulties are inherent in clinical training research, the literature is clear that training programs result in increased levels of counseling competence (e.g., Bennett-Levy, 2006). The research literature has evaluated various approaches to benefit counselors-in-training (e.g., personal therapy for trainees (for review see Murphy et al., 2018); manual-guided training programs (e.g., Donati & Watts, 2005); and curricular models for developing interpersonal skills (e.g., Bradley & Fiorini, 1999)). The current research project focuses on a particular aspect of counselor education: supervision.

Clinical supervision is considered a cornerstone of training (Barnett, Erickson Cornish, Goodyear, & Lichtenberg, 2007). It has been so essential to the counseling profession that state regulatory boards and professional credentialing groups have established guidelines to ensure trainees receive an appropriate amount and quality of supervision (Bernard & Goodyear, 2004). Even though supervision is considered a major component of the development of clinical competence, lack of consensus on definition has impeded research (Falender & Shafranske, 2017). Bernard and Goodyear (2004) offered a definition for supervision which has been largely accepted in the field:

> Supervision is an intervention that is provided by a senior member of a profession to a junior member or members of that same profession. This relationship is evaluative, extends over time, and has the simultaneous purposes of enhancing the professional

> functioning of the junior member(s), monitoring the quality of professional services offered to the clients she, he, or they see(s), and serving as a gatekeeper of those who are to enter the particular profession. (p. 29)

One overarching goal for supervision is to facilitate, through a collaborative interpersonal relationship, clinical competence which adheres to ethical and legal standards to protect the welfare of the client (Falender & Shafranke, 2004). Through this process, the supervisee should develop skills and knowledge as they develop a professional identity within the field (ASPPB, 1998). Central to the supervision process is the relationship between the supervisee and supervisor. The fact that supervision is ongoing allows for the relationship between supervisor and supervisee to grow and develop. Relationship quality is an important aspect of supervision that has been identified within the literature (e.g., Ladany, Walker, & Melincoff, 2001) and is associated with supervisee development (e.g., Logan, 2014).

Supervision should include an ongoing and evaluative process in which the supervisor pushes the supervisee toward mastery of specific skills, while providing legal and ethical oversight (Powell & Brodsky, 2004). Due to the various definitions for supervision that exist in the literature (e.g., Falender & Shafranske, 2007; Milne & Watkins, 2014), there are multiple approaches to and goals for supervisory relationships. Though numerous models of clinical supervision have emerged, there is little evidence that one approach is superior to another (Morgan & Sprenkly, 2007). Many models of supervision have been established in connection to specific theoretical approaches to psychotherapy (e.g., Cognitive-behavioral or person-centered). Recently, researchers have postulated a *common factors* model of supervision which draws inspiration from the approach to psychotherapy bearing the same name, which is discussed in the next section.

Common Factors

The notion of therapeutic common factors resulted from psychotherapy outcome research suggesting that different psychotherapies result in equivalent outcomes when compared against each other (e.g., Wampold, 2015). Therefore, what makes psychotherapy effective is not the differences between therapies, but rather the commonalities among them (Lambert, 1986). Wampold's (2001) landmark research revealed that the theoretical approach utilized by the therapist (e.g., psychodynamic therapy) explained less than 1% of therapy outcome. In light of these findings, researchers and clinicians have been urged to minimize the importance placed on specific clinical techniques and interventions; instead, place emphasis on the commonalities among therapies that are associated with positive outcomes (Norcross & Lambert, 2011), such as the therapeutic alliance, empathy, positive regard, and collaboration within the therapeutic relationship (Norcross & Lambert, 2014; Norcross & Wampold, 2011), which are more useful for describing therapeutic changes.

Each of the common factors can be theoretically linked to intellectual humility. Therapeutic alliance accounts for the lion's share of clinical outcomes (Horvath et al., 2011). Establishing an alliance with a client can occur through various processes but research has suggested that it includes quality of interaction, collaborative nature of the process, and the personal bond between client and therapist (e.g., Digiuseppe et al., 1996). It could be argued that a therapist's lack of intellectual humility could easily harm the alliance (and the other common factors) if it resulted in interpersonal conflict. Conflict may arise if the provider and client hold opposing viewpoints related to the situation, whether that be related to the client's beliefs or the direction of treatment goals.

Empathy and positive regard both relate to how the practitioner perceives the client. Intellectual humility is associated with appreciation of others' intellectual strengths and perspectives which should directly increase the ability to approach the client with empathy and positive regard. Indeed, previous research has established that people who are more intellectually humble are more likable, trustworthy, and forgivable (Hook et al., 2015; McElroy et al., 2014). Finally, collaboration within the therapeutic relationship may be directly influenced by the practitioner's IH. The previously mentioned research establishes that IH qualities have clear implications for fruitful social bonds, collaboration, and other prosocial variables (e.g., Krumrei-Mancuso, 2018; Leary et al., 2017; Hook et al., 2015).

The common factors are greatly influential for therapeutic outcomes and they likely become more difficult to implement when the practitioner and client disagree. The ability to relate to others who hold different views is an important skill for daily life, but also essential for the therapeutic relationship. Intellectual humility should increase a practitioner's ability to engage effectively with the client and utilize the common factors of psychotherapy. If IH predicts the ability to establish a positive therapeutic alliance with clients, it likely also predicts therapeutic outcomes and would be a possible intervention point for future research and counseling training programs.

Many counseling courses focus on building counseling skills (i.e., micro-skills) in trainees' various settings (i.e., analogue situations without real clients and practicum lab with real clients) (CACREP, 2016). These courses provide counselors-in-training with the space to practice skills in a highly supervised environment. Situations such as these provide the counselors-in-training with opportunities to practice counseling skills and get thorough feedback

from supervisors. Often early courses focus on providing counselors-in-training feedback related to the common factors and micro-skills of therapy.

Feedback in Supervision

In counseling, supervision is the setting where counselor trainees receive feedback about their counseling skills in order to facilitate personal and professional development (Bernard & Goodyear, 2004). Feedback is a technique that "refers to the timely and specific process of explicitly communicating information about performance" (Bernard & Goodyear, 2004, p. 28). Arguably, the most important aspect of supervision is the feedback provided to the trainee by the supervisor regarding their skills. Counseling students frequently engage in feedback processes throughout their training program (Swank & McCarthy, 2015). The feedback process is acknowledged within the literature (e.g., Coleman, Kivlighan, & Roehlke, 2009), counseling ethical code (ACA, 2014), and accreditation standards (CACREP, 2016) as a critical part of the development of counseling students. How supervisory and evaluative feedback are received and acted upon is influenced by a variety of factors (e.g., personality, perceived expertise, communication style). Receiving supervisory feedback requires an individual to accept information without becoming defensive, as well as reflect on it to integrate it into one's development.

Psychological research on feedback and its relationship with performance has been ongoing for over a century and has nuanced results (see Kluger & DeNisi, 1996). Across contexts, there exists some level of conflict when dealing with performance feedback which is relevant for the current research. Porter et al., (1975) noted that tension exists for most individuals regarding feedback, as there is a desire to gain valuable information that conflicts with a desire to avoid anything that might harm one's self-concept. The desire to avoid negative

feedback is problematic because it limits the developmental impact of the information, which must be accepted in order to be effective (Stone & Stone, 1985). Research suggests that characteristics of the feedback can directly affect the cognitive processes that comprise receptivity to feedback (e.g., Ilgen et al., 1979). Additionally, there is reason to believe that individual differences impact receptivity to feedback (e.g., goal orientation; Waples, 2015).

Heckman-Stone (2003) found that counseling students want open and positive relationships with supervisors as well as balanced, accurate, immediate, and specific feedback. Receiving feedback is helpful in fostering self-awareness and promoting growth and development (Hayman, 1981). Given its importance, several researchers have discussed feedback in counselor training. Duba, Paez, and Kindsvatter (2010) identified students' ability to receive and accept feedback as a crucial area to assess for competency. Bradey and Post (1991) suggested assessing applicants' openness to opinions of others as part of the admission process. Swank and McCarthy (2015) designed a Counselor Feedback Training Model (CFTM) to help counseling students learn to provide and receive feedback within an educational program, finding that the CFTM improves self-efficacy and openness to feedback.

Given the importance of supervision and feedback to counselor development, variables that impact receptivity to supervisory feedback should be of interest within the field of counselor education. Individual differences, such as intellectual humility, may play a role in how counselors-in-training are able to respond and make use of supervisory feedback in meaningful ways. The current research seeks to explore the relationship between intellectual humility, receptivity to feedback, and counseling skills.

Intellectual Humility and Counseling

Though there is little existing literature connecting IH with counseling and therapy, there are some theoretical connections between the two. Ethical guidelines in counseling often urge practitioners to recognize one's own strengths and weaknesses in order to maintain ethical and appropriate treatment for clients. Recognition of one's intellectual strengths and weaknesses is the central tenet of IH. The disposition to be aware of one's limitations and respond accordingly appears to be generally relevant in therapy, where the client is expert in their own life. Dyche and Zayas (1995) suggest that therapists should manifest "respectful curiosity" in seeking to understand the client, an approach which David and Erickson (1990) call "cultural empathy" when it pertains to background differences between the client and therapist. Similarly, research has established that good practitioners are intellectually humble (without using that term), finding them to be more self-aware, non-defensive, and lifelong learners open to feedback (Jennings & Skovholt, 1999).

Intellectual humility may help guide the therapist toward appropriate treatment of topics regardless of their personal stance on the specific issue. For example, Hathaway et al. (2004) found that more than 50% of therapists rarely/never examine how psychological difficulties impact the religious or spiritual function of the client, which inspired the work. A recent theoretical article discussed several ways that intellectual humility could be applied within the counseling setting related to issues of spirituality as well as supervision and self-reflection (Gordon, 2018). Gordon (2018) proposed that counselors can make use of intellectual humility, specifically in regard to their own defenses, in order to improve their practice. This is just one example of a counselor avoiding a topic that may be of therapeutic relevance due to their own comfort level with other's beliefs.

Additionally, the boundaries of one's competence as a practitioner should always be in the forefront when addressing case load and symptomatology. Intellectual humility should allow therapists to be more cognizant of their own knowledge gaps, informing when they should seek supervision, further training, or refer the client elsewhere for services. Therapists are susceptible, like all other humans, to certain biases which may in turn influence how they see clients (e.g., Saul, 2013). Research has long been focused on illuminating how counselor bias negatively impacts client outcomes (Schlossberg & Pietrofesa, 1973). Bias in the therapy room may be the result of implicit or explicit attitudes and may relate to a myriad of different topics of importance.

Intellectual humility may also be more aligned with certain theoretical orientations (e.g., person-centered or cognitive-behavioral) over others. The American Psychological Association (APA) defines theoretical orientation as a "set of assumptions or preferences within a theory that provides a clinician with a conceptual framework for understanding a client's needs and for formulating a rationale for specific interventions." Any theory that a provider uses to guide their practice could be considered a theoretical orientation. The theoretical orientations for therapy are covered in didactic coursework within graduate training programs (CACREP, 2016) and within counseling textbooks (e.g., Corey, 2009). Theoretical orientations vary in the degree to which the practitioner is considered an expert versus the client being considered the expert and how directive they are within the treatment setting (Corey, 2009).

Challenges to Practicing with Intellectual Humility

It is well established that human beings are often blind to their own limitations, and therapists are no different. Recognizing knowledge gaps related to client issues can be difficult to do and not doing so can be detrimental to therapeutic outcomes. Knowledge gaps can be the

result of lack of awareness related to particular cultural variables or avoiding topics based on comfort level. Either could lead to the therapist dismissing or skimming over the value of a client's belief system or pretending to understand when one does not. All therapists are susceptible to biases that lead them to view clients in particular ways, often implicitly (e.g., Saul, 2013). Transcending one's own standpoint (Baehr, 2011) is critical for open-mindedness and intellectual humility, and largely important for stepping into the perspective of the client suitably. Despite its importance, engaging in intellectually humble behavior and interactions is challenging and can go against the human inclination to maintain our beliefs and continue feelings of security.

Counselor Supervision and IH

It seems clear that IH has implications for therapeutic success due to its interaction with variables known to benefit client outcomes (i.e., common factors, openness). Additionally, given IH's prosocial associations and connection to better interpersonal processes, it likely has ramifications for clinical supervision. As previously mentioned, supervision is considered one of the most important aspects of counselor training. It involves interaction of a knowledgeable supervisor and counselor-in-training and usually direct evaluation of performance. The complexity of this relationship is represented by the diverse and extensive body of literature devoted to supervision models and practices that was previously discussed. Evidence suggests that clinical supervision has a positive impact on a number of outcomes including self-awareness, skills, self-efficacy, theoretical orientation, and some client outcomes (for review see Wheeler & Richards, 2007).

Intellectual humility may directly influence the supervisory relationship due to the interpersonal outcomes previously associated with the construct. The IH of the counselor-in-

training should allow them to be more receptive to feedback (i.e., able to fully listen to and consider the information received from the supervisor) which should, in turn, increase their ability to grow as a therapist. While this hypothesis has not been explored yet, there are several studies from the existing literature that contribute support for this line of thought. In one of the few applied studies of IH, researchers demonstrated that IH predicts increased mastery behaviors in learning (Porter et al., 2020). This finding existed for those individuals who were high in state IH but also remained when IH was manipulated in an experimental setting. Based on these findings, it could be hypothesized that those high in IH would demonstrate more growth across academic courses than those low in IH due to their increased tendency to have mastery responses. Additionally, research from the literature on feedback receptivity suggests that individual differences can impact the process (e.g., Waples, 2015). IH, as a trait, has theoretical implications for feedback receptivity that have not yet been explored.

Research by Woolner (2020) explored neurophysiological correlates of IH and gratitude when receiving feedback which resulted in inconsistent findings. Results suggested that neural correlates of IH do exist and should be explored in future research. If neural pathways of IH are activated when individuals are receiving feedback, it can be hypothesized that IH would demonstrate predictive influence on feedback processes. The cognitive response of the counselor-in-training when receiving feedback may shed some light on the internal processes which occur during clinical supervisory interactions.

Summary

Intellectual humility, a construct that includes recognition of one's intellectual limitations, has gained recent focus within psychological research and is likely beneficial to professional counselors and counselors-in-training. Intellectual humility has been associated with

a variety of positive outcomes including increased mastery behavior in contexts of learning, increased tolerance toward others, and cognitive flexibility. Given the potential benefits to both practitioners and their clients, exploration of how IH interacts with counselor training is warranted. The current research seeks to explore the connection between IH and counselor-in-training growth, as well as their reactions to supervisory feedback.

Chapter 3: Methods

The objective of this study was to explore the relationship between intellectual humility and counselor-in-training growth; and whether the counselor-in-training feedback receptivity in supervision mediates the relationship between IH and growth. The following chapter describes the methodology of the current study by: (a) describing research design and measures; (b) discussing the population, sampling techniques, recruitment methods, and participants; (c) outlining the procedures; and (d) detailing the data analytic plan in relation to the specific research question and hypothesis.

Research Questions

1. Is intellectual humility related to self-rated counseling skills performance?
2. Does IH predict faculty-rated growth across a semester of counseling skills training?
3. Does receptivity to supervisor feedback mediate the relationship between IH and counselor-in-training growth across the semester?
4. Does IH predict cognitive processes in response to supervisor feedback evaluating counseling skills for counselors-in-training?

Research Design

The proposed study was conducted to investigate the impact of intellectual humility on counselors-in-training. Specifically, how IH relates to counselor-in-training skills, instructor-rated growth over the semester, and receptivity to performance feedback. In order to explore how IH impacts counselors-in-training, the current study utilized a correlational, mixed methods approach. The first arm of the study included a survey to gather quantitative data from the participants related to intellectual humility, counseling skills, and feedback receptivity. Additionally, course instructors were asked to rate counselor-in-training growth over the

semester. The second arm engaged a sub-sample of the participants who scored high and low in IH in a qualitative, think-aloud protocol to explore the cognitive and emotional processes associated with receiving performance feedback. This design was chosen due to the exploratory nature of the research questions and to maximize the external validity of the findings (Cropley, 2021). Integrating both qualitative and quantitative methodologies allowed for a more thorough exploration of the research questions in order to guide further research in this area.

Part One

The first arm of this study involved collection of quantitative data from the counselors-in-training and the faculty members who were teaching counseling courses. Data from this arm of the study addresses research questions one, two, and three related to counselor-in-training characteristics, self-rated skills, and instructor-rated growth. Additionally, these data were used to screen and recruit participants for the second arm of the study (i.e., individuals high and low in IH).

Participants

Sixteen participants were recruited using convenience sampling. Participation was limited to counselors-in-training enrolled in beginning counseling practicum courses within an accredited graduate training program (i.e., clinical mental health counseling or counseling psychology). This criterion was enforced in order to capture students early in their counseling experience to reduce variability. In addition to the information gathered from participants, collaborating supervisors and faculty members were asked to rate their perception of skills growth of each counselor-in-training at the end of the semester.

Procedure

Participants were recruited by email sent to all students enrolled in practicum courses. Faculty members teaching counseling courses were asked to disseminate the link to the survey in order for the counselors-in-training to participate. The email contained a brief summary of the study, a request for their participation and information about the incentive (described below), and a link to the survey. The survey was conducted using the online survey provider, Qualtrics. Materials within the survey included an introduction to the study, inclusionary criteria, informed consent, IH scale, feedback receptivity scale, self-rated counseling skills, and demographics questions. The survey also included an item assessing the participants willingness to complete additional research and asking for contact information. Previous research indicated that rewards upon completion improve response rates (Goritz, 2010). In order to incentivize participation, a $20 gift card was given to two participants drawn at random.

Instrumentation

Counseling Skills Scale. A great deal of research indicates that individuals have a difficult time accurately measuring their own competence (e.g., Dunning, 2005). Acknowledging one's limitations is a central part of intellectual humility and requires self-assessment. Counseling competency will be self-assessed utilizing the Counseling Skills Scale (CSS; Eriksen & McAuliffe, 2003). The CSS measures counseling skills performance and consists of 19 items which make up six subscales. Students will rate themselves on a Likert scale from -2 (major adjustment needed) to +2 (highly developed skills). Items on the CSS reflect skills that are generally addressed in counseling textbooks and coursework (Eriksen & McAuliffe, 2003; Ivey & Ivey, 2009). The *Shows Interest* subscale includes body language, minimal encouragers, vocal tone, and evoking strengths. The *Encourages Exploration* subscale includes questioning, requesting examples, paraphrasing, and summarizing. The *Deepens the Session* subscale includes

reflecting feelings, using immediacy, observing themes/patterns, and reflecting meaning. The *Encourages Change* subscale includes determining goals/outcome, creating change, considering alternatives, and planning action/anticipating obstacles. The last two subscale are *Develops Therapeutic Relationship* and *Manages the Session*. Scale development research indicated a Cronbach's alpha of .91, representing adequate internal consistency (Eriksen & McAuliffe, 2003). Additional research on the measure found that the CSS demonstrated acceptable levels of reliability and validity for research purposes (Perosa & Perosa, 2010). Perosa & Perosa (2010) also identified other benefits of using the CSS over other measures: specific skill items that are applied successfully but less frequently do not lower the subscale score (something that can impact scores on other scales). One limitation noted of the CSS is that it focuses on skills learned early in counselor training (Perosa & Perosa, 2010). This is appropriate for the current study given that these counselors-in-training are in their first practicum experience. The CSS was also used by course instructors to rate the growth of the counselor-in-training over the semester.

Intellectual humility. Of the various self-report measures for IH, the current research utilized the Comprehensive Intellectual Humility Scale (CIHS; Krumrei-Mancuso & Rouse, 2016). This scale represents the multi-dimensional nature of IH and captures those aspects which are included within the operational definition of intellectual humility that is utilized in the current research. The measure includes 22 items rated on a 5-point Likert scale (1 = *strongly disagree,* 5 = *strongly agree*). Sample items include "I am willing to change my opinions on the bases of compelling reason", "I tend to feel threatened when others disagree with me on topics that are close to my heart", and "I welcome different ways of thinking about important topics". The results from exploratory factor analysis suggested a four factor solution which accounted for 57% of the variance. The coefficient alpha for the full scale was .88 and the subscales ranged

from .73 to .89 across three different studies, suggesting adequate internal consistency. Confirmatory factor analysis indicated that a four factor solution with a fifth, higher-order factor yielded strong fit indices. Although there was no significant difference between the four-factor model and the one with an additional higher-order factor, the second was retained due to the anticipated use of the measure as a general scale with four subscales. The CIHS did not correlate with gender, race, education, or religious affiliation. It did show an expected pattern of relationships to other variables (i.e., positively related to open minded thinking, tolerance toward other people and ideas, openness to experience; unrelated to conformity and social confidence), while maintaining appropriate levels of discriminant validity. The CIHS has been used in many research publications including studies examining sociopolitical attitudes and behavior (Krumrei-Mancuso & Newman, 2021), religion and authoritarianism (Krumrei-Mancuso, 2018), Dark Triad traits and educational settings (Cannon, Vedel, & Jonason, 2020), and adoption of information and communication technology across the lifespan (Bernabe-Valero et al., 2018).

Feedback Receptivity. Although empirical evidence supports distinction among various cognitive elements of feedback processing (Ilgen et al., 1979; Kinicki et al., 2004), the relationship among those elements makes an overall measure of receptivity more practical for the current research. Waples (2015) created an 8-item composite measure of receptivity to feedback based on existing measures within the literature, which captured overall receptivity. This measure includes items targeting both perceptions of accuracy (e.g., “I think that the feedback I receive is accurate”) and utility (e.g., “After receiving feedback, I look forward to improving next time”). The scale demonstrated adequate internal consistency ($\alpha > 0.88$). The factor structure was examined and the two-factor model with one overarching factor had the best model fit. Many measures of feedback receptivity that exist in the literature are tied to specific instances

of feedback, rather than more global or trait-like measures. In order to assess for more general feedback receptivity, items from the Waples (2015) measure were modified and two items were added to reflect emotional response to feedback.

Theoretical Orientation. Participants will be asked to rank which theoretical orientation(s) they most align with in their therapeutic practice. Options will include: Person-centered, Cognitive-Behavioral, Psychodynamic, Dialectical Behavior therapy, Acceptance and Commitment therapy, Family or systems therapy, Gestalt, and Narrative. Participants will be allowed to rank three different approaches and/or indicate that they are still undecided.

All participants were coded by number so that self-report data could be matched with faculty-reported data at the end of the term.

Part Two

The second arm of this research study explores if IH impacts counselor-in-training receptivity to feedback. Qualitative data was gathered utilizing a Think-aloud protocol, substantiated by iMotions facial analytic software. Qualitative methods can be useful in exploring the details of phenomena such as feelings, thought processes, and interactions between people (Strauss & Corbin, 1998).

Participants

Participants for part two of the study were selected from those who participated in part one of the study and agreed to be contacted for additional research. Four participants for the Think-Aloud Protocol (TAP) were selected based on their IH scores (those with the highest and lowest scores) and physical location (must be on the Flagstaff mountain campus).

Procedure

Participants who were selected were contacted by the researcher and asked for their willingness to participate. In order to incentivize participation for the qualitative portion of the study, participants were given a $20 gift card upon completion. Once participants provided their informed consent they were provided with information on the TAP and the purpose of the research. In order to avoid possible influence, the participants will not be informed of the research hypotheses. Participants were informed that the video recorded sessions would be deleted following data analysis and transcripts would be deidentified. Once the participants consented, they scheduled a time to participate in the TAP.

When they arrived in the lab, the researcher reviewed the consent, procedures, and provided a model of a TAP so the participant became acquainted with the protocol. Then the participant engaged in a practice session in which they completed a similar task (i.e., reading a passage while verbally reporting their thoughts). Participants were then provided with the written feedback from their supervisor to engage in the TAP while being recorded. iMotions software was utilized to capture and integrate facial expression analysis during the task. Additional information about the iMotions software is included in the following section.

In order to maintain the confidentiality of the clients being seen by counselors-in-training, feedback was provided by the doctoral student supervisor who was responsible for reviewing the counselor-in-training sessions. The supervisors varied across counselors-in-training which increased the variability of the feedback received but increased the external validity of the research. Additionally, no client information was accessible to anyone on the research team. Feedback was written instead of communicated verbally in order to engage the counselor-in-training in the TAP. The Think-aloud protocol (TAP) was used to gain insight into the perspective of the counselors-in-training when they are receiving clinical supervisory

feedback. Before the TAP began, the participants were given the opportunity to ask questions about the procedure.

The TAP was conducted in the Department of Psychological Sciences iMotions lab, which provided secure audiovisual recording and integration of biological variables (i.e., facial expression analysis). The entire TAP process was audio and video recorded.

Think-aloud Protocol

Attempting to track human thought processes has a long tradition within the field of psychology. Wilhelm Wundt's "Selbstbeobachtung" technique (i.e., introspection) asked participants to attend to their inner process and describe them in detail (Wundt, 1888). Wundt considered inner flow of consciousness to be the core topic of psychology and though endorsement of that premise has ebbed and flowed throughout the last two centuries, the scientific study of cognitive process has been solidified within the field.

Think-aloud protocol was initially validated in cognitive psychology (Ericsson & Simon, 1984) in order to provide a more rigorously controlled method of eliciting data on cognitive processes. Researchers access cognitive processes concretely by requesting that individuals verbalize as they think, or "think aloud." Think-aloud methods offer a direct approach to gain insight and have often been used to study problem-solving processes (e.g., Hamel, 1990) and propose models of said processes. When individuals verbalize the thoughts entering their attention as a part of a task, those thoughts should not be altered by the instruction to think aloud (Ericsson & Simon, 1993). Think-aloud protocols offer the advantage of drawing information from short-term memory, rather than long-term memory, which is often tainted by perceptual alterations (Ericsson & Simon, 1993). These methods provide information that is difficult to

obtain by other means and therefore, have been called essential for cognitive psychology and educational science (van Someren, Barnard, & Sandberg, 1994).

Verbalizations that take place concurrently are largely independent of interpretation, allowing them to maintain more accuracy (van Someren, Barnard, & Sandberg, 1994). On the other hand, real-time data collection can be difficult because think-aloud utterances are often incoherent (Ericcson & Simon, 1993). As such, follow-up interviews may result in more articulate responses. A two-step process appears to be a practical approach in which researchers first collect data in real time, asking subjects to think aloud. Researchers probe subjects as infrequently as possible in order to not distract the participants (Ericsson & Simon, 1993). If silences continue for several seconds, researchers merely probe the subject to "keep talking." Neutral cues such as "keep talking" encourage subjects to think aloud but do not bias the data by adding external ideas to the internal processes of subjects. Once the think aloud process is complete, the second step of this method is to ask follow-up questions. Answers to these questions are not the primary data source, but can supplement any unclear data derived from think aloud techniques. Such questions may also be useful for subjects who are unable to meet the cognitive demands of thinking aloud while engaging in another task (Branch, 2000).

Limitations of think-aloud protocols include heavy reliance on language. Individuals who have language or cognitive difficulties may not be appropriate for these protocols. Additional limitations include a cognitive load problem (Branch, 2000) but post-process questions may mitigate some of the issues.

Application of TAPs

Thinking aloud protocols have been used in many disciplines, including education (e.g., Cummings et al., 1989), computer usability (e.g., Wang, 2016), software engineering (Hughes

and Parkes, 2003), business management (e.g., Isenberg, 1986), discourse processing (e.g., Long and Bourg, 1996), and sport psychology (e.g., Samson et al., 2017). Research has demonstrated that TAPs can have beneficial effects in educational settings. Ward and Traweek (1993) found that incorporating TAPs in remedial reading instruction resulted in substantial gains in reading comprehension. It could be suggested that much of cognitive therapy relies on methods similar to TAPs in order to identify and address automatic thoughts (e.g., DeRubeis et al., 1990).

In a recent article exploring the relationship between information seeking and intellectual humility, researchers utilized a think-aloud paradigm finding mixed results (Gorichanaz, 2021). Though researchers have suggested that IH likely leads to more information seeking in order to seek truth, results from the study found that those with high IH actually favor more easily accessible information but certain aspects of IH remain important for information seeking (Gorichanaz, 2021). At this time, TAPs have not been utilized in counselor education research.

iMotions Software

iMotions Software is an integrated analysis platform made to synchronize multiple biometric sensors that provide insight into human response (i.e., eye tracking, facial expression, etc.). This platform has been used to explore a large variety of research topics related to human behavior and cognition (e.g., how children understand facial expressions, Franz et al., 2021; neurocognitive responses between infants and mothers, Bjertrup et al., 2021; emotions when reading and learning from texts, Pekrun, 2021). iMotions uses a program called Affectiva that codes based upon the Facial Action Coding System (FACS), which was developed by Ekman and Friesen (1976). The reliability of the Affectiva software has been confirmed in validation studies on static images (Stockli et al., 2018) and videos (Taggart et al., 2016). Additional research has explored how Affectiva compares to other systems and shown significant

correlations (e.g., Kulke, Feyerbend, & Schacht, 2020). In the current study, the facial expression analysis was utilized to track emotional expression in the participants as they read their feedback.

Data Analysis

The intent of this study was to demonstrate ways in which the intellectual humility of counselors-in-training influences their skills, growth, and feedback receptivity. Quantitative data will be primarily used to address research questions 1-3, and qualitative data will be used to address research question 4 and expound upon research question 3.

Research Questions and Data Analytic Plan

Research Question One

a) Is intellectual humility related to self-rated counseling skills performance?
b) Hypothesis: Self-reported intellectual humility will be unrelated to self-rated counseling skills performance.
c) Analytic Plan: Zero-order correlations will be examined to determine if there is a significant relationship between IH and self-reported counseling skills.
d) Expected Results and Rational: Based upon the current understanding of intellectual humility, those individuals with higher IH scores should be more accurate in their self-assessment, while those low in IH should be less accurate. However, the current self-assessment will not be evaluated for accuracy so I predict that no correlation will be present.

Research Question Two

a) Does IH predict faculty-rated growth across a semester of counseling skills training?
b) Hypothesis: Self-reported intellectual humility will be positively predictive of faculty-rated growth at the end of the term.

c) Analytic plan: A simple regression analysis will be utilized to determine if IH predicts counselor-in-training growth at the end of the term.

d) Expected Results and Rational: Based upon the research suggesting that IH is related to mastery behavior in learning situations, I expected that IH would positively predict instructor rated growth at the end of the term. Individuals with higher IH scores would likely take advantage of more opportunities to practice and increase their skills, increasing overall growth.

Research Question Three

e) Does receptivity to supervisor feedback mediate the relationship between IH and growth across the semester?

f) Hypothesis: Self-reported receptivity to supervisor feedback will mediate the relationship between IH and faculty-rated growth across the semester.

g) Analytic plan: Mediation analyses will be conducted utilizing Preacher and Hayes' (2008) "Process" macro for SPSS. The macro uses bootstrapping to calculate a confidence interval for direct and indirect mediation effects which avoids problematic assumptions underlying other techniques for testing mediation effects (e.g., Sobel, 1982).

h) Expected Results and Rational: I expect that receptivity to feedback will partially mediate the relationship between IH and faculty-rated growth across the semester. Individuals with higher IH scores are likely more receptive to supervisor feedback leading to increased growth.

Research Question Four

a) Research Question: Does IH predict counselor-in-training response to supervisory feedback?

b) Hypotheses: Participants higher in trait IH will perceive supervisory feedback as less threatening, will demonstrate a less emotional response, and will attempt to integrate and apply the feedback. Participants lower in trait IH will attempt to justify their own actions in the face of feedback and will show increased levels of defensiveness and negative emotion.

c) Analysis Plan: In order to analyze data from TAPs, the data was transcribed and coded. Coding implies applying labels to the verbalizations that align with categories of interest. Coding schemes should align with research goals and take into account interrater reliability (Sage PDF, 2019). An inductive method of coding was utilized based upon the information provided within the transcripts. In order to reduce bias in the coding process, the raters were blinded to the individuals' IH scores. The final coding scheme included the following: agreement/disagreement, emotional valence, content-focus/self-focus, openness, application, justification, defensiveness, and norm-referenced/ criterion-referenced. In order to make the transcripts more easily coded, participant responses were parsed into shorter statements. The primary researcher and another doctoral student coded the transcripts/audio recordings separately and then met to review codes in order to establish interrater reliability. Codes were reviewed as a team and inconsistencies in codes were discussed until consensus was reached. It was possible for a parsed statement to receive multiple codes based on the content. Biometric data from the iMotions platform was integrated and examined to determine if facial expression of emotion varied among the individuals during the TAP.

Summary

The current research aimed to explore how intellectual humility influences counseling skills training for individuals enrolled in graduate degree programs for counseling. Specifically, if IH predicted counselor-in-training skills development and processes related to receiving

feedback. This research will contribute to the literature on intellectual humility by providing additional applications of the construct in applied settings. It will also contribute to the counselor education literature by examining feedback receptivity processes in supervision.

Chapter 4: Results

The purpose of the current research was to investigate possible relationships between IH and counselor-in-training characteristics, skills, and growth, as well as explore processes related to receiving clinical performance feedback through supervision. Sixteen counselors-in-training responded to a questionnaire assessing their IH, self-reported counseling skills, and feedback receptivity. The supervisors/faculty members responsible for monitoring the counselors-in-training in their clinical work were asked to rate their skills as well. For the second part of the study, four participants (with the two highest and lowest IH scores) were selected to engage in a TAP while reading performance feedback from their supervisor. Descriptive statistics for study variables can be found in Table 1. Sample characteristics for the participants can be found below. The results of this research are presented in the following sections ordered by research question.

Table 1

Descriptive Statistics for Part One Study Variables

Variable	N	Mean (SD)	Range
Self-rated Counseling Skills	16	41.44 (7.00)	30
Self-rated Feedback Receptivity	16	49.38 (6.38)	20
Intellectual Humility	16	86.72 (7.85)	26
Supervisor-rated skills	7	42.29 (3.00)	14
Supervisor-rated Feedback Receptivity	7	13.29 (2.21)	5
Faculty-rated skills	3	34 (3.00)	6
Faculty-rated Feedback Receptivity	3	15 (0)	0

Note. The maximum score for each scale is as follows: Self-rated counseling skills = 50, self-rated feedback receptivity = 60, Intellectual humility = 110, Supervisor-rated skills = 50, supervisor-rated feedback receptivity = 15, faculty-rated skills = 50, faculty-rated feedback receptivity = 15.

Sample Characteristics

The sample of participants for this study were all selected from four sections of an introductory counseling practicum course within an accredited graduate program in the southwestern United States. The total sample consisted of 16 individuals, 7 male and 9 female. The participants varied in age from 23 to 49, with a mean of 28.4. Participants with the two highest and lowest scores on the IH scale were identified and contacted to complete the TAP. All four agreed to participate. Of those four individuals, two were female and two male, one of each sex in both the high and low IH groups.

Part One Research Questions

Research Question One

Is intellectual humility related to self-rated counseling skills performance?

Based on the current understanding of IH as a construct and self-rated counseling skills, it was hypothesized that there would be no relationship between those two variables. In order to investigate this question, correlations were examined. Due to the small sample size, bootstrapping procedures were utilized generating 1000 samples. In the current study, there was no detected relationship between self-rated counseling skills and IH, 95% CI [-0.53, 0.08]. These data supported the first proposed hypothesis.

Research Question Two

Does IH predict faculty-rated growth across a semester of counseling skills training?

Based upon the research suggesting that IH is related to mastery behavior in learning situations (Porter et al., 2020), it was expected that IH would positively predict instructor-rated growth at the end of the term. Individuals with higher IH scores would likely take advantage of more opportunities to practice and hone their skills, increasing overall growth. Unfortunately,

faculty compliance in rating the counselors-in-training growth was extremely low so the number of complete data points was 3. Because of this, supervisor-rated skills (rated mid-semester) was used as the dependent variable instead. Due to the small sample size, bootstrapping procedures were utilized generating 1000 samples. In the current study, there was no detected relationship between IH and supervisor-rated counseling skills, 95% CI [-0.65, 0.48]. These data do not support the second (modified) hypothesis.

Research Question Three

Does receptivity to supervisor feedback mediate the relationship between IH and growth across the semester?

It was predicted that self-rated receptivity to feedback would mediate the relationship between IH and faculty-rated growth across the semester. This was based on the presumption that individuals with higher IH scores would be more receptive to supervisor feedback, leading to increased growth. Unfortunately, IH was not related to self-rated receptivity to supervisor feedback nor supervisor-rated skills at mid-semester so the mediational analyses could not be completed. These data do not support the third hypothesis.

Part Two Research Question

Research Question Four

Does IH predict counselor-in-training response to supervisory feedback?

I predicted that receptive processes would differ between the high and low IH participants in their response to supervisory feedback. Specifically, participants higher in trait IH would perceive supervisory feedback as less threatening, would demonstrate a less emotional response, and would attempt to integrate and apply the feedback; participants lower in trait IH would attempt to justify their own actions in the face of feedback and would show increased

levels of defensiveness and negative emotion. Four participants were recruited from the first part of the study: those with the highest and lowest IH scores. The mean for the low IH participants was (M = 77, SD = 1.41) and high IH participants was (M = 102, SD = 1.41). There was a significant difference between the two groups, $t(2) = 16.97$, $p = .002$.

Code names and definitions can be seen in Table 2. Two independent coders rated the TAPs and then met to identify disagreement and establish interrater reliability. Coders were blinded to the participant groups in order to reduce bias in coding. Initial interrater reliability was calculated by percentage of agreement was 53%. Coders then met and reviewed the transcripts and audio recordings of the TAPs in order to come to agreement. Audio recordings often provided more information and led to the revision of initial codes. Following the audio review, discussion continued until agreement was achieved among the coders. One example transcript with codes can be found in Appendix D.

Table 2

TAP Codes and operational definition

Code	Definition
Agreement (+) (-)	Acknowledging the feedback is accurate in response to a positive or constructive comment
Openness	Demonstrating receptivity to information provided
Application	Referring to ways behavior has changed already or will change in the future related to the feedback
Self-focus	Referencing how one's self is related to the feedback
Content-focus	Referencing the information in the feedback itself
Defensiveness	A combination of self-focus, negative emotion/tone, and disagreement/justification
Disagreement/ Questioning (+) (-)	Making a statement contrary to the positive or constructive feedback provided

Justification (+) (-)	Providing an explanation or reasoning for one's behavior or perspective in response to a positive or constructive comment
Positive emotion	Utilizing a positively valenced emotion term
Negative emotion	Utilizing a negatively valenced emotion term
Norm-reference	Referring to what others (peers) are doing
Criterion-reference	Referring to what is expected based on the skill/class

Results from the coding of the TAP transcripts can be seen in Table 3 and are presented as a percentage of the overall codes for each group since the number of codes varied by participant. Though there were many similarities in how individuals received the information presented, some patterns emerged from the TAPs that may reflect differences in how those with high IH and those with low IH processed supervisory feedback. High IH participants exhibited more openness to feedback (i.e., clear consideration of the feedback provided), with statements that demonstrated the contemplation of the information presented. High IH individuals also showed more disagreement or questioning of positive feedback, while both groups were similar in questioning constructive feedback. For example, high IH questioning in their responses to positive comments: "I appreciate that, I'm not sure that it's always true. I get hung up on explaining it correctly" and "Um, counseling micro skills. I don't know if they're well established. I'm still working on them. I feel like every time I look at one thing, I see that I could be doing something else."

The high IH group demonstrated more self-focus whereas the low IH group showed more norm- and criterion-reference in their responses. Norm- and criterion-reference comments often connected the feedback to what was going on with others or deemed to be a part of the development of the trainee (e.g., Um, I feel like it's natural to second guess yourself, especially when starting out, but, um, that's fine"). Despite higher self-focus, the high IH group showed

much lower levels of justification (both in response to positive and constructive feedback). Justification comments provided reasoning for why the feedback was accurate (i.e., “Yeah, I agree with that, but I don't think that there's a whole lot of resources to find how these techniques actually work”). Self-focus in the high IH group often was in line with application or integration of the feedback provided (e.g., “So ultimately, I'm still trying to find my own style and my own comfort level”).

High IH participants also demonstrated many more comments applying the feedback given. For example, one high IH participant said this in response to constructive feedback: “the comment about the SI, there was a time that I forgot to do that and it was awful. And since then, I've been really good about asking” and “yeah, I would really like to, uh, attend more conferences and learn more of future development type planning”. Neither of those in the Low IH group ever referenced applying the information that they received from the supervisor.

The Low IH group demonstrated many more negative emotional words/phrases in their responses, whereas the High IH group had none. Some of the negative emotion codes included “seeing this is frustrating though” and “that's really weird. That's really weird”. The high IH group utilized more positive emotional words/phrases (e.g., “that feels good to hear”). Lastly, the low IH group demonstrated a great deal more defensiveness than the high IH group. The defensive comments were lengthier and more complex in their presentation since defensiveness was conceptualized as a combination of factors. One example of defensiveness was in response to constructive feedback:

“… they're asking about my process, where they're making their assumptions based on what I'm saying, which is never like the full picture. So it's like, I'm giving them my

interpretation and then they're giving their, they're giving me their interpretation of my interpretation. So sometimes it's like, why would I ask for help from my supervisors".

Table 3

TAP Coding Results by IH Level presented as a Percentage of the Overall Codes

Code	Low IH Total	High IH Total
Agreement (+)	11.76	9.09
Agreement (-)	11.36	11.76
Openness	5.89	11.36
Application	0	11.36
Self-focus	11.76	20.45
Content-focus	2.00	4.54
Defensiveness	13.72	2.27
Disagreement (+)	1.96	4.54
Disagreement (-)	5.88	6.81
Justification (+)	5.89	2.27
Justification (-)	11.76	4.54
Positive emotion	1.96	6.81
Negative emotion	7.84	0
Norm-reference	1.96	0
Criterion-reference	1.96	0

Results from the iMotions facial analysis software, as seen in Table 4, demonstrate the differences in facial emotional expression between the low and high IH individuals. The average amount of time for each emotion (or category) is listed as a percentage of the overall time reading the feedback. The groups were almost identical in time registered as engagement (i.e., time spent interacting with the stimulus). The majority of time for each group was registered as

neutral (63.49% for low IH; 84.63% for high IH), or the absence of detectable emotional facial expression. However, participants in the high IH group demonstrate lower levels of expressive emotionality across all emotion measures. Specifically, the low IH group had three times as much time spent with emotional facial expression.

Table 4

iMotions Facial Analysis Results by IH Level- Percentage of time

Emotion	Low IH *M*	High IH *M*
Anger	9.75	0.12
Sadness	6.80	0.00
Disgust	2.60	0.22
Joy	9.70	2.21
Surprise	15.00	9.81
Positive Time	11.66	3.23
Negative Time	24.86	7.13
Engagement	61.24	60.64

Summary

Based on the existing literature and theoretical connections between the study variables, it was expected that relationships would exist among counselor-in-training IH, characteristics, skills, and growth. Unfortunately, no relationships emerged in the current data to support any of the hypotheses proposed in the first arm of the research project. Faculty growth ratings could not be used due to incomplete data. IH was not related to self-rated receptivity to supervisor feedback nor supervisor-rated skills at mid-semester so the mediational analyses could not be completed.

The second portion of the project, on the other hand, illuminated some differences between the low and high IH groups in receptive processes and facial emotional expression during the reading of supervisory feedback. Low IH participants demonstrated more defensiveness and justification during the TAP but less openness to the feedback and less application. High IH participants demonstrated more questioning of positive feedback and self-focus in their responses. Low IH participants showed more emotional facial expressions regardless of valence, but this was especially true for negative emotions such as anger and sadness. The high IH participants were less emotionally expressive throughout the TAP.

Chapter 5: Discussion

Introduction

Intellectual humility involves acknowledging the limitations of one's own intellect and appears to be a beneficial characteristic for individuals in academic and other settings (e.g., Porter et al., 2020; Krumrei-Mancuso& Newman, 2016). Given the human propensity to believe things that are untrue or biased (e.g., Gilovich & Griffin, 2010), IH may be one potential solution to the problems caused by the overconfidence in our own accuracy. Previous research has suggested that IH is beneficial to civil political discourse (Krumrei-Mancuso & Newman, 2016), predicts memory accuracy (Deffler et al., 2016), and has been connected to pro-social attitudes (Krumrei-Mancuso, 2017). IH is positively associated with several cognitive styles, such as need for cognition, epistemic curiosity, and open-mindedness (Krumrei-Mancuso & Rouse, 2016; Porter & Schumann, 2018). IH is negatively associated with constructs reflecting need for epistemic certainty, like close-mindedness, need for closure, and dogmatism (e.g., Leary et al., 2017; Altemeyer, 2002).

Research has demonstrated that IH predicts mastery behaviors when learning in both lab and real-life settings (Porter et al., 2020). However, only a limited amount of research has examined IH in applied settings and no previous research has explored IH within counselor education. Thus, the purpose of this study was to explore how IH related to counselor-in-training skills and response to supervisor feedback. In part one, sixteen counselors-in-training (9 female, 7 male) from accredited degree programs at a large Southwestern university participated in an online survey assessing IH, feedback receptivity, and self-rated counseling skills. From those sixteen participants, the four with the highest and lowest IH scores were recruited to participate in part two of the study, which involved completing a think-aloud protocol while reading

performance feedback from their clinical supervisor. The first three research questions relate to data collected in part one and the fourth research question relates to data collected in part two. Discussion of the specific findings and implications are elaborated upon below based upon each research question in the study.

Summary of Findings and Implications

Part One

The purpose of the research was to explore possible relationships among IH and counselor-in-training skills/characteristics. The first research question aimed to determine if intellectual humility was related to self-rated counseling skills performance. It was hypothesized that there would be no relationship between IH and self-reported counseling skills, which was supported in these data. This null relationship was predicted due to the current understanding that IH should be associated with greater accuracy in self-assessment, but not necessarily more self-reported skills. Future research should explore if IH predicts accuracy of self-assessments across time and skill development. It is possible that those with high IH may rate themselves lower due to the tenants of humility, or that their assessments lag behind their low IH counterparts as they develop more skills.

Given the relationship between IH and mastery behavior established in the literature (Porter et al., 2020), the next research question aimed to explore if self-rated IH predicted growth across a semester of training. It was hypothesized that IH would be positively predictive of faculty-rated growth at the end of the term. This hypothesis was based upon the idea that individuals with higher IH would likely take advantage of more opportunities to practice and increase their skills, maximizing overall growth. Unfortunately, faculty ratings were not obtained for enough of the sample to use that outcome variable. Supervisor-rated skills (rated at mid-

semester) were utilized as a replacement variable but no detected relationship was identified. Several possible reasons exist for a null relationship between supervisor-rated skills and IH in these data. First, IH and counseling skills may not be related constructs. Second, the variability of skills ratings among different supervisors could have obscured the relationship between the two variables. Supervisors in the course vary in their experience in giving supervision and also did not receive any training in skills rating. Lastly, the idea of growth was not captured in the supervisor's ratings and it is possible that a longer time period or merely the supervisors assessing growth might have yielded significant results. Future research may benefit from having outside raters of skills, rather than the individual's supervisors or providing training regarding how to rate counselor-in-training skills. Additionally, extending the study timeframe may allow relationships among variables to emerge.

The third research question sought to explore a possible mediation between IH and skills growth. It was hypothesized that self-reported receptivity to supervisor feedback would mediate the relationship between IH and faculty-rated growth across the semester. This hypothesis was based upon the assumption that high IH individuals would be more likely to be open to/interested in receiving feedback, which would partially explain increased growth during the training period. Unfortunately, since there were no relationships among the variables, mediational analyses could not be conducted. Data from the current study does not support the proposed hypothesis.

Surprisingly, results from the quantitative portion of this project did not identify any significant relationships among the study variables. While one non-relationship was hypothesized, the other three hypotheses were not supported with these data. The limitations of this project, reviewed more thoroughly in the next section, likely contributed to the lack of

findings. Future research would benefit from addressing these problems to have a more robust design and greater likelihood of meaningful results.

Part Two

The fourth research question related to the qualitative portion of the research project, exploring if IH would predict counselor-in-training response to supervisory feedback. It was hypothesized that receptive processes would differ between the high and low IH participants. Participants were presented with two paragraphs of typed supervisory feedback (both constructive and positive) from their individual supervisors. Participants were asked to engage in a TAP while reading their feedback and their emotional expression was also captured during this time. Utilizing the TAP and iMotions expressive emotion analysis, the responses of the four lowest and highest IH individuals were evaluated.

Think–Aloud Protocol.

During the TAP, the participants were directed to speak aloud what they were thinking as they read. Transcripts and audio recordings were used to code the data in order to explore possible variation. The TAP results illuminated differences between the low and high IH participants, which supported the proposed hypothesis. Specifically, more openness to and application of the feedback was present in the TAP transcripts of those with high IH. Whereas the low IH group showed greater levels of defensiveness. These findings are in line with the predicted differences which were hypothesized because of the facets of intellectual humility. Core IH features include acknowledging the fallibility of one's knowledge, discomfort with one's limitations, and appreciation for learning and filling knowledge gaps (Haggard et al., 2018). Further research suggests that IH predicts an openness to opposing viewpoints without defensiveness (McElroy et al., 2014). Therefore, those with high IH should respond openly to

feedback, actively considering the information in order to improve. In fact, the high IH participants had double the codes for openness compared to their low IH counterparts. On the other hand, those low in IH may perceive feedback as more threatening, becoming more defensive.

Research from the feedback literature suggests a conflict when receiving performance feedback, specifically there is a desire to gain information which is in opposition to avoid anything that might harm one's self-concept (Porter et al., 1975; Kluger & DeNisi, 1996). Avoiding constructive information limits the developmental impact of the information (Stone & Stone, 1985). Theoretically, IH may help individuals lean into performance feedback since they hold separation between their own ego and their performance. These data seem to provide a way of overcoming the avoidance of feedback, which should translate into greater understanding and knowledge of one's own skills/deficits. Future research may explore if IH predicts this process in response to other types of feedback.

Perhaps the most interesting pattern to emerge from the TAPs was the degree to which participants mentioned application of supervisory feedback. Individuals in the high IH group seemed to more efficiently process the feedback allowing them to move more quickly into application. Application comments came in mentioning how they might utilize the feedback in the future but also in referencing how they had applied supervisory feedback in the past. There were no application comments within the TAPs of the low IH individuals. Given that the purpose of receiving performance feedback is to apply the information, IH appears to be a predictor of success in terms of utilizing feedback efficiently.

iMotions.

As participants were reading their supervisory feedback and engaging in the TAP, their faces were being recorded using the iMotions Software System. The facial analysis allows for emotional expression to be detected and quantified. Specific emotions are coded by computer algorithms based on the Facial Action Coding System (FACS) which was originally developed in 1970 by Carl-Herman Hjortsjo and has been validated through numerous published studies over the past 50 years (for review see Rosenberg & Ekman, 2020). Results from seven distinct emotional responses, as well as overall engagement and summed positive and negative emotion categories were reported from the iMotions system.

Five distinct emotions were noticeably different between the low and high IH participants: anger, sadness, disgust, joy, and surprise. Low IH participants showed higher levels across all five emotional categories and therefore higher overall positive and negative emotion time. Both high and low IH participants showed very similar amounts of engagement with the feedback paragraphs. These results support the proposed hypothesis that low IH individuals would have stronger emotional reactions to supervisory feedback. More intense emotional reactions and expression may have implications for other aspects of counseling besides just processes within the supervisory relationship.

Taken together, the iMotions results seem to corroborate the coding from the TAP transcripts. This triangulation of finding provides validation of both measures and differences that exist between the participants in the current study. Future research would benefit from a larger number of individuals in this portion to provide more evidence that differences between groups are due to the IH difference, versus some other variable. Future research could also integrate data from iMotion eye tracking that may provide more evidence for the emotional

reactivity to specific pieces of feedback and explain more about how counselors-in-training process supervisory feedback.

Counseling Skills

A counselor's primary tool for therapy is themselves, how they directly interact with the client. Corey (2005) states that the ability to develop trust, demonstrate empathy, and utilize meta-communication skills, with the goal of building a therapeutic alliance, are essential in the ability to help the client. Part of this is understanding one's self and how one is interacting with others within the therapeutic setting. The best way to attain this knowledge is to receive feedback from a supervisor and review one's own sessions (for review, see Oddli et al., 2021). In line with the literature on feedback receptivity, this project suggests that IH may allow individuals to receive feedback more efficiently and without a great deal of emotionality. These findings suggest that higher IH should result in better self-awareness, application of feedback, and overall increased growth over time.

An additional piece to these results is the more intensive emotional responses on the part of those with low IH. These emotions were both positive and negative in valence and were demonstrated in both the iMotions facial analysis and the TAP transcripts. Outward emotional expression on the part of the clinician, though not necessarily bad, may be problematic. Outward emotional expression coupled with lack of self-understanding may result in misinterpretation by the client and/or a therapeutic rupture. On the other hand, outward emotional expression may be useful within the therapeutic setting, if the clinician is aware and can utilize their emotion productively. Future research should explore how IH predicts emotionality within therapy sessions and if that predicts therapeutic outcomes.

Supervision.

Supervision is a cornerstone of training within counselor education (CACREP, 2016). CACREP provides extensive expectations for trainees regarding time spent and types of acceptable supervision as well as the qualifications of the supervisors. Being able to effectively receive and respond to supervisory feedback has implications for counselor-in-training development and the application of feedback likely impacts counseling skills demonstrated with clients. Should the relationship between IH and ability to apply supervisory feedback become more supported in future research, CACREP training programs may benefit from targeting IH directly in their trainees.

Limitations

There are a number of limitations within this project that impact the utility of this research. The sample size and limited sampling for these data significantly harm the generalizability of the findings. Statistical methods (i.e., bootstrapping) were used to mitigate some sample size issues but all participants were from training programs at one institution in one geographic region. The small number of participants involved in the TAP-portion of the project could have greatly influenced differences found between the low IH and high IH participants. Future research should aim to replicate any findings at different sites, with a much larger number of participants.

The variability in feedback provided by supervisors introduces extraneous influence within both the quantitative and qualitative arm of the study. Different supervisors rated counselor-in-training skills for part one, so there are likely differences across raters due to the supervisor's level of experience and exposure to the counselor-in-training. Additionally, performance feedback for part two of this research was given by the participants' specific supervisor in order to maintain the confidentiality of the counselor-in-training's clients. This

introduces a great deal of variability based upon the relationship between the trainee and supervisor, and the supervisor's own skills and orientation within the supervisory relationship. Despite the extraneous variability introduced by the different supervisors, utilizing them does maintain a certain level of external validity.

Research has established that characteristics of feedback impact the receptivity of individuals receiving the feedback (e.g., Ilgen et al., 1979; Fulham, Krueger, & Cohen, 2022). The feedback generated by supervisors was instructed to be one paragraph of constructive and one paragraph of positive. However, there is a great deal of difference regarding the topics included within those two paragraphs. This variability could have changed how the counselors-in-training responded. Additionally, counselors-in-training themselves and their previous experiences with feedback likely vary and may have influenced the level of receptivity to feedback.

Another limitation is the range scores for IH, skills, and feedback receptivity from the counselors-in-training. Limited variability on these scales may have obscured relationships among the variables of interest. Also, a limited range of scores from the supervisors due to lack of variability in counselor-in-training skills, bias, or being unwilling to rate trainees negatively also limited the ability to draw conclusions based on counseling skills as an outcome. Future research may benefit from having trained, independent raters of counseling skills so as to reduce inconsistencies and increase reliability.

Finally, the limited time frame of this research could have prevented meaningful relationships from emerging in the data. IH may predict changes over time that were not able to be captured in the current project. Longer term studies should be completed in the future, perhaps tracking counselors-in-training from the start to the end of their academic training.

Utilizing multiple outcome measures could also assist in determining how IH impacts counselors-in-training.

Future Research

Given the limited number of studies exploring IH in applied settings, there are a myriad of different options for future research. Counselor education and training is an important field for ensuring the competence of future therapists. IH could be taught explicitly to counselors-in-training in order to assess its benefit for trainees and their clients. Previous research has demonstrated benefit for students in educational settings for academic outcomes, but this could extend to applied outcomes for those that the trainees work with in therapy. Based upon the iMotions results, future research could explore how the expressive emotionality of counselors impacts training processes, specifically within supervisory relationships but also more broadly. Does emotionality slow impact receptivity to feedback? Does expressive emotion impact client outcomes or the client-rated therapeutic alliance?

In addition to the ideas proposed in earlier sections to ameliorate the limitations of the current study, research should go beyond the relationship between intellectual humility and counselor training/education. Research exploring if IH in practicing therapists predicts client outcomes, continued education, board complaints, etc. could shine light on how IH impacts those in the field of health service psychology. Additionally, can IH training benefit existing practitioners in their work? If IH training is beneficial, how does IH increase or decrease over time? How could continuing education credits be used to encourage intellectual humility in practicing therapists? All of these questions should be explored in future studies.

Conclusion

This research sought to explore how intellectual humility relates to counselor-in-training skills, growth, and response to supervisory feedback. Previous research has not examined IH within counselor education nor the field of counseling. Although limited in its scope and findings, the current research suggests that intellectual humility holds promise as a beneficial trait in counseling education as it allows counselors-in-training to apply supervisory feedback more readily. Additionally, IH resulted in lower levels of expressive emotionality when receiving performance feedback. These introductory findings provide an excellent jumping off point from which research can further explore how practitioners' IH may impact training and professional processes.

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Appendices

Appendix A. *Study Measures*

Comprehensive Intellectual Humility Scale

Krumrei-Mancuso, E. J., & Rouse, S. V. (2016). The development and validation of the Comprehensive Intellectual Humility Scale. Journal of Personality Assessment, 98, 209- 221. doi:10.1080/00223891.2015.1068174

The items are rated on a 5-point Likert scale with 1 = strongly disagree, 2= disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

Instructions: Carefully read each statement and indicate the degree to which you agree each statement is true for you.
1. My ideas are usually better than other people's ideas.*
2. For the most part, others have more to learn from me than I have to learn from them.*
3. When I am really confident in a belief, there is very little chance that belief is wrong.*
4. I'd rather rely on my own knowledge about most topics than turn to others for expertise.*
5. On important topics, I am not likely to be swayed by the viewpoints of others.*
6. I have at times changed opinions that were important to me, when someone showed me I was wrong.
7. I am willing to change my position on an important issue in the face of good reasons.
8. I am open to revising my important beliefs in the face of new information.
9. I am willing to change my opinions on the basis of compelling reason.
10. I'm willing to change my mind once it's made up about an important topic.
11. I respect that there are ways of making important decisions that are different from the way I make decisions.
12. Listening to perspectives of others seldom changes my important opinions.*
13. I welcome different ways of thinking about important topics.
14. I can have great respect for someone, even when we don't see eye-to-eye on important topics.
15. Even when I disagree with others, I can recognize that they have sound points.
16. When someone disagrees with ideas that are important to me, it feels as though I'm being attacked.*
17. When someone contradicts my most important beliefs, it feels like a personal attack.*
18. I tend to feel threatened when others disagree with me on topics that are close to my heart.*
19. I can respect others, even if I disagree with them in important ways.
20. I am willing to hear others out, even if I disagree with them.
21. When someone disagrees with ideas that are important to me, it makes me feel insignificant.*
22. I feel small when others disagree with me on topics that are close to my heart.*

Counseling Skills Scale

This scale should be used to assess your performance of counseling skills during your counseling sessions. The scale divides nineteen specific "microskills" into six groupings (in caps following

roman numerals). Please first rate the microskills as -2, -1, 0, +1, or +2 according to the scale below.
+2 *highly developed, helpful, well-timed, and consistently well-performed.*
+1 well developed, helpful and well-timed when performed, but not consistently smooth
0 developing skills, somewhat helpful but too many missed opportunities
-1 continue practice, skills might not be well-timed or no skill demonstrated.
-2 Major adjustment needed, skill lacking
NA Skill(s) not yet performed

1. Body Language and Appearance - Maintains open, relaxed, confident posture with appropriate eye contact Leans forward when talking, leans back when client talks on target Uses head nods and body gestures to encourage client talk. Maintains professional dress.
2. Minimal Encouragers — Repeats key words and phrases Uses prompts (uh huh, okay, right, yes) to let client know s/he is heard. Uses silence helpfully.
3. Vocal Tone — Uses vocal tone that matches the sense of the session and session goals. Vocal tone communicates caring and connection with the client
4. Evoking and Punctuating Client Strengths — Includes questions and reflections related to assets and competencies; positively reframes client experiences
5. Determining Goals and Desired Outcomes — Collaboratively determines outcomes toward which the counseling process will aim Helps client set goals
6. Using Strategies for Creating Change - Uses theoretically-consistent and intentional intervention strategies to help client move forward toward treatment goals [such as setting up reinforcement systems, using guided imagery, asking the miracle question, directives, self-disclosure, interpretation, advice, opinion, information instruction]
7. Considering Alternatives and their Consequences — Helps the client review possible solutions and the value of each over the long term ("One option would be, and that would mean Another option would be ")
8. Planning Action and Anticipating Possible Obstacles — Reaches agreement about actions to take between sessions, who is responsible for them, and when they will be done Helps client to list what obstacles might interfere and decide how to handle them ("So, you will do by date What could prevent you from accomplishing your plan?")
9. Consistently engages m caring manner with client, particularly by demonstrating such core conditions as genuineness and authenticity, warmth and acceptance, respect and positive regard, and empathy.
10. Opens session smoothly and warmly greets client. Begins work on counseling issues in a timely way Structures session, directing client naturally through opening, exploration, deeper understanding, creating change, and closing, focuses client on essence of issues at a level deep enough to promote positive movement Smoothly and warmly ends the session, in a timely way, planning for future sessions or for termination.
11. Determining Goals and Desired Outcomes — Collaboratively determines outcomes toward which the counseling process will aim Helps client set goals.
12. Using Strategies for Creating Change - Uses theoretically-consistent and intentional intervention strategies to help client move forward toward treatment goals [such as setting up reinforcement systems, using guided imagery, asking the miracle question, directives, self-disclosure, interpretation, advice, opinion, information instruction]

13. Considering Alternatives and their Consequences — Helps the client review possible solutions and the value of each over the long term ("One option would be, and that would mean Another option would be ").
14. Planning Action and Anticipating Possible Obstacles — Reaches agreement about actions to take between sessions, who is responsible for them, and when they will be done Helps client to list what obstacles might interfere and decide how to handle them ("So, you will do by date? What could prevent you from accomplishing your plan?")
15. Consistently engages m caring manner with client, particularly by demonstrating such core conditions as genuineness and authenticity, warmth and acceptance, respect and positive regard, and empathy.
16. Opens session smoothly and warmly greets client. Begins work on counseling issues in a timely way Structures session, directing client naturally through opening, exploration, deeper understanding, creating change, and closing, focuses client on essence of issues at a level deep enough to promote positive movement Smoothly and warmly ends the session, in a timely way, planning for future sessions or for termination.

Feedback Receptivity Scale

Rate how much you agree or disagree to the following statements.

The items are rated on a 5-point Likert scale with 1 = strongly disagree, 2= disagree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree.

1. I think that the feedback I receive from supervisors is usually accurate.
2. I don't think that the feedback I receive is a fair assessment of my performance.
3. Supervisor feedback usually gives me a good idea of how well I performed.
4. After receiving feedback, it is clear to me how well I did.
5. I often feel that feedback is given without full understanding of the situation.
6. After receiving feedback, I usually look forward to improving in the future.
7. I think that the feedback I receive will help me do better next time.
8. After receiving my feedback, I usually have some ideas about how to improve.
9. I usually don't use supervisor feedback to guide my performance the next time.
10. I often feel encouraged after receiving supervisor feedback.
11. I often find myself overwhelmed or anxious while receiving feedback.
12. I enjoy receiving feedback from my supervisor.

Rank order the populations/specialties that you are most interested in working with.
_____ Children (1)
_____ Adolescents (2)
_____ Adults general (3)
_____ Substance abuse (4)
_____ LGBTQIA (5)
_____ Neurodevelopmental disorders (e.g., Autism) (6)
_____ Geriatrics (7)
_____ Marriage/Family (8)
_____ Generalist (9)
_____ Unknown at this time (10)

Rank order which theoretical orientations you feel most aligned with.
_____ Cognitive behavior therapy (1)
_____ Psychodynamic (2)
_____ Humanistic/ person-centered (3)
_____ Dialectical behavior therapy (4)
_____ Acceptance and commitment therapy (5)
_____ Narrative (6)
_____ Gestalt (7)
_____ Feminist (8)

What program are you currently enrolled in?
Clinical mental health counseling (1)
Combined PhD (2)
Other (3)

Appendix B. Consent Forms

You are being invited to participate in a research study titled Intellectual Humility and Counseling Skills. This study is being done by Emily Thomas and Sara Abercrombie from Northern Arizona University. The purpose of this research study is to explore possible relationships among intellectual humility, counselor-in-training characteristics, and feedback processes. If you agree to take part in this study, you will be asked to complete an online survey/questionnaire. This survey/questionnaire will ask about how you respond to feedback, your counseling skills, and your inclination to respond in certain ways depending on the situation and it will take you approximately 10 minutes to complete.

You may not directly benefit from this research; however, we hope that your participation in the study may increase what we know about how traits impact counselor training. We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach of confidentiality is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by de-identifying these data as soon as data collection has been completed. Your data will be matched with instructor reported data via a code that you will be assigned. Your data and name will not be stored together to maintain confidentiality. Data will be stored in encrypted, password protected files. Your participation in this study is completely voluntary and you can withdraw at any time. You are free to skip any question that you choose. If you choose not to participate it will not affect your relationship with Northern Arizona University or result in any other penalty or loss of benefits to which you are otherwise entitled.

If you have questions about this project or if you have a research-related problem, you may contact the researcher(s), Emily Thomas or Sara Abercrombie. If you have any questions concerning your rights as a research subject, you may contact Northern Arizona University IRB Office at irb@nau.edu or (928) 523-9551.

By submitting this survey, I affirm that I am at least 18 years of age and agree that the information may be used in the research project described above.

Consent to Participate in Research

Study Title: Intellectual Humility and Counseling Skills

Principal Investigator: Emily Thomas

You are being asked to participate in a research study. Your participation in this research study is voluntary and you do not have to participate. This document contains important information about this study and what to expect if you decide to participate. Please consider the information carefully. Feel free to ask questions before making your decision whether or not to participate.

This research will explore processes related to counselor-in-training response to supervisory feedback. The only requirement is that you are currently enrolled in a counseling practicum

course. You will be asked to read feedback from your supervisor and speak aloud as you read. Eye movement and facial expressions will be tracked to assess reactions to written feedback. Then you will be asked follow-up questions about your response. The study will last approximately 45 minutes. There are no expected risks to you because of participating in this study beyond possible discomfort in reading performance feedback. You will not benefit directly from participating in this study.

For your participation, you will receive a $20 gift card.

Confidentiality

Your data will be assigned a code number. The list connecting your name to this code will be kept in an encrypted and password protected file. Only the research team will have access to the file. When the study is completed and the data have been analyzed, the list will be destroyed.

As part of this research project, your clinical supervisor will be asked to provide written feedback on your recent counseling performance. Once you agree to participate, I will reach out to your supervisor and ask them to send me feedback that you will read during the study. This feedback will not impact your academic grade and will be destroyed once the project is complete. No identifying information will be included in the feedback.

With your permission, I would like to video tape this process so that I can make an accurate transcript. Once I have made the transcript and completed analyses, I will erase the recordings. Your name will not be in the transcript or my notes.

Because of the nature of the data, it may be possible to deduce your identity; however, there will be no attempt to do so and your data will be reported in a way that will not identify you. Information collected about you will not be used or shared for future research studies.

The information that you provide in the study will be handled confidentially. However, there may be circumstances where this information must be released or shared as required by law. Northern Arizona University Institutional Review Board may review the research records for monitoring purposes.

For questions, concerns, or complaints about the study you may contact **Emily Thomas (Emily.thomas@nau.edu)**.

For questions about your rights as a participant in this study or to discuss other study-related concerns or complaints with someone who is not part of the research team, you may contact the Human Research Protection Program at 928-523-9551 or online at http://nau.edu/Research/Compliance/Human-Research/Welcome/.

AGREEMENT TO PARTICIPATE

I have read (or someone has read to me) this form, and I am aware that I am being asked to participate in a research study. I have had the opportunity to ask questions and have had them answered to my satisfaction. I affirm that I am at least 18 years of age and voluntarily agree to participate in this study.

I am not giving up any legal rights by signing this form. I will be given a copy of this form**.**

Printed name of subject	**Signature of subject**	**Date**

AGREEMENT TO BE VIDEORECORDED

Subject Signature:_____ Date:_____

Appendix C. IRB Approval

NAU NORTHERN ARIZONA UNIVERSITY
Office of Research Compliance

Institutional Review Board for the Human Research Protection Program

525 S Beaver St
PO Box: 4062
Flagstaff AZ 86011
928-523-9551
https://www.nau.edu/IRB

To:	Emily Thomas, M.A.
From:	NAU IRB Office
Approval Date:	March 28, 2022
Project:	IH and Counseling Skills
Project Number:	1878315-2
Submission:	Revision
Action:	APPROVED
Project Risk Level:	MINIMAL RISK
New Approval Expiration Date:	March 28, 2025

Review Category/ies:

The project is not federally funded or supported and has been deemed to be no more than minimal risk.

Waiver of Documentation of Informed Consent (45 CFR 46.117(c)(ii)): As documented in the file, the research involves no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context. In cases in which the documentation requirement is waived, the IRB may require the investigator to provide subjects or legally authorized representatives with a written statement regarding the research.

This project has been reviewed and approved by an IRB Chair or designee.

- Northern Arizona University maintains a Federalwide Assurance with the Office for Human Research Protections (FWA #00000357).
- All research procedures should be conducted in full accordance with all applicable sections of the guidance.
- The Principal Investigator should notify the IRB immediately of any proposed changes that affect the protocol and report any unanticipated problems involving risks to participants or others. Please refer to Guidance Investigators Responsibility after IRB Approval, Reporting Local Information and Minimal Risk or Exempt Research.
- All documents referenced in this submission have been reviewed and approved. Documents are filed with the HRPP Office within IRBNet. If subjects will be consented, the approved consent(s) are available within IRBNet upon approval notification from the HRPP Office.

Important

The principal investigator for this study is responsible for obtaining all necessary approvals before commencing research. Please be sure that you have satisfied applicable external and University requirements, for example (but not limited to) data repositories, listserv permission, records request, data use agreement, conducting University surveys, data security, international, conflicts of interest, biological safety, radiation safety, HIPAA, FERPA, FDA, sponsor approval, clinicaltrials.gov, tribal consultation, or school approval. IRB approval does not convey approval to commence research in the event that other requirements have not been satisfied.

Appendix D.

Transcript	Codes
Hmm. A lot of times when I think about micro skills, I dunno if I. Uh, mixed feelings, mixed emotions about micro skills, you know, the things, putting clients at ease, not shying away from hard topics or sensitive topics. There are some positive, you know, very nice things. And I, I have a weird feeling about micro skills. Like they're important. But almost like they're innate, you know, like, I don't know, micro skills aren't, you know, it it's, they feel easy, you know, it's just like listening to someone.	Reading, disagreement (+), criterion-reference, content-focus, justification (+), openness,
Yeah. It feels good to hear those things.	Positive emotion
Yeah. And I, the sounds like I think about relatively often is, you know, like the idea of, uh, with attraction and how people respond to attract. how people respond to attractive people. And how I hear that often, you know, when reading clients respond positive to me, it's like, is it because I'm good at this being a counselor? Or is it because they they're like the social? Uh, I dunno what word to use social desirability.	Self-focus, justification (+), openness, agreement (+)
I don't, I don't know. Yeah. I'm really interested by the topics that are considered sensitive. Cause I wonder who the topics are considered at sensitive buy, but I are considered.	Agreement, self-focus
I don't know if I agree with the first part has industrial input or consult from others regarding my clients. I talked to my classmates pretty much every day about my clients and my supervisors. I reach out to them and ask for help. and conceptualize with them. And it can be really challenging at times because when I go and talk about my clients, they haven't watched any of the sessions.	Disagreement (-), justification (-), defensive

So they're asking my pro they're asking about my process, where they're making their assumptions based on what I'm saying, which is never like the full picture. So it's like, I'm giving them my interpretation and then they're giving their, they're giving me their interpretation of my interpretation. So sometimes it's like, why would I ask for help from.	Justification (-), defensive,
My supervisors, but I, yeah, every pretty much every day I'm consulting with my classmates. So it's weird to hear.	Defensive, negative emotion
I don't know if I understand that tend to return the questions clients have back at them without any oh, okay. Yeah. Yeah. Okay. I guess I can see that.	Openness, agreement (-),
I think I do that often. When a client ask a question, I'm like goal, what do you think? Yeah, I, I mean, seeing this is frustrating though, because I've had mid semester evaluations and I, you know, meet with my professor on a weekly basis and it's never come up.	Negative emotion, agreement (-), openness,
So like, why is this coming up now? Why wouldn't we have talked? This seems pretty important. I wanna be good. At doing this, that's really weird. That's really weird. I feel like I want to ask XX about that. Hmm. At the same time, I don't know.	Self-focus, negative emotion, questioning, future application