The Relationship Between Client Interpersonal Factors and Relational Efficacy Beliefs and their Impact on Working Alliance within Vocational Rehabilitation

By

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DEDICATION

I dedicate this dissertation to my parents, Angie and Rosali, my brother and sister, Chris and Rosa, my grandparents, and Quing, the love of my life. I would not be the person I am today if not for all of you.

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ABSTRACT

Working alliance (WA) is an important part of the rehabilitation counseling process, and yet there has been little research regarding predictors of WA. Given that strong WA facilitates successful outcomes in rehabilitation counseling, rehabilitation counselors need to better understand predictors of the development of WA. Client factors have been widely researched in the counseling and psychotherapy literature as predictors of WA. This study used the interpersonal circumplex (Wiggins, 1979) along with the tripartite efficacy beliefs model (Lent & Lopez, 2002) to better understand the relationship between client factors and WA in vocational rehabilitation counseling. The purpose of the study was to examine a.) to what extent demographic covariates, interpersonal factors, and the tripartite efficacy beliefs model predict WA; b.) to what extent interpersonal factors predict relational efficacy beliefs; and c) whether relational efficacy beliefs mediate the relationship between interpersonal factors and WA. A total of 325 individuals with disabilities receiving vocational rehabilitation services responded to an online survey. The results showed that demographic covariates, interpersonal factors, and the tripartite efficacy beliefs model significantly accounted for WA for VR clients. The mediation analysis showed that relational efficacy beliefs fully mediate the relationship between interpersonal factors and WA. The study supports the relationship between interpersonal factors and WA and between tripartite efficacy beliefs model constructs and WA. The study also suggests that relational efficacy beliefs are a mechanism through which interpersonal factors affect WA.

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CHAPTER ONE

Introduction

Recently, WA between rehabilitation counselors and clients with disabilities has received more attention as an effective rehabilitation intervention in rehabilitation counseling (Chan et al., 2012). Researchers suggest that the goals of rehabilitation can best be achieved when there is a maximum of client involvement in the development and implementation of a vocational rehabilitation services plan (Chan et al., 1997; Chan et al., 2017; Corrigan et al., 2012; McAlees & Menz, 1992) and have proposed strong working alliance (WA) as a vehicle for encouraging active participation between clients and rehabilitation health professionals in the rehabilitation process (Shaw, McMahon, Chan, & Hannold, 2004; Strauser, Lustig, Chan, & O'Sullivan, 2010). Although there are differences among the many conceptualizations of WA, most theoretical definitions have three themes in common: (a) the collaborative nature of the relationship, (b) the affective bond between client and therapist, and (c) the client's and therapist's ability to agree on treatment goals and tasks (Bordin, 1979; Gaston, 1990; Horvath & Symonds, 1991; Saunders, Howard, & Orlinsky, 1989; Martin Garske, & Davis, 2000).

Researchers have found the formation of the working alliance to be one of the most significant aspects in the counseling process, regardless of a therapist's theoretical orientation or specific techniques (Lambert & Barley, 2002). Working Alliance is included among the *common factors* of counseling, meaning the components that all counseling and therapy approaches share that contribute significantly to facilitating change and positive client outcomes (Chan, Berven, & Thomas, 2015; Horvath, Del Re, Flükiger, & Symonds, 2011; Manthey, Brooks, Chan, Hedenblad, & Ditchman, 2015; Wampold, 2001). Wampold (2001) conducted a meta-analysis of studies of therapeutic outcomes and found that 70% of

counseling effects are related to common factors, including WA. Meta-analyses regarding WA in counseling and psychotherapy have found that WA has a significant positive relationship with counseling outcomes, with effect sizes ranging from .22 to .28 (Horvath et al., 2011; Horvath & Symonds, 1991; Martin et al., 2000).

Like other forms of counseling, rehabilitation counseling can be impacted by WA because it is a collaborative process between a rehabilitation counselor and his or her client (Kierpiec, Phillips, & Kosciulek, 2010). The concept of WA reflects a belief that the relationship between the client and the therapist helps the client to accept and follow through with the counseling and rehabilitation process based on a sense of ownership (Horvath & Symonds, 1991). By developing positive WA, rehabilitation counselors can encourage clients to be engaged in the rehabilitation counseling process and take responsibility for decision making (Kosciulek, 2000, 2004). Research suggests that WA between rehabilitation counselors and their clients positively impacts rehabilitation outcomes (Al-Darmaki & Kivlighan, 1993; Connors et al., 1997; Donnell et al., 2004; Georing et al., 1997; Juvonen-Posti et al., 2004; Kivlighan & Shaughhnessy, 2000; Kokotovic & Tracy, 1990; Liu et al., 2005; Lustig, Strauser, Rice, & Mallinckrodt & Nelson, 1991; Martin et al., 2000; Rucker, 2002; Schonberger et al., 2006a, 2006b; Strauser et al., 2004).

Statement of the Problem

There is substantial evidence supporting the association between WA and positive outcomes in rehabilitation counseling, but far less is known about what factors contribute to the development of quality alliance. Rehabilitation counseling researchers have conducted relatively few studies regarding predictors of WA compared to the counseling and psychotherapy literature. Without greater understanding of the factors that impact WA, the

knowledge that WA is important to outcomes is of limited use to rehabilitation professionals. Only through understanding factors that influence development of quality WA will rehabilitation counselors be able to develop evidence-based practices that foster positive WA, thereby improving outcomes for individuals with disabilities.

In rehabilitation counseling literature, existing studies have explored some potential predictors of WA in a vocational rehabilitation setting, including qualities of the counseling environment, counselor factors, and client factors. Regarding the counseling environment, researchers have discussed caseload size as possible predictor of WA given that caseloads remain relatively large for rehabilitation counselors in comparison with some other counseling and therapy specialization (Kierpiec, Phillips, & Kosciulek, 2010). Kukla and Bond (2009) found that clients receiving supported employment assigned to a single vocational worker have stronger WA than clients served by a team of workers. Research regarding rehabilitation counselor factors has shown that counselor cognitive factors, such as counselors' attitudes toward individuals with mental illness and their recovery, are correlated with WA (Park, 2017). In the same study, Park found that rehabilitation counselors' counseling self-efficacy and counseling outcome expectancy were significantly related to WA. O'Sullivan (2012) found that rehabilitation counselors' level of education and work experience are associated with WA with clients with physical disabilities but are not significantly associated with WA with clients with psychiatric disabilities. Kosciulek (2000, 2004) suggested that rehabilitation counselors can cultivate WA by providing consumers with choice and empowering them as part of the vocational rehabilitation process. Research regarding client factors supports employment status (Donnell et al., 2004; Lustig et al., 2002) as a significant predictor of WA. Studies in the context of state vocational rehabilitation have

found no significant differences in WA based on client gender (Strauser et al., 2010), presence of a secondary disability (Donnell et al., 2004), or client ethnicity (Donnell et al., 2004). Some of the ideas within the literature have not been quantitatively studied (e.g., caseload size) and existing studies within the context of state vocational rehabilitation programs have often used items from other measures to create post-hoc measures of WA, which may limit the interpretation of research findings. Much more needs to be known for rehabilitation professionals to better identify factors that impact WA and accompanying strategies for facilitating development of WA during the vocational rehabilitation process.

While the impact of the counseling environment, counselor factors, and client factors on WA all deserve additional attention in the rehabilitation counseling literature, better understanding client factors seems particularly consequential. It could be that specific client factors are highly determinant of WA; knowledge of such factors could facilitate the development of interventions that would improve vocational rehabilitation (VR) outcomes through a more thoughtful approach to fostering a strong WA. Furthermore, clients and not counselors are the ones who in the end must work to obtain a job and then perform the duties of that job; client factors important to the development of strong WA are likely to be related to engagement with VR services as well as a successful job search, which is the goal of vocational rehabilitation services. Finally, there is a wealth of research regarding client factors in the counseling and psychotherapy research that can be leveraged to better understand WA in rehabilitation counseling settings.

Client factors and working alliance. Studies regarding client factors address whether clients' characteristics might facilitate or interfere with the establishment or maintenance of good alliance. Client beliefs and expectancies and client interpersonal factors

are among the most consistent and significant predictors of WA studied in the counseling literature (Constantino et al., 2010).

Interpersonal factors. Research on interpersonal variables and WA consider that the client-counselor relationship is a highly interpersonal process given that it requires two individuals to work together to reach a goal (Andrews, 2001). WA represents interpersonal, collaborative elements of the client-counselor relationships in the context of an affective bond or positive attachment (Constantino, Castonguay, & Schut, 2002). There is an ongoing negotiation between the therapist and client at both conscious and unconscious levels about the tasks and goals of therapy, and that process of negotiation both establishes the necessary conditions for change to take place and is an intrinsic part of the change process (Mitchell & Aron, 1999). The depth of the negotiation process taps into fundamental dilemmas of human existence, such as the negotiation of one's desires with those of another, the struggle to experience oneself as the subject while at the same time recognizing the subjectivity of the other, and the tension between the need for agency versus the need for relatedness (Newhill, Safran, & Muran, 2003). Eubanks-Carter and colleagues (2011) note that many issues that occur within therapy are influenced by difficulties that clients have in negotiating between their needs and the needs of others in interpersonal relationships. These difficulties can lead to ruptures, or tension between the client's and the counselor's respective desires.

Recognizing the interpersonal processes inherent to counseling, numerous researchers have explored the associations between interpersonal factors and WA. Research in the counseling and psychotherapy literature regarding client interpersonal factors has focused in large part on using interpersonal theory and the interpersonal circle to identify qualities that impact the development of WA. Interpersonal theory emphasizes the important role of

interpersonal relationships with others to broader aspects of psychosocial functioning, and it is based in the assumption that all interpersonal interactions reflect attempts to establish and maintain self-esteem or avoid anxiety (Leary, 1975; Sullivan, 1953). Individuals seek to maintain self-esteem and avoid anxiety through a durable set of strategies that are observable in interpersonal situations, both in brief interactions and enduring relationships, that can be described as personality.

The interpersonal circumplex model provides a means for conceptualizing, organizing, and assessing interpersonal behaviors, traits, and motives (Wiggins, 2003). The interpersonal circumplex is organized around two fundamental dimensions, *agency* and *communion*, which are represented as the horizontal and vertical axes of a circle. Hogan (1983) noted that agency refers to people's tendency to 'get ahead,' while communion is their tendency to 'get along.' Interpersonal style is an individual's amalgamation of agency and communion (Gurtman, 2009). Interpersonal style is one prominent determining factor of quality of functioning in different relationship domains, including a client's relationship with a counselor. Researchers have used the interpersonal circumplex to develop measures that assess behavior, goals, and more problematic aspects of interpersonal style (e.g. Horowitz et al., 1988). Using the interpersonal circumplex, researchers have found significant relationships between WA and overall interpersonal stress (e.g. Beretta et al., 2005; Connolly Gibbons et al., 2003; Constantino & Smith-Hansen, 2008), hostility (e.g. Paivio & Bahr, 1998; Puschner et al., 2005; Saunders, 2001), an overly friendly nature (e.g. Beretta et al., 2005; Muran et al., 1994; Nevo, 2002; Puschner et al., 2005), submissiveness (e.g. Muran et al., 1994; Paivio & Bahr, 1998), and dominance (Nevo, 2002).

Client interpersonal factors also impact the client-counselor relationship by how they encourage or discourage interpersonal complementarity. Interpersonal complementarity occurs when there is a match in an exchange between two individuals' agentic and communal behaviors and experiences (Carson, 1969; Kiesler, 1983). The concept of interpersonal complementarity originates from the idea that interpersonal behaviors elicit or invite reactions that meet the needs of the interactants (Kiesler, 1983). Research has shown that interpersonal problems can negatively impact the development of healthy interpersonal relationships by preventing complementarity (Benjamin, 2003; Pincus, 2005), leading to distortions or biases in the interpretation of others' behaviors and intentions (Kiesler et al., 1997; Pincus, 2005). Distortions inhibit an individual from meeting his or her agentic and communal needs, threatening his or her self-esteem and security and disrupting WA (Kiesler & Watkins, 1989).

Client Beliefs and Expectancies. Most extant studies examining beliefs and expectancies focus on the pre-treatment state of the counseling process. Researchers have examined clients' thoughts about whether activities in treatment will be effective (e.g. Garland et al., 2004) and clients' views on the cause of their mental health problem (e.g. Elkin et al., 1999) as predictors of WA. Researchers have also studied treatment expectancies, or clients' beliefs about whether they will improve through counseling. Positive outcome expectations are associated with better outcomes (Arnkoff, Glass, & Shapiro, 2002; Greenberg, Constantino, & Bruce, 2006) and are also associated with better WA across various treatments for various conditions (Connolly Gibbons et al., 2003; Constantino, Arnow, Blasey, & Agras, 2005). Research has shown that alliance mediates the expectation-outcome link (Abouguendia et al., 2004; Constantino, Klecak, et al., 2008;

Meyer et al., 2002), which suggests that clients who have positive outcome expectations regarding therapy will be more likely to engage in a working relationship with their therapists, which will in turn promote improvement. These findings are often framed in terms of goal theory, which suggests that people will work toward a goal if they expect it is attainable (Austin & Vancouver, 1996; Carver & Scheier, 1998). Without an expectation for success, individuals will become discouraged and disengage with the goal attainment process.

Although most studies have focused on expectancies and beliefs about the course and content of therapy, recently researchers have suggested that studies should also explore expectancies and beliefs on an interpersonal level, which is likely to be informative regarding the development of WA. For example, Lent and Lopez (2002) conceptualized the tripartite model of efficacy beliefs to help explain interpersonal functioning in close relationships. In the model, self-efficacy exists along with a network of relational beliefs that interact with and complement each other. Lent and Lopez (2002) theorized that this network of beliefs is applicable to growth-promoting interpersonal relationships, such as that between a client and a counselor. Three forms of efficacy beliefs comprise the tripartite model: self-efficacy, other-efficacy, and relation-inferred self-efficacy (RISE) beliefs. Self-efficacy is defined as an individual's beliefs about his or her own ability to perform a task or reach a goal. In the context of rehabilitation counseling, self-efficacy would refer to a client's belief in his or her ability to perform the tasks necessary to obtain and perform a job. The remaining two constructs that comprise the model are interrelational sources of self-efficacy. Other-efficacy is an individual's beliefs about his or her significant other's ability to perform behaviors. In rehabilitation counseling, other-efficacy beliefs might refer to a client's belief about whether

a counselor can help him or her find a job. RISE beliefs encompass an individual's beliefs regarding how a significant other views the individual's efficacy at specific tasks or behavioral domains. In rehabilitation counseling, this would be a client's belief about whether a counselor believes he or she can find and retain work.

Researchers have explored Lent and Lopez's tripartite model in the context of sports relationships (e.g., Jackson & Beauchamp, 2010a), athlete pairs (e.g., Jackson, Beauchamp, & Knapp, 2007), and physical education instructors and students (e.g., Jackson, Whipp, Chau, Dimmock, & Hagger, 2013). Researchers have also used the model in the context of romantic relationships (Gere, Martire, Keefe, Stephens, & Schulz, 2014; Lopez & Lent, 1991), physical therapy (Jackson, Dimmock, Taylor, & Hagger, 2012c), financial advising (Yim, Chan, & Lam, 2012), and academic advising relationships (Morrison & Lent, 2014). Each of these studies have found significant relationships between the tripartite model and the quality of interpersonal relationships.

Lent & Lopez (2002) suggest that relational efficacy beliefs may be especially important in situations that involve developing new skills, using existing skills in a new context, and reevaluating existing skills during a crisis or transition. In these situations, individuals may rely more heavily on RISE beliefs to determine their own self-efficacy or may form beliefs regarding their abilities based on the help and expertise of a significant other (i.e. other-efficacy; Morrison, 2016). In the context of rehabilitation counseling, seeking work and managing a disability can be a time of significant transition and crisis; in that period of adjustment RISE and other-efficacy beliefs may be particularly impactful to client self-efficacy beliefs and WA.

Relationships between interpersonal factors and relational beliefs. Although researchers have explored interpersonal factors and relational efficacy separately, no study has sought to examine the relationship between these two types of factors and how they together impact alliance within a client-counselor relationship. It is important to examine the relationship between interpersonal factors and relational efficacy to better understand how WA is developed in a counseling relationship; likely interpersonal factors have a significant impact on individuals' efficacy beliefs, particularly their relational efficacy beliefs (i.e. other-efficacy and RISE), which in turn impact development of WA.

Theoretical and empirical research suggests that relational beliefs may represent a manner through which interpersonal factors impact WA. Researchers have suggested that higher-order factors may shape individuals' other efficacy and RISE beliefs (e.g. Jackson et al., 2009). Lent and Lopez (2002) posited that, because of the way in which interpersonal signals are received and processed, individuals form estimations regarding the confidence that other people have in their ability as well as other people's efficacy. RISE beliefs, therefore, represent a meta-perception regarding one's estimation of another's confidence in one's ability; meta-beliefs like RISE may or may not be accurate. In the same way that RISE beliefs are vulnerable to distortions or inaccuracies, Lent and Lopez suggested that irrespective of whether one person's other-efficacy beliefs are consonant with the target individual's ability, a strong belief in that other person accounts for a range of adaptive task and social related outcomes.

Research shows that interpersonal factors impact the way that individuals think about others and about relationships. Interpersonal style is defined by a characteristic approach to situations and relationships, including attitudes toward, behaviors in, and goals for

relationships, as well as cognitions about the meaning of relationships, affect and behavior in interactions, and interpretation of others' behaviors (Wilson et al., 2017). Interpersonal theory holds that individuals have internalized relationship schemas (i.e. interpersonal styles), which are activated by an interactive situation. Relationship schemas modulate one's ability to think of oneself, to think of others, and to sense and be present with others. They are based on the formation of early significant relationships (e.g., Bowlby, 1982; Stern, 1985), and develop over time in interaction with the internal and external reality of the individual. Schemas can be flexible, functional, and adaptable, or operate in a rigid, automatic, stereotyped, and maladaptive manner. When schemas are rigid, they may prevent complimentary interactions, leading to distortion of the external reality so that it is disadvantageous and dissatisfying for the individual (Kiesler et al., 1997).

Research also shows that individuals who have more interpersonal problems have a diminished capacity for affiliation with others (Beretta et al., 2005). Persons with more interpersonal distress perceive others' responses more negatively, as indicated by their representations of others as "hurtful and untrustworthy" and "unhelpful". Locke (2005) found that individuals who are too uncommunal tend to imagine others as not caring, people who are too agentic tend to imagine people as criticizing them, and people who are too agentic and too uncommunal expect unresponsive and unsupportive reactions. Imagined reactions tended to evoke feelings of anger in people who are too agentic, insecurity in people who are too unagentic, shame in people who are too communal, and disconnection in people who are too uncommunal. This research suggests that there is a relationship between interpersonal factors and relational beliefs.

Interpersonal factors such as interpersonal distress and interpersonal style are likely to impact how clients view their counselors, what they believe to be their counselor's goals and intentions, and in particular, their relational efficacy beliefs (i.e. other-efficacy and RISE). Individuals with interpersonal problems likely collaborate less with their counselors and have poorer relational efficacy beliefs and WA within the context of the client-counselor relationship. Clients without interpersonal problems likely have more positive expectations and relational efficacy beliefs about their counselors, which in turn positively impact their self-efficacy beliefs and WA. Interpersonal style is also likely to be related to relational efficacy beliefs. Individuals who are more communal or less agentic are likely to have more positive perceptions of their counselors and better WA, while individuals who are uncommunal or too agentic are likely to have poorer perceptions of their counselors and poorer WA.

Importantly, although research has shown that interpersonal factors can influence the development of WA, the client-counselor relationship can overcome negative influences and form a relationship that can withstand problems and grow in an adaptive direction (Constantino & Smith-Hansen, 2008). The process of overcoming interpersonal problems that predispose clients to poor WA alliance likely comes through changing cognitions rather than changes in interpersonal style, which is generally thought to be a durable trait. In fact, several counseling orientations and strategies focus on changing client beliefs as a way of alleviating interpersonal stress related to problematic interpersonal styles. Thus, an important reason for exploring the connection between interpersonal factors and relational beliefs is that relational beliefs are more malleable constructs; improving relational beliefs could be an effective way of overcoming predispositions to poor WA related to interpersonal factors. For

counselors to improve their working relationship with their clients and to better facilitate positive change, it is important that researchers identify changeable factors like relational beliefs that may be altered through interventions.

Purpose of this Study

Greater understanding of interpersonal factors and relational efficacy beliefs could allow for both the prediction of WA and the design of interventions to improve WA, which may improve chances of positive vocational outcomes. The purpose of this study is to explore the relationship between interpersonal factors and efficacy beliefs and how they impact WA for individuals with disabilities in the context of vocational rehabilitation.

Research Questions and Hypotheses

1. What relationships exist between demographic covariates and WA? For this question, it is hypothesized that employment status will be positively associated with WA and other demographic covariates will not be significantly associated with WA.
2. What relationships exist between communal and agentic interpersonal styles and WA? For this question, it is hypothesized that communal interpersonal style is positively associated with WA; agentic interpersonal style is negatively related to WA; and both communal and agentic interpersonal style contribute to the overall prediction of WA.
3. What relationship exists between interpersonal distress and WA? Do communal and agentic interpersonal style significantly contribute to the variance of WA when controlling for interpersonal distress? For this question, it is hypothesized that distress is negatively associated with WA and that interpersonal styles are a significant predictor of WA when controlling for interpersonal distress.

4. What is the relationship between tripartite efficacy belief model constructs (self-efficacy, other efficacy, and RISE beliefs) and WA? For this question, it is hypothesized that each efficacy belief construct is positively associated with WA and that each efficacy belief construct adds to the overall prediction of WA.
5. Are total interpersonal distress, communal interpersonal style, and agentic interpersonal style associated with other efficacy and RISE beliefs? For this question, it is hypothesized that interpersonal distress and agentic style are negatively associated with other efficacy and RISE beliefs, that communal style is positively related with other efficacy and RISE beliefs, and that each interpersonal factor adds to the overall prediction of relational efficacy beliefs.
6. Do relational efficacy beliefs (other-efficacy and RISE beliefs) mediate the relationship between interpersonal factors and WA? For this question, it is hypothesized that other efficacy and RISE beliefs fully mediate the relationship between interpersonal factors (distress, communal style, and agentic style) and WA.
7. What amount of variance do relational efficacy beliefs explain, above and beyond demographic covariates and interpersonal factors, in the prediction of WA? For this question, it is hypothesized that each relational efficacy belief construct adds to the prediction of WA.

CHAPTER TWO

Literature Review

The purpose of this study is to explore the relationship between client interpersonal factors and client relational efficacy beliefs and how they affect the working alliance (WA) between rehabilitation counselors and clients with disabilities in the context of vocational rehabilitation services. At present, no studies have explored the rehabilitation counselor and client relationship utilizing either an interpersonal circumplex or relational efficacy belief framework. Although there is evidence that WA is important to vocational rehabilitation outcomes, there are few studies that have examined predictors of WA.

This study also extends the counseling literature on WA by exploring the relationship between interpersonal factors and relational efficacy beliefs. Existing studies suggest that interpersonal style affects how individuals perceive others, and that interpersonal problems and interpersonal style can lead to distorted ways of thinking about others. Interpersonal problems may cause clients to develop distorted beliefs about their counselor's capability to help and about their counselor's beliefs regarding their capacity for positive change. By influencing interpersonal and relational beliefs, interpersonal style and interpersonal problems likely impact working alliance. Thus, relational efficacy belief constructs may be a manner through which interpersonal problems affect the client-counselor relationship and counseling outcomes.

This chapter will provide an in-depth review of 1) WA; 2) interpersonal theory; 3) research regarding interpersonal factors and WA; 3) research regarding client expectancies, beliefs, and WA; 4) the tripartite model of efficacy beliefs; 5) and a theoretical basis for the relationship between interpersonal factors and relational efficacy beliefs.

Working Alliance

Professionals from various approaches within the field of counseling have long recognized the client-counselor relationship, or WA, as an important component to positive change (Castonguay, Constantino, Boswell, & Kraus, 2011). Although the concept of alliance originates in the therapist and client relationship, WA is not exclusive to the context of psychotherapy. Bordin (1979) noted that WA can describe many different facilitating relationships, such as the interactions between a student and teacher or a community and a leader. Accordingly, WA has been studied in a variety of professional contexts. Although there are differences among the many conceptualizations of WA, most theoretical definitions have three themes in common: (a) the collaborative nature of the relationship, (b) the affective bond between client and therapist, and (c) the client's and therapist's ability to agree on treatment goals and tasks (Bordin, 1979; Gaston, 1990; Horvath & Symonds, 1991; Martin Garske, & Davis, 2000; Saunders, Howard, & Orlinsky, 1989).

Bordin (1979) proposed that working alliance between the person who seeks change and the one who offers to facilitate change is one of the most important parts of the change process. Bordin conceptualized the alliance as consisting of three interdependent components: tasks, goals, and the bond. According to Bordin, the strength of the alliance depends on the degree of agreement between the client and counselor about the tasks and goals of therapy and on the quality of their relational bond. Tasks consist of specific activities (either overt or covert) that the client must engage in to benefit from treatment. Horvath and Greenberg (1989) note that tasks include the counselor’s and client’s in-counseling behaviors and cognitions. Bordin (1979) stated that tasks’ effectiveness depends on how clearly the counselor can relate the assigned task to the client’s problems as well as the client’s

motivation to change. Johnson and Wright (2002) note that tasks need to be decided based on a client's internal and external circumstances. When the counselor and client effectively negotiate the tasks of therapy, both the client and counselor perceive them to be relevant and effective. Additionally, both the client and counselor must take responsibility to perform the tasks (Lustig et al., 2002).

Goals are the target of the counseling process, or the desired outcome (Chan, Shaw, McMahon, Koch, & Strauser, 1997; Horvath & Greenberg, 1989). Goals vary depending on practice setting, a counselor's theoretical orientation, and a client's problem or difficulty. In psychotherapy a goal might be improvement in psychological symptoms, while in rehabilitation counseling goals are often related to employment or adjustment to disability (O'Sullivan, 2012). Collaboration and mutual goal setting may enhance a client's sense of commitment and view toward him or herself as an equal partner in the counseling process (Lustig et al., 2002). Finally, bond refers to the affective quality of the relationship between a client and a counselor. Bond includes the positive, personal attachments between a client and counselor, such as feelings of liking, trusting, caring, understanding, and respect (Bordin, 1994; Horvath & Greenberg, 1989).

Bordin's conceptualization of WA highlights the complex, dynamic, and multidimensional nature of the therapeutic relationship (Safran, 1993). The bond, task, and goal dimensions of the alliance have an ongoing influence upon one another. The quality of the bond mediates the extent to which the patient and the therapist can negotiate an agreement about the tasks and goals in therapy, and the ability to negotiate an agreement about the tasks and goals in therapy in turn mediates the quality of the bond (Castonguay et al., 2011). The concept of WA reflects a belief that the relationship between the client and

the therapist helps the client to accept and follow through with the counseling and rehabilitation process based on a sense of ownership (Horvath & Symonds, 1991). By developing positive WA, rehabilitation counselors can encourage clients to be engaged in the rehabilitation counseling process and take responsibility for decision making (Kosciulek, 2000, 2004).

Bordin (1979) described four primary propositions related to the concept of WA. The first is that all orientations of therapy have imbedded working alliances and can be differentiated most meaningfully in terms of the kind of working alliance each requires, meaning that the nature of bonds, goals, tasks, may be different. Counseling is an inherent part of rehabilitation counseling (Wright, 1980) and therefore many of the relational aspects are similar, however the tasks and goals of vocational rehabilitation counseling are distinct from psychotherapy in that they are generally focused on employment. The second proposition is that the effectiveness of a therapy is a function in part, if not entirely, of the strength of the working alliance. Bordin (1979) noted that both the therapist and client come in with their own set of expectations, hopes, and experiences and they must mutually come to a place of agreement and understanding within the relationship. In rehabilitation counseling, the client and counselor must come to agreement about a vocational goal and the steps necessary to reach that goal.

The third proposition is that different approaches to therapy are marked by difference in demands they make on a patient and therapist, meaning that different forms of psychotherapy have varying treatments, strategies, and goals. Rehabilitation counselors play a variety of roles in the counseling relationship. They may use counseling theories or techniques (e.g. motivational interviewing), facilitate career exploration, and teach practical

employment skills, such as interviewing skills. The final proposition is that the strength of the working alliance is a function of the closeness of fit between the demands of the particular kind of working alliance and the personal characteristics of patient and therapist. This proposition speaks to the significance of client, counselor, and therapy variables in determining quality of WA.

Given that within a client-counselor relationship the two individuals must work together to reach a goal, it is a highly interpersonal process. Constantino, Castonguay, and Schut (2002) note that alliance represents interactive, collaborative elements of the client-counselor relationship in the context of an affective bond or positive attachment. There is an ongoing negotiation between the therapist and client at both conscious and unconscious levels about the tasks and goals of therapy, and that process of negotiation both establishes the necessary conditions for change to take place and is an intrinsic part of the change process. The deepness of the negotiation process taps into fundamental dilemmas of human existence, such as the negotiation of one's desires with those of another and the tension between the need for agency versus the need for relatedness (Newhill, Safran, & Muran, 2003).

The WA between rehabilitation counselors and clients with disabilities has recently received more attention as an important component of rehabilitation counseling practice (Chan et al., 2012). Like other forms of counseling, rehabilitation counseling can be impacted by WA because it is a collaborative process between a rehabilitation counselor and his or her client (Kierpiec, Phillips, & Kosciulek, 2010). The philosophy of rehabilitation counseling stresses client informed choice and empowerment. This focus is reflected in the Rehabilitation Act Amendments of 1992 and 1998, which emphasize that all services for

individuals with disabilities should uphold the importance of personal responsibility, self-determination, consumer informed choice, equal access, and full participation (Hagen-Foley, Rosenthal, & Thomas, 2005; Hein, Lustig, & Uruk, 2005). Client choice is a decision-making process in which clients make their own choices based on the available information when selecting employment goals and rehabilitation services (Hagen-Foley et al., 2005; Kosciulek, 2004). Informed choice and self-determination within the rehabilitation counseling process enhances client empowerment and their control over their lives (Kosciulek, 2004). The two most important factors in the rehabilitation counseling process related to WA are the quality of the client's participation and his or her motivation to become involved in the process (Lustig et al., 2002). Clients with disabilities who are engaged in the rehabilitation counseling process and well-connected with their counselor benefit most from services (Chan et al., 1997; Kosciulek, 2004). Researchers suggest that the goals of rehabilitation can best be achieved when there is a maximum of client involvement in the development and implementation of a vocational rehabilitation services plan (Chan et al., 1997; Chan et al., 2017; Corrigan et al., 2012; McAlees & Menz, 1992) and have proposed strong working alliance (WA) as a vehicle for encouraging active participation between clients and rehabilitation health professionals in the rehabilitation process (Shaw, McMahon, Chan, & Hannold, 2004; Strauser, Lustig, Chan, & O'Sullivan, 2010).

WA and outcomes

Researchers' inability to find consistent differences in the effectiveness and outcomes of psychotherapies across orientations has increased the study of WA. Many researchers have concluded that psychotherapies are generally effective and have shifted their focus toward *common* factors that contribute to change across different treatment modalities (Smith, Glass,

& Miller, 1980). Wampold (2001) conducted a meta-analysis of studies of therapeutic outcomes and found that 70% of counseling effects are related to common factors. WA has been conceptualized as one of the common factors across therapeutic disciplines, with some researchers arguing that WA alone is more important than the type of treatment in predicting positive outcomes (Safran & Muran, 1995).

Researchers in the counseling and psychotherapy literature have found the development of working alliance to be one of the most significant processes in therapy, regardless of a therapist's theoretical orientation or specific techniques (Lambert & Barley, 2002). It is well established that alliance correlates positively with therapeutic change such as symptom reduction, psychological functioning, and reduction in interpersonal problems across various clinical problems, treatments, and theoretical perspectives (Castonguay & Beutler, 2006; Castonguay, Constantino, & Holtforth, 2006; Horvath et al., 2011; Martin et al., 2000). Horvath and Symonds (1991) conducted a meta-analysis regarding 24 studies that examined the relationship between quality of WA and therapy outcomes and found that WA was positively related to outcomes with an average effect size of .26. A follow-up meta-analytic study conducted by Martin and colleagues (2000) including 68 studies showed a positive relationship between WA and outcome with an average effect size of .22. More recently, Horvath and colleagues (2011) conducted a meta-analysis and found a positive relationship between WA and outcomes with an average effect size of .28. These studies suggest that there is a moderately strong and reliable relationship between WA and counseling/psychotherapy outcomes. Though this is not a large effect size, the effect of WA can be considered substantial within the complex entity of psychotherapy (Horvath & Bedi, 2002).

Although the literature regarding WA is less expansive in rehabilitation counseling compared to counseling and psychotherapy, researchers have also found associations between a strong client-counselor relationship and outcomes in the context of rehabilitation services. Donnell and colleagues (2004) found that employed clients in vocational rehabilitation had a stronger WA than those who were not employed, and that stronger WA was associated with employed clients' satisfaction with their current job. WA was also related to clients' positive perception of future employment prospects. Strauser and colleagues (2010) conducted a study with cancer survivors and found that WA had a significant positive relationship with client optimism regarding future employment prospects. However, the study did not find an association between WA and perceived job satisfaction. Strauser and colleagues (2004) analyzed existing state VR data to explore WA and outcomes for individuals with mild cognitive disability and found a positive relationship between WA and rehabilitation outcomes. In a large cross-sectional study including 2,031 state rehabilitation counseling consumers, Lustig and colleagues (2004) found a significant relationship between WA and employment outcomes for both rural and urban consumers.

Davis and Lysaker (2007) conducted a study of clients with schizophrenia who were receiving a 26-week cognitive-behavioral therapy (CBT) based vocational rehabilitation program and found a positive relationship between WA and work performance. Similarly, Burns and Catty (2008) found that clients with better relationships with their vocational counselors were more likely to obtain employment and work for longer. Neale and Rosenheck (1995) examined the relationship between therapeutic alliance and outcomes within a Veterans Affairs intensive case management program. The researchers found that therapeutic alliance was associated with symptom severity and improvement in community

living skills. In a small study including 22 clients with schizophrenia, Gehrs and Goering (1994) examined rehabilitation counseling dyads and outcomes. They found that both rehabilitation counselors' and clients' perceptions of the quality of WA were significantly correlated with outcomes. However, they did not find a correlation between change in WA over time and change in outcomes. In a study of VR clients, Iwanaga and colleagues (2017) found that WA is positively related to stage-of-change for employment. They found that the relationship between WA and stage-of-change for employment was mediated by components of self-determination theory: autonomous motivation, outcome expectancy, and VR engagement.

In rehabilitation counseling literature, some studies have explored predictors of WA in a vocational rehabilitation setting including qualities of the counseling environment, counselor factors, and client factors. Regarding the counseling environment, researchers have discussed caseload size as possible predictor of WA given that caseloads remain relatively large for rehabilitation counselors in comparison with some other counseling and therapy specializations (Kierpiec, Phillips, & Kosciulek, 2010). Kukla and Bond (2009) found that clients receiving supported employment assigned to a single vocational worker have stronger WA than clients served by a team of workers. Research regarding rehabilitation counselor factors has shown that counselor cognitive factors, such as counselors' attitudes toward individuals with mental illness and their recovery, are correlated with WA (Park, 2017). In the same study, Park found that rehabilitation counselors' counseling self-efficacy and counseling outcome expectancy were significantly related to WA. O'Sullivan (2012) found that rehabilitation counselors' level of education and work experience are associated with WA when working with clients with physical disabilities but are not significantly associated

with WA when working with clients with psychiatric disabilities. O'Sullivan suggested that clients with mental illness who perceive a negative alliance with their counselor are less likely to engage with services and are more likely to drop out of counseling services. Kosciulek (2000, 2004) suggested that rehabilitation counselors can cultivate WA by providing consumers with choice and empowering them as part of the vocational rehabilitation process. Research regarding client factors supports employment status (Donnell et al., 2004; Lustig et al., 2002) as a significant predictor of WA. Studies in the context of state vocational rehabilitation have found no significant differences in WA based on client gender (Strauser et al., 2010), presence of a secondary disability (Donnell et al., 2004), or client ethnicity (Donnell et al., 2004). Some of the ideas within the literature have not been quantitatively studied (e.g., caseload size) and others within the context of state vocational rehabilitation programs have often used items from other measures to create post-hoc measures of WA, which may limit the interpretation of research findings.

Given the substantial evidence supporting the association of WA with positive outcomes in both psychotherapy and rehabilitation counseling, it is important that counseling professionals understand the factors that impact the development of WA. It is only through understanding factors that influence development of quality WA that rehabilitation counselors will be able to develop evidence-based practices that foster positive WA, thereby improving outcomes for individuals with disabilities. While the impact of the counseling environment, counselor factors, and client factors on WA all deserve additional attention in the rehabilitation counseling literature, better understanding client factors seems particularly consequential. It could be that specific client factors are highly determinant of WA, regardless of a counselor's skill or approach; knowledge of such factors could facilitate the

development of interventions that would improve VR outcomes through a more thoughtful approach to fostering a strong WA. Furthermore, clients and not the counselor are the ones who in the end must work to obtain a job and then perform the duties of that job; client factors believed to be important to the development of strong WA are likely to be important to successful employment as well, which is the goal of vocational rehabilitation services. Finally, there is a wealth of research regarding client factors in the counseling and psychotherapy research that can be leveraged to better understand WA in rehabilitation counseling settings.

Studies regarding client factors in the counseling and psychotherapy literature address whether clients' characteristics might facilitate or interfere with the establishment or maintenance of good alliance. Among the predictors that have been examined, client beliefs and expectancies and client interpersonal factors are among the most consistent and significant predictors of WA (Constantino et al., 2010). Interpersonal factors are commonly conceptualized through interpersonal theory and assessed using measures based on the interpersonal circumplex. Researchers have defined and assessed client expectancies and beliefs in a variety of ways with different focuses; the tripartite model of efficacy beliefs (Lent & Lopez, 2002) focuses on relationships between relationships and relational efficacy beliefs and self-efficacy beliefs. This chapter will review existing research regarding interpersonal theory and the interpersonal circumplex, will review the tripartite belief model as a way of understanding the client-counselor relationship, and present research suggesting a relationship between interpersonal factors and relational efficacy beliefs.

Interpersonal Theory

Interpersonal theory originates from the work of Harry Stack Sullivan (1953a, 1953b, 1954, 1956, 1962, 1964), who defined personality as a "relatively enduring pattern of recurrent interpersonal situations which characterize a human life" (Sullivan, 1953b, p. 110-111). Sullivan radically transformed psychoanalysis from a study of things and events that occur within an individual, to the study of interpersonal living (Evans, 2006). Sullivan believed that the psychological contents of a person are inextricably derived from social processes and argued that a counselor could never be a neutral observer in therapy because the interpersonal field is always active, and participants shape and are shaped by its ongoing dynamics (Sullivan, 1953a). Since the counselor is considered an active participant in therapy, a primary focus of research regarding the counseling process within interpersonal theory has been the client-counselor relationship, or working alliance.

Interpersonal theory is now in its fourth generation and has greatly advanced over time, increasing in theoretical integration, methodological sophistication, and scope (Pincus & Ansell, 2012). Interpersonal theory's growth is in large part due to its integrative nature, which can accommodate findings from other research traditions related to personality and relational functioning (Horowitz & Strack, 2010; Pincus & Ansell, 2003). Interpersonal theory uniquely promotes the consideration of the "interpersonal situation" (Pincus & Ansell, 2003) as a unit of analysis for studying psychological phenomena within different frameworks. As methods have become more sophisticated, researchers have been able to examine increasingly complex hypotheses that integrate concepts from diverse perspectives on interpersonal behavior. For example, researchers have integrated interpersonal models with attachment (e.g. Bartholomew & Horowitz, 1991), psychodynamic (e.g. Blatt, 2008),

social-cognitive (e.g. Locke, & Sadler, 2007), evolutionary (e.g. Fournier, Zuroff, & Moskowitz, 2007), and neurobiological (e.g. aan het Rot, Moskowitz, Pinard, & Young, 2006) theories of personality, psychopathology, and psychotherapy.

Pincus and Ansell (2012) note that there are four primary assumptions that support contemporary interpersonal theory and research. The first assumption is that the most important expressions of personality and psychopathology occur in an interpersonal situation in which two people are interacting. This assumption validates the "interpersonal situation" as a unit of study and a way of understanding how personality and psychopathology are expressed. An interpersonal situation is "the experience of a pattern of relating self with other associated with varying levels of anxiety (or security) in which learning takes place that influences the development of self-concept and social behavior" (Pincus & Ansell, 2003, p. 210). Sullivan (1953a, 1953b) theorized that people live in communal existence with the social environment and that they express integrating tendencies that bring them together to meet their needs, which are security (anxiety-free functioning) and self-esteem. Sullivan suggested that those integrating tendencies organize themselves into patterns of interpersonal experiences and behaviors. According to Sullivan, interpersonal learning of self-concept and social behavior is based on experiences of anxiety in interpersonal situations. Individuals develop and redevelop patterns of interpersonal behavior through experiences. Through that development, individuals behave in ways that increase security and self-esteem (positively reinforcing) while avoiding anxiety (negatively reinforcing). Over time these patterns create schematic representations of the self and others, as well as enduring patterns of adaptive or disturbed interpersonal relating. Through understanding interpersonal situations, Sullivan

suggested that researchers and practitioners can better understand personality and psychopathology.

The second assumption of interpersonal theory is that interpersonal situations can occur between two people interacting in person, but also within the mind of an individual through his or her capacity for perception, mental representation, memory, fantasy, and expectancy (Pincus & Ansell, 2012). This emphasizes that interpersonal situations are not restricted to a contemporaneous, observable behavior between two people, but can also exist within someone's mind via their capacity for mental representation of self and others (e.g. Blatt, Auerbach, & Levy, 1997). This concept allows interpersonal theorists to integrate important pan-theoretical constructs such as cognitive interpersonal schemas, internalized object relations, and internal working models (Lukowitsky & Pincus, 2011). Interpersonal situations occur in perceptions of contemporaneous events, memories of past experiences, and expectations of future experiences. A primary way that psychopathology is expressed is through disturbed or distorted interpersonal perceptions (Pincus & Wright, 2010).

The third assumption in interpersonal theory is that the constructs of agency and communion provide a meta-structure for conceptualizing interpersonal situations (Pincus & Ansell, 2012). In seminal works in the interpersonal theory literature, Wiggins (1991, 1997, 2003) argued that Bakan's (1966) meta-concepts of "agency" and "communion" comprise the two predominant dimensions of interpersonal relating. Agency refers to the experience of being a differentiated individual, and it is manifested through strivings for mastery and power, which can enhance and protect individuation. Communion is the experience of being part of a larger social or spiritual entity, and is manifested by strivings for intimacy, union, and solidarity with a larger entity (Pincus & Ansell, 2012). Bakan (1966) noted that these

two concepts are key to understanding the tensions of human existence and how our dualities are managed. Wiggins (2003) argued that agency and communion are related to Sullivan's ideas about the goals of human relationship: security corresponds with communion and self-esteem corresponds with agency. Broadly, agency and communion classify the interpersonal motives, strivings, and values of human relations (Horowitz, 2004). In interpersonal situations, motivation reflects an individual's agentic or communal goals (e.g. to be in control; to be close) that he or she uses specific behaviors to achieve (Grosse Holtforth, Thomas, & Caspar, 2010; Horowitz et al., 2006). Agency and communion also provide a structure for describing and measuring interpersonal dispositions and behaviors (Wiggins, 1991). Agentic and communal dispositions denote enduring patterns of perceiving, thinking, feeling, and behaving that are probabilistic in nature, and describe interpersonal tendencies in interpersonal situations (Pincus & Ansell, 2012). In contemporary interpersonal theory, agency and communion are fundamental meta-concepts of personality that provide a superordinate structure for conceptualizing interpersonal situations. Systems and models, such as the interpersonal circumplex, can employ the constructs of agency and communion to understand, describe, and measure interpersonal motives, dispositions, and behaviors, whether in contemporaneous interactions between individuals or within interpersonal situations within the mind evoked through perception, memory, fantasy, and mental representation (Pincus & Ansell, 2012).

The fourth and final assumption is that interpersonal complementarity is a common baseline for field regulatory pulls of interpersonal behavior (Pincus & Ansell, 2012), meaning that interpersonal behaviors invite reciprocal behaviors that will meet participants' needs. Interpersonal theorists have created an interpersonal framework, interpersonal

complementarity, to describe reciprocal relational patterns within an interpersonal field in which interactants resolve, negotiate or disintegrate the interpersonal situation (Pincus & Ansell, 2012). Within that framework, interpersonal complementarity occurs when there is a match between the goals of each interactant (Carson, 1969; Kiesler, 1983), meaning that each of their agentic and communal needs are met within the interpersonal situation. Carson (1969) first suggested that complementarity could be measured through the interpersonal circumplex based on a reciprocal exchange of status (agency) and love (communion). Researchers suggest that interpersonal complementarity occurs when interacts reciprocate appropriately: responding to dominance with submission and submission with dominance, responding to friendliness with friendliness and hostility with hostility (Kiesler, 1983). Interpersonal theorists suggest that deviations from complementary interpersonal behaviors are more likely to disrupt relationships and may be indicative of pathological functioning (Fournier et al., 2009; Pincus, 2005; Pincus et al., 2009).

Since interpersonal theorists believe that life in general is defined by interpersonal experiences, it follows that the psychotherapy/counseling process is also a highly interpersonal process. Interpersonal processes and the associated relationship between the counselor and the client (the helping or working alliance) is one of the most frequently researched determinants of counseling outcomes (Martin, Garske, & Davis, 2000). Although there is a question whether a positive relationship between a client and counselor produces symptomatic improvement or if symptomatic improvement produces a more positive relationship (e.g. Feeley, DeRubeis, & Gelfand, 1999; Tang & DeRubeis, 1999), there is agreement that the client counselor relationship is related to successful outcomes. The

following section will review the counselor literature regarding interpersonal factors (as assessed through measures based on interpersonal theory) and WA.

Interpersonal Factors and WA

Research on interpersonal variables and WA consider that the client-counselor relationship is a highly interpersonal process given that it requires that two individuals work together to reach a goal (Andrews, 2001). WA represents interpersonal, collaborative elements of the client-counselor relationships in the context of an affective bond or positive attachment (Constantino, Castonguay, & Schut, 2002). There is an ongoing negotiation between the therapist and client at both conscious and unconscious levels about the tasks and goals of therapy and that process of negotiation both establishes the necessary conditions for change to take place and is an intrinsic part of the change process (Mitchell & Aron, 1999). Eubanks-Carter and colleagues (2011) note that many issues that occur within therapy are influenced by difficulties that clients have in negotiating between their needs and the needs of others in interpersonal relationships. These difficulties can lead to ruptures, or tension between the client's and the counselor's respective desires.

Recognizing the interpersonal processes inherent to counseling, numerous researchers have explored the associations between interpersonal factors and WA. As noted previously, research in the counseling and psychotherapy literature regarding client interpersonal factors has focused in large part on using interpersonal theory and the interpersonal circle to identify qualities that impact the development of WA. Interpersonal theory emphasizes the important role of interpersonal relationships with others to broader aspects of psychosocial functioning, and it is based in the assumption that all interpersonal interactions reflect attempts to establish and maintain self-esteem or avoid anxiety (Leary, 1975; Sullivan, 1953).

Individuals seek to maintain self-esteem and avoid anxiety through a durable set of strategies that are observable in interpersonal situations, both in brief interactions and enduring relationships, that can be described as personality.

The interpersonal circumplex model provides a means for conceptualizing, organizing, and assessing interpersonal behaviors, traits, and motives (Wiggins, 2003). The interpersonal circumplex is organized around the two fundamental dimensions of interpersonal theory, *agency* and *communion*, which are represented as the horizontal and vertical axes of a circle. Interpersonal style is an individual's amalgamation of agency and communion (Gurtman, 2009), which is represented by a location within the interpersonal circumplex. Interpersonal style is one prominent determining factor of quality of functioning in different relationship domains, including a client's relationship with a counselor. Researchers have used the interpersonal circle and its associated mathematical model, the circumplex, to develop numerous measures of interpersonal factors (e.g. Horowitz et al., 1988). In particular, the Inventory of Interpersonal Problems (IIP; Horowitz et al., 1988) has been a critical tool in the recent history of interpersonal assessment (Gurtman, 1996; Gurtman & Balakrishnan, 1998). The IIP was created based on an assumption that interpersonal problems or difficulties often form the underlying basis of psychiatric complaints and symptoms (Horowitz, 1979; Horowitz et al., 1983). Development of working alliance involves a negotiation between the desires or needs of the client and counselor (Mitchell & Aron, 1999). Many of the problems people bring to the counseling relationship are influenced by difficulties they have negotiating between their needs and the needs of others in interpersonal relationships. Studies regarding client factors address whether clients'

characteristics might facilitate or interfere with the establishment or maintenance of good alliance.

Several studies have found significant associations between client interpersonal agency and WA. In a 20-session course of cognitive therapy, Muran, Segal, Samstag, and Crawford (1994) found that overly submissive interpersonal problems (passivity) were positively associated with agreement on tasks, agreement on goals, and overall WA. However, the researchers found no association between interpersonal problems and WA-bond. Similarly, Soyguet, Nelson, and Safran (2001) demonstrated that problems of dependency and non-assertiveness, as measured with the IIP, favor the establishment of a strong alliance. However, in a study of adults who had experienced childhood sexual abuse, Nevo (2002) found that problems with the dominance dimension of interpersonal agency was positively related to initial alliance. In a small study including individuals participating in therapy, Paivio and Bahr (1998) found that nonassertive interpersonal problems were negatively associated with the bond dimension of WA. Overall, findings are mixed regarding the relationship between client interpersonal agency (interpersonal control) and WA. Some studies show that submissiveness is positively related to alliance and other suggest that submissiveness is negatively related to WA or that dominance is positively linked to WA. However, it is difficult to compare the extant literature given the differences in treatment types, treatment length, client samples, alliance components measured, and alliance measure used. It is unclear if inconsistent findings are due to differences in studies or due to other moderating factors.

Researchers have also found significant relationship between client interpersonal communion/friendliness and WA. Muran, Segal, Samstag, and Crawford (1994) found that

overly friendly interpersonal problems were positively associated with dimensions of WA including agreement on therapy tasks and goals for clients in a 20-session course of cognitive therapy for depression and anxiety. Puschner and colleagues (2005) examined interpersonal problems and the quality of the helping alliance in outpatient psychotherapy. They found that interpersonal problems were related to helping alliance in different ways. “Too hostile” patients reported relatively poor initial helping alliance whereas “too friendly” patients rated more favorably the relationship to the therapist. However, interpersonal problems at intake did not predict the therapeutic alliance one-and-a-half years later. The results indicate that a poor initial helping alliance might be reversed during treatment.

In a study of patients with various clinical problems, Saunders (2001) found that interpersonal problems of a detached, or hostile, nature were negatively associated with WA bond. Nevo (2002) found that the excessive affiliation was positively correlated with WA alliance in a 6-month group treatment for adults who experienced childhood sexual abuse. In a study of a four-session brief psychodynamic therapy for mood and anxiety disorders, Beretta et al. (2005) also found that patient-rated early alliance, as assessed by the Helping Alliance Questionnaire (HAq; Alexander & Luborsky, 1986), was positively related to overly friendly, or affiliative, interpersonal problems. In the study, individuals with more problems related to coldness and social inhibition had stably low alliance levels over time but fewer problems related to excessive affiliation compared to clients who had stably high or gradually improving WA. Overall interpersonal distress, however, was negatively associated with the alliance. Constantino and Smith-Hansen (2008) conducted a study examining the association between baseline patient interpersonal factors and patient rated alliance in a randomized trial comparing cognitive-behavioral therapy (CBT) and interpersonal therapy

(IPT) for bulimia nervosa. Using hierarchical linear modeling, they found that early and middle alliance were positively associated with interpersonal affiliation. Additionally, clients with the least favorable WA trajectory were those that reported less overly affiliative and more hostile-dominant interpersonal problems.

Paivio and Bahr (1998) found that interpersonal problems associated with the communion dimension of the interpersonal circle are associated with WA in experiential therapy. The researchers found that interpersonal problems related to hostility, coldness, and social avoidance were negatively related to alliance, primarily to the bond component rather than tasks or goals. Social avoidance was the only interpersonal problem predictive of goals. Overall, research supports that interpersonal problems related to an overly friendly nature tend to be positively associated with WA while interpersonal problems of a too hostile nature are generally negatively associated with WA.

Researchers have also examined the effect of overall interpersonal problems and WA. Constantino and Smith-Hanson (2008) found that for individuals receiving cognitive-behavioral therapy for bulimia nervosa, overall interpersonal distress was negatively related to early and middle WA. Beretta and colleagues (2005) similarly found that interpersonal distress is associated with difficulties establishing early WA in dynamic psychotherapy. Paivio and Bahr (1998) found that total interpersonal problems as measured by the Inventory of Interpersonal Problems (IIP) were negatively associated with development of the bond dimension of WA for individuals in experiential therapy. Connolly Gibbons and colleagues (2003) found that total interpersonal distress as measured by the IIP was associated with WA at sessions 2 and sessions 10 of therapy. In general, researchers have found significant,

negative associations between total interpersonal problems and WA across different treatments and conditions.

Client Beliefs, Expectancies, and WA

Most extant studies examine pre-treatment beliefs and expectancies and their impact on WA during the counseling process. These beliefs include clients' thoughts about whether activities in treatment will be effective (e.g. Garland et al., 2004) and clients' views on the cause of their mental health problem (e.g. Elkin et al., 1999). The counseling and psychotherapy literature support that clients' outcome expectations are positively associated with alliance across different treatments for diverse conditions.

In general, studies define expectations as beliefs about clients' perceived efficacy of treatment and treatment activities rather than beliefs about their ability to change or their therapist's competency. For example, Elkin and colleagues (1999) found a significant relationship between expectations and WA when examining patient-treatment fit, which they defined as the congruence between the clients' assignment to a treatment and their view of what causes depression and what ameliorates it. The study suggests that WA is stronger in treatments that the client believes are effective at creating positive change. Connolly Gibbons and colleagues (2003) examined the association between patients' baseline outcome expectations and the early and middle WA across two forms of time-limited treatments: supportive-expressive therapy (SE) and cognitive therapy (CT). The authors found that patient pretreatment expectation of improvement was positively associated with patient-rated early alliance in SE, as well as patient-rated middle alliance in both SE and CT. For patients receiving SE, patient expectations also predicted positive change in alliance quality across time. Constantino, Arnow, Blasey, & Agras (2005) conducted a study examining the

relationship between patient characteristics and the development of alliance in two different treatments for bulimia nervosa. They found that client expectations for improvement were positively associated with early- and middle-treatment alliance quality.

Chambless, Tran, and Glass (1997) and Safren, Heimberg, and Juster (1997) found in separate samples that lower expectations for improvement were associated with poorer treatment response in group CBT for social phobia. In a managed care setting, Fromm (2001) found that patients with higher pretreatment expectations for improvement had better posttreatment outcomes in a short-term, cognitive-behavioral anxiety management group. Meyer and colleagues (2002) analyzed data from the National Institute of Mental Health Treatment of Depression Collaborative Research Program to examine the relationship between expectancies, WA, and outcome. The researchers found that patients who expected the treatment to be effective tended to engage more constructively in sessions, which helped to reduce symptoms. They also found that therapists' expectancies regarding their patient's improvement predicted outcomes.

Additionally, studies have examined alliance as a mediator of the expectation-outcome link. Abouguendia and colleagues (2004) performed a study with participants in time-limited group therapy for complicated grief. The researchers found that client-rated alliance played a mediating role in the relationship between outcome expectancy and group benefit, suggesting that the expectancy-outcome association is expressed through the development of WA between individual members and the group therapist. In rehabilitation counseling, Donnell and colleagues (2004) found that clients' assessment of their future job prospects was positively associated with their rating of the therapeutic relationship.

Overall, research suggests that clients with positive outcome expectations are more engaged in the collaborative working relationship with their therapists, which promotes improvement. Findings regarding the relationship between expectations and WA are often explained in terms of goal theories, suggesting that people will work toward a goal if they expect it is attainable (Austin & Vancouver, 1996; Carver & Scheier, 1998). Without an expectation of success, people will become discouraged and will disengage with the process and goals of counseling.

Relational Efficacy Beliefs

Although most studies have focused on expectancies and beliefs about the course and content of therapy, recently researchers have suggested that studies should explore expectancies and beliefs on an interpersonal level, which is likely to be informative regarding the development of WA. For example, Lent and Lopez (2002) conceptualized the tripartite model of efficacy beliefs to help explain interpersonal functioning in close relationships. In the model, self-efficacy exists along with a network of other relational beliefs that interact and complement each other. Lent and Lopez (2002) theorized that this network of beliefs is applicable to growth-promoting interpersonal relationships such as that between a client and a counselor. Three forms of efficacy beliefs comprise the model: self-efficacy, other-efficacy, and relation-inferred self-efficacy (RISE) beliefs. Self-efficacy is defined as an individual's beliefs about his or her own ability to perform a task or reach a goal. In the context of rehabilitation counseling, self-efficacy would refer to a client's belief in his or her ability to perform the tasks necessary to obtain and perform a job. Other-efficacy beliefs are an individual's beliefs about a significant other's ability to perform behaviors. In rehabilitation counseling, other-efficacy beliefs might refer to a client's belief about whether his or her

counselor can help him or her find a job. RISE beliefs encompass an individual's beliefs regarding how a significant other views his or her efficacy at specific tasks or behavioral domains. In rehabilitation counseling, this would be a client's belief about whether his or her counselor believes he or she can find and retain work.

Researchers have explored Lent and Lopez's relational efficacy model in the context of sports relationships (e.g., Jackson & Beauchamp, 2010), athlete pairs (e.g., Jackson, Beauchamp, & Knapp, 2007), and physical education instructors and students (e.g., Jackson, Whipp, Chau, Dimmock, & Hagger, 2013). Researchers have also used the model in the context of romantic relationships (Lopez & Lent, 1991); Gere, Martire, Keefe, Stephens, & Schulz, 2014), physical therapy (Jackson, Dimmock, Taylor, & Hagger, 2012), financial advising (Yim, Chan, & Lam, 2012), and academic advising relationships (Morrison & Lent, 2014). Studies have supported the relational efficacy model and the relationship between relational efficacy constructs and WA. For example, in a study of the relationship between counseling graduate students and their supervisors, Morrison and Lent (2018) found that relational beliefs are significantly related to WA. Morrison also found that RISE beliefs mediated the relationship between working alliance and counseling self-efficacy. Similarly, research on the relational efficacy model in the context of student research advising found that relational beliefs are significantly related to WA. In the study, advisees' RISE beliefs regarding advisor perceptions of their research ability fully mediated the relationship between the advisory working alliance and students' research self-efficacy (Morrison & Lent, 2014).

Lent and Lopez (2002) suggest that the tripartite set of beliefs have important implications not only for the development of relationships, but also the formation and

maintenance of self-efficacy beliefs. RISE is conceptualized as a relationship-specific source of self-efficacy (Lent & Lopez, 2002). If clients see that her counselor believes that they are capable of working, they may view themselves as more capable of successfully finding work. It is also likely that other-efficacy would impact the relationship between RISE and self-efficacy (Morrison & Lent, 2014). Clients may place importance on their counselor's view of their ability to work based on their beliefs about the counselor's knowledge regarding the world of work and how to find employment. In other words, other-efficacy may impact a counselor's credibility with clients, which would also impact RISE.

Lent & Lopez (2002) suggest that RISE may be especially important in situations that involve developing new skills, using existing skills in a new context, and reevaluating existing skills during a crisis or transition. In these situations, individuals may rely more heavily on RISE beliefs to determine their own self-efficacy (Morrison, 2016). In the context of rehabilitation counseling, seeking employment and managing a disability can be a time of significant transition and crisis; in that period of adjustment, RISE beliefs may be particularly impactful to client self-efficacy beliefs and WA.

Interpersonal Factors, Relational Efficacy Beliefs, and WA

Interpersonal theory and relational efficacy beliefs have never been studied together in the context of the development and maintenance of working alliance within counseling/psychotherapy or rehabilitation counseling. However, existing literature supports a relationship between their constructs suggesting that interpersonal factors are related to the development of relational beliefs and may affect WA through that relationship. It is important to examine the relationships between interpersonal factors and relational efficacy beliefs to better understand how WA is developed in a counseling relationship.

Interpersonal style is defined by a characteristic approach to situations and relationships, including attitudes toward, behaviors in, and goals for relationships, as well as cognitions about the meaning of relationships, affect and behavior in interactions, and interpretation of others' behaviors (Wilson et al., 2017). Interpersonal theory holds that individuals have internalized relationship schemas that are activated by an interactive situation. Relationship schemas modulate one's ability to think of oneself, to think of others, and to sense and be present with others. They are based on the formation of early significant relationships (e.g., Bowlby, 1982; Stern, 1985), and develop over time in interaction with the internal and external reality of the individual. Schemas can be flexible, functional, and adaptable, or operate in a rigid, automatic, stereotyped, and maladaptive manner. When schemas are rigid, they often distort the external reality so that it is disadvantageous and dissatisfying for the individual. That rigidity is often assessed through measures of interpersonal problems.

Expectations and beliefs about a significant other are often based on unrelated others' behaviors in past interactions and at other times (i.e. schemas); this can lead to overgeneralized or erroneous expectations (Fiske & Neuberg, 1990). These domains of expectations can be classified as positive or negative and as having a domain circumscribed to the situation or attributed to general dispositions of personality (Snyder & Stukas, 1999). Personality-based interpersonal expectations may develop from repeated encounters that lead familiar expectations to become chronically accessible (Higgins & King, 1981). Chronically accessible expectations may then influence individuals to interpret a related other's behavior as consistent with expectations (Skowronski et al., 1993). For example, Downey (Downey et al., 1998; Downey & Feldman, 1996) and Murray (Murray & Holmes, 1997; Murray et al.,

1996) suggested that individuals who fear rejection may be likely to form expectations of their relationship partners as rejecters and may even elicit such rejection.

Researchers using the tripartite relational efficacy beliefs model have suggested that higher-order factors, such as interpersonal style, may shape individuals' other efficacy and RISE beliefs (e.g. Jackson et al., 2009). Lent and Lopez (2002) posited that the way in which interpersonal signals are received and processed influences the estimations that individuals form regarding the confidence that other people have in their abilities as well as other people's efficacy. RISE beliefs, therefore, represent a meta-perception regarding one's estimation of another's confidence in one's ability; meta-beliefs like RISE may or may not be accurate and are likely to be influenced by internalized relationship schemas. In the same way that RISE beliefs are vulnerable to distortions or inaccuracies, Lent and Lopez suggested that irrespective of whether one person's other-efficacy beliefs are consonant with the target individual's ability, a strong belief in that other person accounts for a range of adaptive task and social related outcomes.

Researchers have found that therapeutic alliance is associated with an individual's wish to be close and perception of others as being trustworthy and as helpful. Individuals with low alliance more often express the wish to be close to others, but perceive others' responses more negatively, as indicated by their representations of others as "hurtful and untrustworthy" and "unhelpful" (Beretta et al., 2005). They also have more interpersonal problems linked to a diminished capacity for affiliation. Locke (2005) found that individuals who are uncommunal tend to imagine others as not caring, people who are agentic tend to imagine people as criticizing them, and people who are agentic and uncommunal expect unresponsive and unsupportive reactions. Imagined reactions tended to evoke feelings of

anger in people who are agentic, insecurity in people who are unagentic, shame in people who are communal, and disconnection in people who are uncommunal. This research supports that interpersonal factors may influence working alliance through a client's beliefs about his or her counselor.

Interpersonal theory suggests that individuals without interpersonal problems are better able to cultivate relationships and collaborate with others while individuals with interpersonal problems collaborate less with others and will have poorer outcome expectancies within the context of relationships. Those without interpersonal problems are likely to have more positive expectations and efficacy beliefs about significant others, which in turn impacts their own efficacy beliefs. Based the concepts and studies reviewed, this study will examine the relationship between client interpersonal style and relational beliefs as well as their impact on WA in the context of vocational rehabilitation counseling.

CHAPTER THREE

Methodology

This chapter provides the details of the research design, study procedures, sampling, participant characteristics, information about and psychometric properties of selected instruments, and statistical techniques.

Research Questions and Hypotheses

1. What relationships exist between demographic covariates and WA? For this question, it is hypothesized that employment status will be positively associated with WA and other demographic covariates will not be significantly associated with WA.
2. What relationships exist between communal and agentic interpersonal styles and WA? For this question, it is hypothesized that communal interpersonal style is positively associated with WA; agentic interpersonal style is negatively related to WA; and both communal and agentic interpersonal style contribute to the overall prediction of WA.
3. What relationship exists between interpersonal distress and WA? Do communal and agentic interpersonal style significantly contribute to the variance of WA when controlling for interpersonal distress? For this question, it is hypothesized that distress is negatively associated with WA and that interpersonal styles are a significant predictor of WA when controlling for interpersonal distress.
4. What is the relationship between tripartite efficacy belief model constructs (self-efficacy, other efficacy, and RISE beliefs) and WA? For this question, it is hypothesized that each efficacy belief construct is positively associated with WA and that each efficacy belief construct adds to the overall prediction of WA.

5. Are total interpersonal distress, communal interpersonal style, and agentic interpersonal style associated with other efficacy and RISE beliefs? For this question, it is hypothesized that interpersonal distress and agentic style are negatively associated with other efficacy and RISE beliefs, that communal style is positively related with other efficacy and RISE beliefs, and that each interpersonal factor adds to the overall prediction of relational efficacy beliefs.
6. Do relational efficacy beliefs (other-efficacy and RISE beliefs) mediate the relationship between interpersonal factors and WA? For this question, it is hypothesized that other efficacy and RISE beliefs fully mediate the relationship between interpersonal factors (distress, communal style, and agentic style) and WA.
7. What amount of variance do relational efficacy beliefs explain, above and beyond demographic covariates and interpersonal factors, in the prediction of WA? For this question, it is hypothesized that each relational efficacy belief construct adds to the prediction of WA.

Research Design

This study uses a quantitative descriptive design, utilizing multiple regression and correlation analyses (Heppner, Wampold, & Kivlighan, 2008) to determine the extent to which client factors predict WA. The study also employs a mediator analysis to explore relational efficacy beliefs as mediators of the relationship between interpersonal factors and WA.

Procedures

The investigator completed the required Human Subjects Protection Training from the University of Wisconsin—Madison (UW-Madison) Institutional Review Board (IRB)

and obtained study approval from the IRB (see Appendix A). Following IRB approval, the investigator contacted directors of state departments of vocational rehabilitation (DVRs) and the Council of State Administrators of Vocational Rehabilitation (CSAVR) to seek their assistance in recruiting vocational rehabilitation participants for the study. Consumers from two midwestern state DVRs participated in the study. To be eligible for inclusion in the study, participants had to be (a) at least 18 years or older and b) receiving services from a state VR.

The investigator, along with state VR leadership, determined that it would best protect consumer personal information by allowing state VR personnel to send out email invitations. The investigator created an email invitation and it was approved by the IRB. The email described the study, inclusion criteria, and noted that the study was voluntary for consumers and would not impact their VR services. State VR administrators and counselors distributed an email to their consumers inviting them to participate in the study (see Appendix B).

Data were collected via an online survey platform (https://uwmadison.co1.qualtrics.com/) (see Appendix D). After participants answered questions to determine their eligibility for the study, the survey presented them with a page asking for informed consent; the page included additional information regarding the study, the contact information for the investigator in case of questions, and a description of potential risks and benefits of the study (see Appendix C). The page also noted that, after completing the survey, the first 300 participants would be eligible for a $5 Amazon gift card that would be distributed by email. The investigator used a two-step procedure to ensure that all personal information from the survey was not linked to email addresses provided to receive the gift

card. The average completion time was 15 to 25 minutes. The investigator maintained the confidentiality of all responses. Gift cards were distributed within 48 hours following the completion of surveys.

Sample

Participants

A total of 476 VR consumers attempted the online survey. Of those surveys, 151 (32%) participants did not initiate or complete at least one of the primary measures used in the study (e.g. the measure of WA); those participants were not included as their responses could not be used to address the primary research questions. Thus, the final study sample included 325 participants.

Sample Characteristics

Descriptive statistics for the sample are presented in Table 3.1. Among the participants, 112 (34.5%) identified themselves as male, 210 (64.6%) as female, and 3 (0.9%) as another gender identity. The sample was predominantly white 256 (78.8%), followed by multiracial 33 (10.2%), black or African American 24 (7.4%), Latino 5 (1.5%), Asian 4 (1.2%), and American Indian or Alaska Native 2 (0.6%). Most participants were single 213 (65.5%), while 52 (16%) were married, 31 (9.6%) were divorced, 17 (5.2%) were cohabitating with a partner, 9 (2.8%) were separated, and 3 (0.9%) were widowed. Most of the sample had a high school diploma or equivalent degree, 171 (52.6%), while 64 (19.7%) had a bachelor's degree, 53 (16.3%) had an associate degree, 23 (7.1%) had a master's degree or higher, and 14 (4.3%) had less than a high school degree. Most the sample was unemployed, 164 (50.5%), while 101 (31.1%) participants were employed part-time and 60 (18.5%) were employed full-time. Among the sample participants, 223 (68.6%) were not

receiving Social Security disability benefits, while 58 (17.8%) received Social Security Disability (SSDI) benefits, 36 (11.1%) received Supplemental Security benefits (SSI), and 8 (2.5%) received both SSDI and SSI benefits. The most common disability type reported was a physical disability, 117 (36.0%), while 93 (28.6%) reported having a psychiatric disability, 67 (20.6%) reported having a cognitive or learning disability, and 48 (14.8%) reported having another medical condition.

Table 3.1

Participant Demographic Characteristics (N = 325)

Variable	*n (%)*	*Mean (SD)*
Age		34.2 (13.7)
Gender		
Male	112 (34.5%)	
Female	210 (64.6%)	
Other	3 (0.9%)	
Race/ethnicity		
White	256 (78.8%)	
Black or African American	24 (7.4%)	
Latino	5 (1.5%)	
Asian	4 (1.2%)	
Native Hawaiian or Pacific Islander	0 (0%)	
American Indian	2 (0.6%)	
Multiracial/multiethnic	33 (10.2%)	
Missing	1 (0.3%)	
Marital Status		
Single	213 (65.5%)	
Married	52 (16%)	
Cohabitating	17 (5.2%)	
Divorced	31 (9.6%)	
Widowed	3 (0.9%)	
Separated	9 (2.8%)	
Education		
Less than high school	14 (4.3%)	
High school diploma or	171 (52.6%)	

equivalency	
Associate degree	53 (16.3%)
Bachelor's degree	64 (19.7%)
Master's degree or higher	23 (7.1%)
Employment Status	
Not employed	164 (50.5%)
Employed part-time	101 (31.1%)
Employed full-time	60 (18.5%)
SSA Benefits	
Not receiving benefits	223 (68.6%)
SSDI only	58 (17.8%)
SSI only	36 (11.1%)
SSDI and SSI	8 (2.5%)
Disability Category	
Physical	117 (36.0%)
Psychiatric	93 (28.6%)
Cognitive or learning	67 (20.6%)
Other condition	48 (14.8%)

Measures

The survey questionnaire for the present study was comprised of established measures. The entire survey questionnaire is found in Appendix D and the components are described in this section.

Demographic information. This study used a questionnaire to identify demographic covariates (i.e., age, gender, race/ethnicity, educational attainment, employment status, marital status, disability benefit status, and primary disability type).

Instrumentation for Independent Variables

Job Search Self-Efficacy. The Job Search Self-Efficacy Scale (JSSE; Saks, Zikic, & Koen, 2015) is a 10-item self-report measure. It consists of two dimensions, job search self-efficacy behaviors (JSSE-B) and job search self-efficacy outcomes (JSSE-O). This study used only the JSSE-O, which consists of 10-items and assesses beliefs about the outcomes of

job search efforts (“How confident are you that you can be successful in your job search”). The measure asks respondents to rate their level of confidence for each outcome on a 5-point scale with anchors, 1 (not at all confident), to 5 (totally confident). The JSSE-O is based on Blau’s (1994) job search behavior scale, which has been validated in several different studies (e.g. Cote et al., 2006; Saks & Ashforth, 1999). Saks and colleagues (2015) found that the Cronbach’s alpha for the JSSE-O is .89. In the present study, the internal consistency reliability coefficient was .97.

This study also used altered versions of the JSSE-O to measure job search other-efficacy and job search relation-inferred self-efficacy. To measure other-efficacy, the researcher adjusted the wording of JSSE-O items to address a respondents’ confidence in their rehabilitation counselor’s ability to help with certain behaviors (e.g. “How confident are you that your counselor can help you to be successful in your job search”). The other-efficacy version of the JSSE-O had an internal consistency reliability coefficient of .98. To measure relation-inferred self-efficacy (RISE) beliefs, the researcher adjusted the wording of JSSE-O items to assess respondents’ beliefs regarding their counselor’s beliefs about their ability to be successful in their job search (e.g. “How confident is your counselor that you can be successful in your job search”). The RISE belief version of the JSSE-O had an internal consistency reliability coefficient of .98.

Interpersonal Problems. The Inventory of Interpersonal Problems-C-IRT (Sodano & Tracey, 2011) is a 32-item version of the original 64 item version of the IIP. It asks respondents to rate the level of difficulty for each interpersonal problem using a five-point Likert scale (0 = *not at all*, 4 = *extremely*) just as the original version does (Alden, Wiggins, & Pincus, 1990). Eighteen items address behaviors that are hard to do (e.g., “It is hard for me

to take instructions from people who have authority over me") and 14 items address behaviors that occur too often (e.g., "I try to please other people too much"). The instrument was designed to yield interpersonal circumplex quadrant and octant scores, as well as a total distress score. The octant scales are Domineering/Controlling, Vindictive/Self-Centered, Cold/Distant, Socially Inhibited, Nonassertive, Easily Exploited, Self-Sacrificing, and Intrusive/Needy. Research supports the psychometric properties of the IIP (Horowitz et al., 2000; Soldz, Budman, Demby, & Merry, 1995; Tracey, Rounds, & Gurtman, 1996). Sodano and Tracey (2011) constructed the IIP-C-IRT based on the original IIP-C version by using item response theory to reduce the number of items to those that maximally discriminate individuals along the interpersonal circumplex. The precision of the subscales was examined across varying levels of interpersonal problems, and IRT based reliability levels were found to be adequate or better across the score levels in all subscales and demonstrated precision in discriminating individuals on levels of the latent trait (Sodano & Tracey, 2011). Sodano and Tracey (2011) found that alphas for the subscales ranged from .62 (Intrusive-Needy) to .80 (Socially Inhibited). Internal consistency estimates by octant were reported as: Domineering-Controlling (PA) .67, Vindictive-Self Centered (BC) .64, Cold-Distant (DE) .74, Socially Inhibited (FG) .80, Nonassertive (HI) .80, Overly Accommodating (JK) .84, Self –Sacrificing (LM) .71, and Intrusive-Needy (NO) .62 (Sodano & Tracey, 2011). These estimates were found to be comparable with octants ranging from .72 to .85 on the full-length Inventory of Interpersonal Problems – Circumplex (Alden et al., 1990) and indicate an acceptable level of internal consistency for the new measure (Sodano & Tracey, 2011).

In the present study, octant scores ranged from .64 (Intrusive-Needy) to .89 (Nonassertive). Internal consistency estimates by octant were: Domineering-Controlling (PA)

.69, Vindictive-Self Centered (BC) .65, Cold-Distant (DE) .74, Socially Inhibited (FG) .84, Nonassertive (HI) .89, Overly Accommodating (JK) .77, Self –Sacrificing (LM) .77, and Intrusive-Needy (NO) .64.

Instrumentation for Dependent Variables

Working Alliance. The *Working Alliance Inventory-Vocational Rehabilitation* (WAIVR) is a modified version of the *Working Alliance Inventory-Short Revised* (WAI-SR), which was developed by Munder, Wilmers, Leonhart, Linster, and Barth (2010). The WAI-VR was created by Chan, McMahon, Shaw and Lee (2004) for use in VR agency settings. The WAI-VR is composed of 12 items assessing three factors (i.e., bond, task, and goal). Each item is rated on a seven-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*) (e.g. "The counselor and I agree about the steps to be taken to improve the VR process"). Scores are calculated by averaging ratings across the items with the higher score indicating a higher level of working alliance. Munder and colleagues (2010) reported internal consistency reliability coefficients for bond (.82), task (.85), goal (.81) and total (.90). In a previous study of individuals with disabilities receiving vocational rehabilitation services, the internal consistency reliability consistency for the overall measure was .93 (Iwanaga et al., 2018). In the present study, the investigator used total scores and the internal consistency reliability coefficient for the working alliance scale was .93.

Data Analysis

Data Summarization Procedures

The investigator used R software for Windows and the Statistical Package for Social Sciences (SPSS) 25.0 to manage raw data and perform all analyses. The investigator analyzed data using descriptive statistics, preliminary screening procedures, simultaneous

regression, and mediation analyses to test the research hypotheses. The investigator computed descriptive statistics for all independent variables (IVs) and dependent variables (DVs) to examine the shape of the distribution (normal, skewness, kurtosis), central tendency (mean, median, mode), and dispersion (range, variance, standard deviation). The investigator used frequencies, percentages, means, and standard deviations to summarize participants' demographic characteristics and scores on measured variables. The investigator tested for assumptions for analyses used in the study. The investigator used coefficient alphas to estimate internal consistency reliability of scores on each measure. Table 3.2 provides descriptive statistics for all measures including scale, central tendency, and dispersion.

Table 3.2

Measurement Scale Summary (*N* = 325)

Independent variables	Number of items	Ratings scale	Mean (SD)	Cronbach's alpha
Inventory of Interpersonal Problems-Circumplex-Item Response Theory	32	0 – 4	2.3 (.65)	.92
Job Search Self-Efficacy-Outcomes	10	1 – 5	2.5 (1.1)	.97
Job Search Other Efficacy-Outcomes	10	1 – 5	2.8 (1.1)	.98
Job Search Relation-Inferred Self-efficacy-Outcomes	10	1 – 5	3.1 (1.1)	.98
Outcome variable	Number of items	Ratings scale	Mean (SD)	Cronbach's alpha
Working Alliance Inventory-Vocational Rehabilitation	12	1 – 7	5.4 (1.2)	.93

Sample Size

The investigator conducted an a priori power analysis using the G*Power software (Faul, Erdfelder, Buchner, & Lang, 2009). Power was set at .80, with an alpha level of .05 for

14 predictors including demographic variables, the interpersonal variables examined in this study, tripartite efficacy belief model constructs, and WA. Cohen (1992) noted that power is the capacity of the study's sample size to detect the differences or relationships that exist in a population and the probability that the study will yield statistically significant results. One-hundred and thirty-five participants were found to be required for a medium effect size (*f2* =.15; Cohen, 1992).

The investigator also calculated the needed sample size using Maxwell's (2000) suggestion for computing the power to detect the unique effects of tripartite efficacy beliefs model constructs (i.e. self-efficacy, other-efficacy, and RISE beliefs). The researcher used R statistics software with the "MBESS" package to calculate effect size. First, the investigator found correlations among variables from the literature. The researcher then used the MBESS package to calculate the minimum and maximum sample sizes that might be needed for a hierarchical analysis including demographic covariates, interpersonal variables, and the tripartite efficacy beliefs constructs. Based on the correlation matrices, required sample size ranged from 209 to over 500.

Data Analysis for the Inventory of Interpersonal Problems (IIP)

The investigator used the IIP to calculate octant subscores, agency and communion (i.e. dominance and affiliation) scales, and overall interpersonal distress. The interpersonal features in the interpersonal circumplex are organized around two orthogonal interpersonal dimensions, (agency and communion), which are considered the two primary goals of interpersonal behavior (Wiggins, 2003). Octant subscores refer to the subscales comprising the IIP. Subscales of agency and communion are calculated using octant subscales included in the circumplex model.

Octant subscores are the raw scores from each of the subscales in the IIP calculated by summing the responses; each octant has four associated questions. The interpersonal distress scale is calculated by adding together all the IIP octant subscale scores. Thus, interpersonal distress represents an individual's overall level of interpersonal problems as captured by the interpersonal circumplex.

Agency and communion interpersonal style scales are calculated using the following formulas (Wiggins & Broughton, 1991):

IIP: Agency = Dominant – Nonassertive + .707(Vindictive + Intrusive – Overly Accommodating – Socially Inhibited)

Communion = Self-sacrificing – Cold + .707(Intrusive + Overly Accommodating – Vindictive – Socially Inhibited)

Communal and agentic interpersonal style scales indicate where a participant is "located" on the horizontal or vertical axis of the interpersonal circumplex, respectively (e.g., positive agency would signify that a participant is "located" above the center of the circumplex on the vertical axis). Location on the axes indicates an individual's general tendency toward engaging certain types of behaviors in interpersonal situations (e.g. someone with a positive communal style tends to be overly self-sacrificing or too open to others in their interactions and is less likely to be overly cold or distant).

Data Visualization, Exploration, and Assumptions

Major assumptions for multiple regression analysis include: a) variables are linear; b) correct specification of the independent variables; c) measurement error; d) independence of errors; e) homoscedasticity; and f) normality of residuals (Cohen, Cohen, West, & Aiken, 2003). Violations of those assumptions can lead to bias in the estimate of regression

coefficients or in the estimate of standard error of the regression coefficients (Cohen et al., 2003). In the first case, bias in estimates of the regression coefficients would impact R^2 significance tests and confidence intervals. When estimates of standard error of the regression coefficients are biased the estimated value of the regression coefficient may be correct, but hypothesis tests and confidence intervals may be incorrect. Therefore, the investigator carefully considered and evaluated multiple regression analysis assumptions.

Scatterplots of the independent variables and dependent variables suggested that assumptions of linearity and homoscedasticity are reasonable. The investigator used coefficient alphas to estimate internal consistence of scores on each measure to check for measurement error. The investigator calculated Durbin-Watson statistics to test nonindependence of residuals because multiple regression assumes that residuals are independent (Cohen et al., 2003). The Durbin-Watson value is reported to be between 1.5 and 2.5 (Garson, 2012). In additional, multicollinearity assumes that no strong correlation exists between variables within the predictor sets. Violations of multicollinearity can lead to difficulty in discerning the unique statistical contributions of each variable to the criterion variable. Multicollinearity was evaluated by examining the variance inflation factors (VIF) and tolerance. None of the values exceeded 5 for any variables in the analyses and none of the tolerance values was less than .10, suggesting no problems with multicollinearity (Sheather, 2009).

Missing data. Missing data is one of most common problems in data analysis (Tabachnick & Fidell, 2007). Cohen and colleagues (2003) suggested that researchers consider several factors when they select a method for dealing with missing data: a) the amount of missing data; b) sample size; c) reasons for missing data; and d) number or

researchers who will use the dataset. Cohen and colleagues note that there are no standard rules for choosing an approach to missing data (e.g. dropping variables, dropping subjects, multiple imputation). In this study, since there was a substantial sample size and little missing data points, the researcher chose to exclude participants who did not attempt all of the study measures; in this case, individuals who attempted each measure also responded to each study question.

Outliers. An outlier is a case with an extreme value that does not fit with the rest of the data (Cohen et al., 2003; Tabachnick & Fidell, 2007). Scatterplot matrices can help to identify outliers when there is more than one independent variable (Cohen et al., 2003). Cohen and colleagues (2003) note that measures of *influence* combine information from measures of *discrepancy* and *leverage* to provide information about how a regression would change if a case was removed from the dataset. The researcher used Cook's distance (*Cook's D*) to identify outliers in the dataset. The investigator used a Cook's distance cut-off value of 4/(n-k-1) = 0.013 (Chatterjee & Hadi, 1986) for the outcome variable (i.e., WA). The number of cases eliminated are reported in the results chapter.

Categorical Variables

Hardy (1993) stated that researchers should decide which group is the reference group based on some criteria, noting: a) the reference group should serve as a useful comparison; b) the reference group should be well-defined and not a "waste basket" category; and c) the reference group should not have a very small sample size relative to the other groups. In this study, the researcher dummy coded categorical variables as follows: gender, male = 0, female = 1; race/ethnicity, white = 0, non-white = 1; marital status, single, separated, divorced, or widowed = 0, married or cohabitating = 1; education, less than high school degree = 0, high

school diploma = 1, associate degree = 2, bachelor's degree = 3, master's degree = 4; SSA benefits, no benefits = 0, SSA and/or SSDI benefits = 1; employment status, not employed = 0, employed = 1; and disability category, physical, cognitive, or learning disability = 0, psychiatric disability = 1.

Simultaneous Regression

The investigator used a series of simultaneous regressions to examine the variance in the criterion variable, WA, that is accounted for by the predictors as a set (Hoyt, Imel, & Chan, 2008; Hoyt, Leierer, & Millington, 2006). Research questions 1 through 5 are in part tested using multiple regression. The investigator used three sets of predictors (i.e. demographic covariates, interpersonal factors, and the tripartite efficacy beliefs model) to predict WA. The result of a regression analysis is an equation that represents the best prediction of a dependent variable from several continuous (or dichotomous) predictor variables (Tabachnick & Fidell, 2001). The criterion for statistical significance for this study is .05.

Hierarchical Regression

The investigator performed a hierarchical regression analysis to identify the correlation of a predictor set and the unique contribution and predictive ability of each predictor variable to the variance of the criterion variable (i.e. WA; Cohen et al., 2003). Hierarchical regression is particularly useful when there are multiple independent variables used to predict a dependent variable (Hoyt et al., 2008). The change in R^2 represents the variable accounted for by the predictor set, while the *sr2* represents the shared variance of each individual predictor within a set. The researcher examined change in R^2 as a measure of each predictor set's contribution.

In hierarchical regression, researchers use a priori specifications based on theoretical guidance and hypothesized relationships to identify the order that predictor sets should be entered into a regression equation (Hoyt et al., 2008). In this study, independent variables were grouped under the categories of demographic covariates, interpersonal factors, and tripartite efficacy beliefs. The significance was set at an alpha of .05. A priori specifications for the hierarchical regression analysis included the following:

In *step 1*, the researcher entered a set of demographic covariates including age, gender, race/ethnicity, marital status, education level, employment status, Social Security benefits received, and disability category.

In *step 2*, the researcher entered interpersonal variables: interpersonal distress, communal interpersonal style, and agentic interpersonal style.

In *step 3*, the researcher entered the three components of the tripartite efficacy beliefs model, self-efficacy, other efficacy, and relation-inferred self-efficacy.

Mediation Analysis

The researcher used a multiple regression analysis to test a mediator hypothesis examining the effect of relational efficacy belief constructs (i.e. RISE and other-efficacy beliefs) on the relationship between interpersonal factors and WA. The researcher used Baron and Kenny's (1986) procedure for mediation analysis to explore whether relational efficacy beliefs mediated the relationships between interpersonal distress and WA, communal style and WA, and agentic style and WA. The three steps that comprise this procedure are: 1) regress the DV onto the IV to show that it is possible that two variables can be causally linked; 2) regress the mediator onto the IV to show they can also be linked; and 3) regress the DV and the mediator simultaneously onto the IV to determine if the IV is

significantly associated with the DV when the mediators are statistically controlled. In addition, to formally test the significance of the indirect effect, the researcher used a bootstrap procedure described by Preacher and Hayes (2004) to estimate the size of the indirect effects. Shrout and Bolger (2002) recommended using bootstrapping procedures to test indirect effects for small sample sizes.

CHAPTER FOUR

Results

The purpose of this study was to examine a) demographic covariates, interpersonal factors, and relational efficacy beliefs as predictors of WA; and b) interpersonal factors as predictors of relational efficacy beliefs. The researcher used correlational, simultaneous, and hierarchical regression analyses to determine the amount of variance explained by predictor sets representing demographic covariates, interpersonal factors, and relational efficacy belief constructs. Additionally, the researcher used a mediation analysis to test whether relational efficacy beliefs mediate the relationship between interpersonal factors and WA.

Data Screening

The researcher screened all predictor and criterion variables for accuracy, data entry, multivariate outliers, and normality using R data analysis software. The researcher utilized frequency tables to identify data entry tables and assessed multicollinearity using the variance inflation factors (VIFs) and tolerance. No VIF values exceeded 5, suggesting that multicollinearity was not an issue within the dataset and that deleting or adding variables would not result in large changes in the coefficients.

The researcher screened outliers for the outcome variables using Cook's distance cut-off and examined histograms, scatter plots of residuals, skewness, and kurtosis statistics to test assumptions of normality and linearity. The evidence suggested that assumptions for multiple regression analysis were met.

Descriptive Statistics

Correlational Analyses

WA was negatively associated with interpersonal distress (r = -.19, p < .001). WA was positively associated with communal style (r = .12, p < .05), self-efficacy (r = .35, p < .001), other efficacy (r = .65, p < .001), and RISE beliefs (r = .63, p < .001). WA was not significantly related to agentic style. Correlations and descriptive statistics for the criterion and predictor variables are presented in Table 4.1 and all significant correlations between predictive and dependent variables are noted.

Table 4.1

Correlations, Means, and Standard Deviations for Variables Used in Regression Analyses

Variable	1	2	3	4	5	6	7
1. Working alliance	1						
2. Distress	-.19***	1					
3. Communal style	.12*	-.06	1				
4. Agentic style	.04	-.43***	-.15**	1			
5. Self-efficacy	.35***	-.38***	.18**	.29***	1		
6. Other efficacy	.65***	-.18**	.21***	.14*	.63***	1	
7. RISE beliefs	.63***	-.15**	.17**	.12*	.51***	.76***	1

*p < .05; **p < .01 ***p < .001

Simultaneous Regression Analyses

The researcher performed simultaneous regression analyses examining the independent variables (i.e. demographic covariates, interpersonal variables, and relational efficacy constructs) as predictors of the criterion variables (i.e. relational efficacy beliefs and WA). Simultaneous regression is informative regarding the relationships of predictor variables with criterion variables when all other predictive variables are statistically

controlled (Hoyt, Imel, & Chan, 2008). The results of these analyses, including standardized coefficients (*β)* for the predictor variables and the R^2 in each analysis, are presented in the tables in each of the following sections.

Demographic covariates

Table 4.2 relates to the first research question, which hypothesized that demographic variables would not be significantly associated with WA. Table 4.2 presents the results of a regression examining the relationship between demographic covariates and WA. This set of demographic covariates accounted for 8% of the variance in WA, $R^2 = .08$, $F(8, 312) = 3.35$, $p < .01$. The standardized partial regression coefficients indicate that marital status significantly contributed to the variance in WA, $B = 5.20$, $t(312) = 2.98$, $p < .01$. Employment status also significantly contributed to the variance in WA, $B = 3.18$, $t(312) = 2.29$, $p < .05$. Gender also significantly contributed to the variance in WA, $B = 2.86$, $t(312) = 2.00$, $p < .05$. Finally, having a psychiatric disability significantly contributed to the variance in WA, $B = -4.32$, $t(312) = -2.89$, $p < .01$.

Table 4.2

Summary of Simultaneous Regression Analysis for Demographic Covariates Predicting Working Alliance

	Working Alliance (N = 312)			
Variables	R^2	*B*	*SE B*	β
Demographic covariates	.08**			
Age		-.07	.06	-.08
Gender		2.86	1.43	.11*
Race/ethnicity		.12	1.69	.00
Marital status		5.20	1.75	.17**
Education level		.03	.71	.00
Psychiatric disability		-4.32	1.50	-.16**
SSA benefits		.96	1.59	.04
Employment status		3.19	1.40	.13*

Note. Gender (female = 1); race (white = 0, non-white = 1); marital status (single, divorced, or widowed = 0, married or cohabitating = 1); education level (less than high school = 0, high school degree = 1, associate degree = 2, bachelor's degree = 3, master's degree or higher = 4); disability type (non-psychiatric disability = 0, psychiatric disability = 1); SSA benefits (not receiving benefits = 0, receiving benefits = 1); employment status (not employed = 0, employed = 1); RISE = relation-inferred self-efficacy;
*p < .05, **p < .01, ***p < .001

Interpersonal Factors and WA

In the analyses of interpersonal factors, the researcher identified 13 outliers using Cook's distance and removed them from the dataset. Table 4.3 relates to the second research question, which hypothesized that communal style would be positively associated with WA and agentic style would be negatively related to WA. Table 4.3 presents the results of a regression examining interpersonal style constructs as predictors of WA. Communal and agentic interpersonal styles together accounted for 4% of the variance in WA, R^2 = .03, $F(312) = 4.56$, $p < .05$. The standardized partial regression coefficients indicate that communal style significantly contributed to the variance in WA, $B = .25$, $t(312) = 2.96$, $p < .01$.

Table 4.3

Summary of Simultaneous Regression Analysis for Interpersonal Style Predicting Working Alliance

	Working Alliance (N = 312)			
Variables	R^2	*B*	*SE B*	β
Interpersonal style	.03*			
Communal style		.25	.09	.17**
Agentic style		.08	.08	.05

Note. *p < .05, **p < .01, ***p < .001

Table 4.4 relates to the third research question, which hypothesized that distress is negatively associated with WA and that communal and agentic interpersonal styles are significant predictors of WA when controlling for interpersonal distress. Table 4.4 presents the results of a regression examining interpersonal style constructs as predictors of WA. Interpersonal distress, communal style, and agentic style together accounted for 7% of the variance in WA, R^2 = .07, F(312) = 7.84, p < .001. The standardized partial regression coefficients indicate that interpersonal distress significantly contributed to the variance in WA, B, = -.14, t(312) = -3.77, p < .001. Communal interpersonal style also significantly contributed to the variance in WA, B = .21, t(312) = 2.53, p < .05.

Table 4.4

Summary of Simultaneous Regression Analysis for Interpersonal Factors Predicting Working Alliance

	Working Alliance (N = 312)			
Variables	R^2	*B*	*SE B*	*β*
Interpersonal factors	.07***			
Interpersonal distress		-.14	.04	-.24***
Communal style		.21	.08	.14*
Agentic style		-.07	.09	-.05

Note. *p < .05, **p < .01, ***p < .001

Tripartite Beliefs Model Constructs and WA

Table 4.5 relates to the fourth research question, which hypothesized that each efficacy belief construct is positively associated with WA. Table 4.5 presents the results of a regression examining the constructs of the tripartite beliefs model. In the analysis, the researcher identified 13 outliers using Cook's distance and removed them from the dataset. The model accounted for 53% of the variance in WA, R^2 = .53, F(312) = 113, p < .001. The standardized partial regression coefficients indicate that other-efficacy beliefs significantly contributed to the variance in WA, B = .48, t(312) = 6.29, p < .001. Relation-inferred self-efficacy beliefs also significantly contributed to the variance in WA, B = .43, t(312) = 6.17, p < .001.

Table 4.5

Summary of Simultaneous Regression Analysis for Tripartite Efficacy Beliefs Predicting Working Alliance

	Working Alliance (N = 312)			
Variables	R^2	*B*	*SE B*	β
Tripartite efficacy beliefs	.53***			
Self-efficacy		-.11	.06	-.10
Other-efficacy		.48	.08	.44***
Relation-inferred self-efficacy		.43	.07	.39***

Note. ***p < .001

Interpersonal Factors and Relational Efficacy Beliefs

Table 4.6 relates to the fifth research question, which hypothesized that interpersonal distress and agentic style are negatively associated with relational efficacy beliefs and communal style is positively related with relational efficacy beliefs. Table 4.6 presents the results of a regression examining a set of interpersonal factors as predictors of relational efficacy beliefs (i.e. other efficacy and RISE beliefs). For this analysis, other efficacy and RISE belief scales were combined to form an overall relational efficacy belief scale. The researcher identified 12 outliers using Cook's distance and removed them from the dataset. The set of interpersonal factors accounted for 12% of the variance in relational efficacy beliefs, R^2 = .12, F(313) = 13.89, p < .001. The standardized regression coefficients indicate that interpersonal distress significantly contributed to the variance in relational efficacy beliefs, B = -.16, t(313) = -2.64, p < .01. Communal style also significantly contributed to the variance in relational efficacy beliefs, B = .61, t(313) = 4.40, p < .001. Agentic style also significantly contributed to the variance in relational efficacy beliefs, B = .33, t(313) = 4.40, p < .05.

Table 4.6

Summary of Simultaneous Regression Analysis for Interpersonal Factors Predicting Relational efficacy beliefs

	Relational efficacy beliefs (N = 313)			
Variables	R^2	*B*	*SE B*	β
Interpersonal factors	.12***			
Interpersonal distress		-.16	.06	-.16**
Communal style		.61	.14	.24***
Agentic style		.33	.14	.14*

Note. *p < .05, **p < .01, ***p < .001

Hierarchical Regression Analysis

The researcher used a series of regression analyses, entering demographic covariates, interpersonal factors, and the tripartite efficacy beliefs model constructs sequentially to examine their prediction of WA. In the seventh research question, the researcher hypothesized that relational efficacy belief constructs would add to the overall prediction of WA when controlling for interpersonal factors and demographic variables. The researcher utilized *a priori* specifications for the order of entry for the sets of variables in the hierarchical regression: 1) demographic covariates, 2) interpersonal factors, and 3) tripartite efficacy beliefs constructs. The hierarchical regression demonstrates the variance accounted for in WA by each of the sets of predictor variables when controlling for the previous step. Table 4.7 presents the results including R^2, ΔR^2, the unstandardized regression coefficients (*B*), and standardized coefficients (β) for all predictor variables and each step and within the final model.

Table 4.7

Summary of Hierarchical Regression Analysis for Predictors of Working Alliance (*N* = 312)

			At Entry into Model			Final Model		
Variable	R^2	ΔR^2	*B*	*SE B*	β	*B*	*SE B*	β
Step 1		.08**						
Age			-.07	.06	-.08	.06	.04	.07
Gender			2.86	1.43	.11*	.92	.96	.04
Race			.12	1.69	.00	.42	.96	.01
Marital status			5.20	1.75	.17**	3.14	1.18	.11**
Education level			.03	.71	.00	.36	.47	.03
Psychiatric disability			-4.32	1.50	-.16**	-3.23	1.02	-.12**
SSA benefits			.96	1.59	.04	.96	1.06	.04
Employment status			3.19	1.40	.13*	.76	.94	.03
Step 2	.12***	.04**						
Interpersonal distress			-.11	.04	-.18**	-.07	.03	-.12**
Communal style			.14	.08	.10	-.09	.06	-.06
Agentic style			-.03	.08	-.02	-.17	.06	-.12**
Step 3	.61***	.57***						
Self-efficacy			-.15	.06	-.14*	-.15	.06	-.14*
Other-efficacy			.53	.07	.49***	.53	.07	.49***
RISE			.45	.07	.40***	.45	.07	.40***

Note. Gender (female = 1); race (white = 0, non-white = 1); marital status (single, divorced, or widowed = 0, married or cohabitating = 1); education level (less than high school = 0, high school degree = 1, associate degree = 2, bachelor's degree = 3, master's degree or higher = 4); disability type (non-psychiatric disability = 0, psychiatric disability = 1); SSA benefits (not receiving benefits = 0, receiving benefits = 1); employment status (not employed = 0, employed = 1); RISE = relation-inferred self-efficacy;
*$p < .05$, **$p < .01$, ***$p < .001$

As the first step of the hierarchical regression analysis, the investigator entered the demographic covariates. The set of predictors accounted for a significant amount of the variance in WA, $R^2 = .08$, $F(8, 312) = 3.35$, $p < .01$. The unstandardized partial regression coefficients indicate that marital status significantly contributed to the variance in WA, $B = 5.20$, $t(312) = 2.98$, $p < .01$. Employment status also significantly contributed to the variance in WA, $B = 3.18$, $t(312) = 2.29$, $p < .05$. Gender also significantly contributed to the variance in WA, $B = 2.86$, $t(312) = 2.00$, $p < .05$. Finally, having a psychiatric disability significantly contributed to the variance in WA, $B = -4.32$, $t(312) = -2.89$, $p < .01$.

The investigator entered interpersonal factors in the second step including interpersonal distress, communal style, and agentic style. The addition of these variables accounted for a significant amount of the variance in WA not explained by demographic covariates, $R^2 = .11$, $\Delta R^2 = .05$, $F(11, 312) = 3.12$, $p < .001$. Examination of the unstandardized partial regression coefficients indicated that interpersonal distress $B = -.11$, $t(312) = -3.13$, $p < .01$ significantly contributed to explaining additional variance in WA.

The investigator entered constructs of the tripartite beliefs model in the final step of the regression. The addition of those constructs accounted for a significant amount of the variance in WA not explained by demographic covariates, $R^2 = .61$, $\Delta R^2 = .50$, $F(14, 312) = 32.03$, $p < .001$. Examination of the unstandardized partial regression coefficients indicated that self-efficacy $B = -.18$, $t(312) = -3.01$, $p < .01$, other efficacy $B = .52$, $t(312) = 7.05$, $p < .001$, and RISE beliefs $B = .48$, $t(312) = 7.08$, $p < .001$, significantly contributed to explaining additional variance in WA. In the final step, agentic interpersonal style emerged as a significant negative predictor of WA. The final regression model accounted for 61% of the variance in WA, which is a large effect size based on the conventions established by Cohen (1992).

Mediation Analyses

In the sixth research question, the researcher hypothesized that relational efficacy beliefs, consisting of other-efficacy and relation-inferred self-efficacy beliefs, mediate the relationship between interpersonal factors (i.e. distress, communal style, and agentic style) and working alliance. In this study, mediation analyses followed the guidelines established by Baron and Kenny (1986) and Frazier, Tix, and Baron (2004). The steps are:

1. Regress the criterion variable onto the predictor variable to establish the possibility of a causal relationship.
2. Regress the mediator variable onto the predictor variable to establish that a causal relationship is possible.
3. Simultaneously regress the criterion variable onto the predictor variable and the mediator variable to show that the mediator is related to the outcome when the predictor is statistically controlled.

A mediation hypothesis is supported when the regression coefficients in the first two steps are significant, as well as the partial regression coefficient of the mediator variable in the final step (Baron & Kenny, 1986). The researcher conducted a test of indirect effects following the guidelines proposed by Baron and Kenny (1986); indirect effects represent the product of the path coefficients from the predictor and criterion variables. The researcher used a bootstrap test of indirect effects to determine if indirect effects were significantly different from zero. Researchers have proposed that bootstrap tests of indirect effects are a better method of testing indirect effects and have better statistical properties than the Sobel (1982) test. The investigator used an SPSS macro created by Kristopher Preacher to conduct bootstrap tests of mediator models (www.people.ku/edu/preacher/).

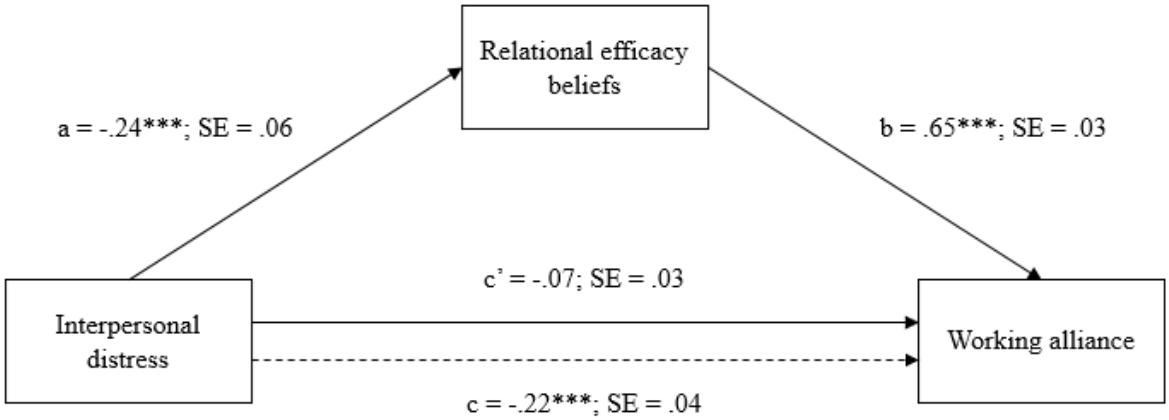
Relational Efficacy Beliefs as a Mediator of the Relationship Between Interpersonal Distress and WA

As figure 4.1 illustrates, the standardized regression coefficient for the *a* path between interpersonal distress and relational efficacy beliefs was statistically significant. The standardized regression coefficient for the *b* path between relational efficacy beliefs and WA was also statistically significant. The standardized indirect effect (*ab* path) was (-.24)(.65) = -

.16. The bootstrapped standardized indirect effect was -.12, and the 95% confidence interval ranged from -.19 to -.05. The indirect effect was statistically significant, supporting relational efficacy beliefs as a mediator for the relationship between interpersonal distress and WA.

Figure 4.1

Path Coefficients for Relational Efficacy Beliefs as a Mediator of the Relationship Between Interpersonal Distress and Working Alliance (N = 312)



Note. The dotted line denotes the effect of interpersonal distress on working alliance when relational efficacy beliefs are not included as a mediator. *a*, *b*, *c*, and *c*' are standardized least squares regression coefficients.
*p <.05; **p < .01; ***p <.001

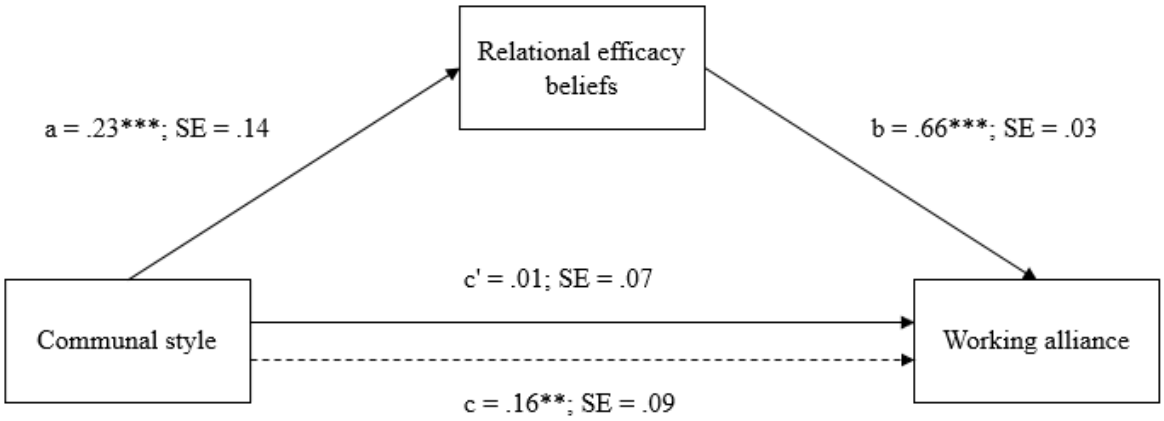
Relational Efficacy Beliefs as a Mediator of the Relationship Between Communal Style and WA

As figure 4.2 illustrates, the standardized regression coefficient for the *a* path between communal style and relational efficacy beliefs was statistically significant. The standardized regression coefficient for the *b* path between relational efficacy beliefs and WA was also statistically significant. The standardized indirect effect (*ab* path) was (.23)(.66) = .15. The bootstrapped standardized indirect effect was .14, and the 95% confidence interval ranged

from .07 to .21. The indirect effect was statistically significant, supporting relational efficacy beliefs as a mediator for the relationship between communal style and WA.

Figure 4.2

Path Coefficients for Relational Efficacy Beliefs as a Mediator of the Relationship Between Communal Style and Working Alliance (N = 312)



Note. The dotted line denotes the effect of communal style on working alliance when relational efficacy beliefs are not included as a mediator. *a*, *b*, *c*, and *c*' are standardized least squares regression coefficients.
*p <.05; **p < .01; ***p <.001

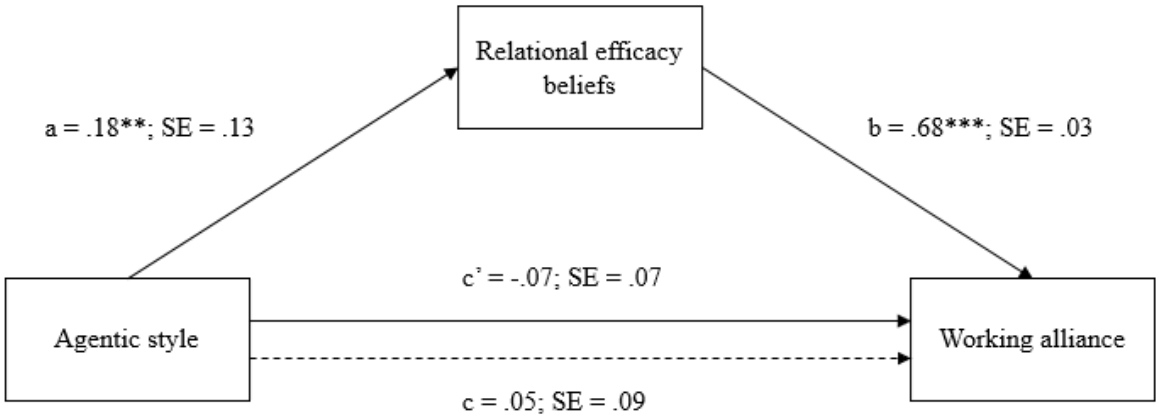
Relational Efficacy Beliefs as a Mediator of the Relationship Between Agentic Style and WA

As figure 4.3 illustrates, the standardized regression coefficient for the *a* path between agentic style and relational efficacy beliefs was not statistically significant. The standardized regression coefficient for the *b* path between relational efficacy beliefs and WA was statistically significant. The standardized indirect effect (*ab* path) was (.18)(.66) = .12. The bootstrapped standardized indirect effect was .14, and the 95% confidence interval ranged

from .05 to .26. The indirect effect was statistically significant, supporting relational efficacy beliefs as a mediator for the relationship between communal style and WA.

Figure 4.3

Path Coefficients for Relational Efficacy Beliefs as a Mediator of the Relationship Between Agentic Style and Working Alliance (N = 312)



Note. The dotted line denotes the effect of agentic style on working alliance when relational efficacy beliefs are not included as a mediator. *a*, *b*, *c*, and *c*' are standardized least squares regression coefficients.
*p <.05; **p < .01; ***p <.001

CHAPTER FIVE

Summary, Discussion, and Implications

In this chapter the investigator will summarize and discuss the study results and explore possible implications of the findings of the study. The investigator will also describe possible limitations to the study that impact the interpretation and generalizability of the findings. Lastly, the investigator will discuss possible future areas for research.

Summary of Findings

The objective of this study was to examine interpersonal and relational predictors of WA for individuals with disabilities receiving vocational rehabilitation services. The investigator used correlational, regression, and mediation analyses to examine the relationships between interpersonal factors, the tripartite efficacy beliefs model, and WA. The investigator employed data screening procedures to confirm that statistical assumptions were met and that all measurement instruments selected were based on sound psychometric properties; internal consistency reliability estimates were within acceptable limits for all measures in the study.

The researcher used correlational analyses to examine the relationship between outcome variables (i.e. WA) and predictor variables representing interpersonal factors (i.e. interpersonal distress, communal interpersonal style, and agentic interpersonal style) and the tripartite efficacy beliefs model (i.e. self-efficacy, other efficacy, and relation-inferred efficacy beliefs). Effect sizes between interpersonal factors and WA were small, consistent with previous studies within the counseling literature (e.g. Renner et al., 2012). Effect sizes between tripartite efficacy beliefs constructs and WA ranged from medium to large.

Factors Contributing to Working Alliance

The researcher used simultaneous regression analyses to investigate how demographic covariates, interpersonal factors, and tripartite efficacy belief constructs contribute to client-counselor WA in vocational rehabilitation. The results showed that demographic covariates, interpersonal variables, and tripartite efficacy beliefs accounted for 6%, 7%, and 53% of the variance in WA, respectively. Among demographic covariates, marital status, having a psychiatric disability, and employment status were significant predictors of WA. Marital status was positively correlated with WA, suggesting that individuals who are married or cohabitating have stronger WA than individuals who are single, divorced, or widowed. Having a psychiatric disability was negatively associated with WA, meaning that individuals with psychiatric disabilities tended to have poorer WA than individuals with other types of disabilities. Employment status was positively associated with WA, suggesting that individuals who are employed have better WA than individuals who are unemployed.

Among interpersonal factors, interpersonal distress and communal style were significant predictors of WA. Interpersonal distress had a small negative association with WA, meaning that individuals with higher interpersonal distress had poorer WA. Communal style had a small positive association with WA, meaning that individuals who tended to be more open had stronger WA while individuals who tended to be cold toward others had weaker WA. All three components of the tripartite efficacy belief model (self-efficacy, other-efficacy, and RISE beliefs) were significant predictors of WA. Self-efficacy had a medium,

positive association with WA. Other-efficacy and RISE beliefs had large, positive associations with WA.

The researcher employed a hierarchical regression analysis to investigate whether interpersonal factors add above and beyond the variance explained by demographic covariates in predicting WA, and whether tripartite efficacy beliefs constructs explain variance above and beyond the variance explained by demographic covariates and interpersonal factors in predicting WA. The researcher divided predictor variables into three categories, or steps. The researcher hypothesized that each category of variables would account for a significant amount of the variance above and beyond the previous category. As noted above, demographic covariates accounted for a significant amount (6%) of the variance in WA. Interpersonal factors accounted for a significant amount of variance above and beyond demographic covariates with a ΔR^2 of .05. The tripartite efficacy beliefs model accounted for a significant amount of variance above and beyond demographic covariates and interpersonal factors with a ΔR^2 of .50. Overall, the final regression model accounted for 61% of the variance in WA, which is considered a large effect size according to Cohen's (1992) standards and provides strong support for the use of demographic covariates, interpersonal factors, and tripartite efficacy beliefs in predicting client-counselor WA in vocational rehabilitation.

In the final model, marital status remained significantly positively associated with WA and having a psychiatric disability had a significant negative relationship with WA; employment status was no longer a significant predictor of WA when controlling for other variables. Interpersonal distress remained a significant negative predictor of WA, while communal style was no longer significant when controlling for other variables. Interesting,

agentic interpersonal style became a significant, negative predictor of WA when controlling for other variables, suggesting that it may have a suppressor relationship with relational efficacy constructs. Other-efficacy and RISE beliefs remained significant, positive predictors of WA in the final model. However, self-efficacy became a significant negative predictor of WA when controlling for other variables, suggesting that the unique variance explained by self-efficacy is negatively related to the quality of the client-counselor relationship.

Interpersonal Factors' Contribution to Relational Efficacy Beliefs

The researcher used a simultaneous regression analysis to examine interpersonal factors as predictors of relational efficacy beliefs (other-efficacy and RISE beliefs). The researcher hypothesized that interpersonal distress, communal style, and agentic style would each uniquely predict relational efficacy beliefs. The results of the analysis show that interpersonal factors account for 12% of the variance in relational efficacy beliefs, with interpersonal distress, communal style, and agentic style each significantly contributing to the prediction of relational efficacy beliefs. Interpersonal distress was negatively associated with relational efficacy beliefs, suggesting that interpersonal problems are associated with more negative relational efficacy beliefs. Communal style was positively associated with relational efficacy beliefs, suggesting that problems related to openness are predictive of a stronger WA while problems with coldness are predictive of poorer WA. Agentic style was also positively associated with relational efficacy beliefs.

Mediating Factors Between Interpersonal Factors and Working Alliance

The researcher used a mediation analysis to determine if relational efficacy beliefs mediate the relationship between interpersonal factors (distress, communal style, agentic style) and WA. Relational efficacy beliefs fully mediated the relationships between

interpersonal distress and WA, communal style and WA, and agentic style and WA. The results suggest that interpersonal distress affects WA by harming relational efficacy beliefs, which in turn harms WA. The results suggest that positive communal style (i.e. the tendency to be overly open and self-sacrificing versus overly cold or distant) improves relational efficacy beliefs, which in turn improves client-counselor WA.

The analysis to examine relational efficacy beliefs as a mediator of the relationship between agentic beliefs and WA failed step 2 of the Baron and Kenny (1986) test for mediation. However, the researcher tested for the mediation relationship given that the hierarchical regression model provided evidence of relational efficacy beliefs as having a suppressor relationship with agentic style. The results suggest that positive agentic style (i.e. the tendency to be overly dominant or combative versus submissive) is mediated by relational efficacy beliefs.

Discussion and Clinical Implications

This study is the first to utilize the interpersonal circle or the tripartite efficacy beliefs model to examine WA in the context of vocational rehabilitation. Findings from this study have implications for vocational rehabilitation practice as there are few studies examining predictors of working alliance. It also has implications for the field of counseling at large because it uniquely examines how interpersonal factors might contribute to the client-counselor relationship through their impact on client relational beliefs.

Demographics

In the study, three demographic covariates accounted for a significant amount of the variance in WA: marital status, employment status, and having a psychiatric disability versus a non-psychiatric disability.

Marital status. The study suggests that individuals who are married or cohabitating tend to have better WA than individuals who are single, divorced, widowed, or separated. Although there are few studies examining marital status as a predictor of WA, being married or cohabitating could be considered a proxy for social support, which is positively related to WA (Lambert, 1992; Hubble, Duncan, & Miller, 1999). Lambert (1999) notes that social support is an extratherapeutic factor and external client resource that influences both client-counselor interactions and therapy outcomes. Studies have shown that social support has a positive relationship with WA in psychotherapy (e.g. Mallinckrodt, 1996, 2010; Leibert, Smith, & Agaskar, 2011). The findings from this study build on literature suggesting that social supports are positively related to the development of WA in counseling.

Employment status. The study suggests that individuals who are employed have greater WA with their counselors than individuals who are not employed. These findings are consistent with previous studies that have found associations between employment and WA in vocational rehabilitation (Donnell et al., 2004). Given that WA is comprised in part of agreement on tasks and goals (Bordin, 1979), it follows that individuals for whom the tasks of vocational rehabilitation have helped them reach goals a vocational rehabilitation (employment) would be more likely to agree with their counselors regarding specific tasks and goals.

Psychiatric disability. The study suggests that individuals who have a psychiatric disability have poorer WA with their counselors than individuals with other types of disabilities. This finding is consistent with previous literature that has found mental health problems to be a moderately strong, although not entirely consistent predictor, or WA (e.g. Gaston & Marmar, 1994; Raue, Castonguay, & Goldfried, 1993, Zuroff et al., 2000). It is

also consistent with the psychology literature more broadly that suggests that psychiatric disorder is associated with dissatisfaction with social relationships (Halford & Bouma, 1997).

Conclusion. Findings from this study are consistent with existing literature that most demographic covariates do not have a significant relationship with the development of WA (e.g. gender, ethnicity, age; Constantino et al., 2010). However, the study does support marital status, employment status, and having a psychiatric disability as predictors of WA. Although these factors are not readily modifiable, rehabilitation counselors could recognize these factors as potential predictors or screeners suggesting potential for poor client-counselor relationships.

Interpersonal factors

The results of the study show that communal style and interpersonal distress were significantly associated with WA. Communal style had a positive relationship with WA while interpersonal distress had a negative relationship. On its own agentic interpersonal style was not significantly associated to WA, but it became a significant predictor of WA when controlling for relational efficacy beliefs.

Communal style. In the study, the communal style construct referred to an individual's "location" along the horizontal axis of the interpersonal circle. Positive communal style scores indicate a tendency toward interpersonal problems at the right side of the interpersonal circle, such as being too open or too self-sacrificing. Negative communal scores indicate a tendency toward interpersonal problems at the left side of the interpersonal circle, such as being too cold or distant (Horowitz et al., 1988). Communal style was significantly associated with WA when controlling for agentic communal style (which represents location on the vertical axis), and was also significant when controlling for

interpersonal distress, suggesting that it explains variance above and beyond that which is explained by interpersonal problems in total.

Previous studies have found positive communal style, or being overly friendly, to be positively associated with alliance (e.g. Beretta et al., 2005; Muran et al., 1994; Puschner et al., 2005), while negative communal style, or problems being too hostile, tend to be negatively related to WA (e.g., Paivio & Bahr, 1998; Puschner et al., 2005; Saunders, 2001). Therefore, this study is consistent and adds to existing literature about the association between communal interpersonal style and WA.

Agentic style. In the study, the agentic style construct referred to an individual's "location" on the vertical axis of the interpersonal circle. Positive agentic style scores indicate a tendency towards the top of the interpersonal circle, such as being too dominant or too controlling. Negative agentic scores indicate a tendency toward the bottom of the interpersonal circle, such as being too nonassertive (Horowitz et al., 1988). Agentic style was significant associated with WA when controlling for other variables.

In this study, agentic style had a positive, non-significant association with WA. However, when controlling for demographic variables, interpersonal distress, agentic style, and tripartite efficacy beliefs, agentic style became a significant negative predictor of WA. Studies in the psychotherapy literature have found problems with dominance and hostility to be negatively related to WA (e.g., Paivio & Bahr, 1998; Puschner et al., 2005). Therefore, this study is consistent and adds to the existing literature regarding the association between agentic interpersonal style and WA.

Interpersonal distress. Interpersonal distress represents an individual's total amount of interpersonal distress across all regions of the interpersonal circle (Gurtman, 1994). In

contrast to interpersonal style, interpersonal distress is generally viewed as a measure of general maladjustment (Gurtman, 1996; Gurtman & Balakrishnan, 1998); reducing interpersonal distress is often a goal of interpersonally focused therapies, such as psychodynamic treatment (Horowitz et al., 1992).

Previous studies have shown overall distress to be negatively associated with WA in the context of counseling and psychotherapy (e.g. Beretta et al., 2005; Connolly Gibbons et al., 2003; Constantino & Smith-Hansen, 2008). Consistent with previous findings, this study showed that interpersonal distress was negatively related to WA in vocational rehabilitation for persons with disabilities, meaning that individuals with higher interpersonal distress tended to have poorer relationships with their rehabilitation counselors. Distress also explained a significant amount of variance in WA above and beyond interpersonal style, meaning that distress explains the client-counselor relationship in a way that extends beyond a client's interpersonal personality tendencies.

The results of the study suggest that assessing interpersonal distress could be a useful way of predicting poor WA during VR services. Given that VR services are not aimed at reducing psychological distress specifically, rehabilitation counselors might refer clients with higher interpersonal distress to mental health counseling services prior to or in concert with their VR services.

Conclusion. While interpersonal style and distress explain a relatively small amount of the variance of WA in counseling, this study supports existing literature suggesting they are consistent, significant predictors of the client-counselor relationship. Assessing interpersonal factors could be incorporated into VR assessment to better predict the quality of the relationship that will form between clients and their rehabilitation counselors as well as to

consider needs for therapeutic treatment. Additionally, increased attention to communal style when meeting with clients may assist with understanding and repairing ruptures in alliance. Awareness of potentially toxic interpersonal exchanges (e.g. responding to client detachment with counselor detachment) can facilitate conversations that disrupt negative interpersonal cycles. In cases of relationship rupture, researchers suggest that counselors should reflect on their experience of their interchange with their client and encourage their client to discuss his or her here-and-now experience of the relationship and the counseling process (Burns & Auerbach, 1996; Safran & Muran, 2000). Finally, although interpersonal exchanges within a counseling session and the client-counselor relationship have not been examined closely in rehabilitation counseling (as they are commonly examined in counseling and psychotherapy research), this is not because they are unimportant. Given that client-counselor interactions in rehabilitation counseling are rarely driven by systematic theorical frameworks or techniques, working alliance may be a rehabilitation counselor's primary tool for facilitating change. Clients enter the vocational rehabilitation with numerous potential challenges such as adjusting to the onset of disability, navigating stigma toward disability, and managing the symptoms of their disability. Applying the interpersonal circle and understanding the impact of interpersonal factors on WA could provide counselors with guidance for theory-driven exchanges with clients during the vocational rehabilitation process. Considering the relationship between interpersonal style and interpersonal distress, rehabilitation counselors would benefit from additional knowledge regarding how consumers' interpersonal needs are met, or left unmet, through their services and how those needs impact participation and success in vocational rehabilitation.

Tripartite efficacy beliefs

The three constructs comprising the tripartite efficacy beliefs model were positively associated with WA. When controlling for other tripartite model constructs, other-efficacy and RISE beliefs were positively related to WA, while self-efficacy was not a significant predictor of WA.

Self-efficacy. Self-efficacy beliefs are an individual's personal judgments about his or her capability to perform courses of action to deal with a prospective situation (Bandura, 1982). Social cognitive theory states that self-efficacy beliefs help to determine important outcomes, such as individuals' choice of, effort expended in, and persistence at behavioral activities and courses of action. Self-efficacy is also likely to affect relational outcomes, such as one's choice of relationship partners, the activities in which one is willing to engage with particular partners, the amount of effort expended in joint pursuits, and one's satisfaction with and intentions to maintain a relationship (Lent & Lopez, 2002).

Studies have shown that self-efficacy is related to clients' willingness to continue in counseling relationships (Longo, Lent, & Brown, 1992) as well as satisfaction with and intentions to persist in personal relationships (Lopez & Lent, 1991). This study measured job search self-efficacy, meaning an individual's beliefs about his or her ability to get a job. The results show that self-efficacy was positively related to WA, meaning that individuals with greater self-efficacy (i.e. stronger belief that they can get a job) had better relationships with their rehabilitation counselors. However, when controlling for other-efficacy and RISE beliefs, self-efficacy did not significantly predict WA. This suggests that self-efficacy is not as important as relational efficacy constructs to the development of strong WA in vocational rehabilitation. These results do not necessarily suggest that self-efficacy is unimportant to the

vocational rehabilitation but indicates that self-efficacy may contribute more significantly to other aspects of the VR process. It is also probable that the relationship between self-efficacy and WA moves in the opposite direction, with strong WA leading to greater client self-efficacy.

Other efficacy. Other efficacy beliefs are an individual's beliefs about someone else's ability to perform particular behaviors (Lent & Lopez, 2002). Evaluations of other-efficacy stem from several sources, such as perceptions of the other person's past accomplishments, experiences with other similar individuals, social or cultural stereotypes, or certain aspects of the perceiver (Snyder & Stukas, 1999). Researchers have found other efficacy to be related to WA in the context of various types of supervisory, teaching, and health care provider relationships (e.g. Jackson & Beauchamp, 2007, 2010; Jackson et al., 2013; Lopez & Lent, 1991; Yim et al., 2012). This study measured job search other efficacy, defined as a client's belief in his or her rehabilitation counselor's ability to help him or her to get a job. The results suggest that other efficacy was positively related to WA, meaning that the more capable clients believed their counselors to be at finding them a job the better relationship they had with their counselor.

Relation-inferred Self-efficacy (RISE). RISE beliefs are an individual's beliefs about how his or her counselor views his or her efficacy to perform a particular task, meaning whether the client believes the counselor views him or her as capable of performing a task or behavior. As with other-efficacy, RISE beliefs are judgments that may or may not be congruent with other beliefs; RISE beliefs arise from decoding of efficacy-related cues from the counselor's behaviors and is often subject to the vagaries of human attention, encoding, and recall processes (Bandura, 1997).

This study measured job search relational inferred job search efficacy, defined as a client's beliefs about their counselor's views on whether the client has the ability to get a job. The results show that RISE beliefs were positively related to WA, meaning that the more capable clients believe their counselor views them to be, the better relationship the client will have with his or her counselor. The results indicate that RISE beliefs were positively associated with WA, meaning that clients had better relationships with their counselors when they believed their counselors to view them as being more capable of getting a job.

Conclusion. The results of the study suggest that the tripartite model has a strong association with the quality of WA in vocational rehabilitation. The relational constructs of the model (i.e. other-efficacy and RISE beliefs) were stronger predictors of WA than self-efficacy. Given those strong associations, it is important for rehabilitation counselors to identify behaviors that promote relational efficacy beliefs. For example, although the field of rehabilitation counseling emphasizes above all client empowerment and client-directed services (e.g. Kosciulek, 2005), counselors nevertheless might promote themselves as experts with a history of successes who can serve as a valuable resource to their clients. If counselors do not share their opinions and expertise and instead focus exclusively on the client as the expert regarding his or her interests and needs, this may create an unsatisfying relationship for a consumer who is seeking rehabilitation counseling services because he or she needs a counselor's guidance and assistance. In some instances, clients may feel that their counselor either lacks or is withholding their expertise. As noted by Lent & Lopez (2002), relational efficacy beliefs may be especially important in situations involving a crisis or transition. In these situations, individuals may rely more heavily on RISE beliefs to determine their own self-efficacy or may form beliefs regarding their abilities based on the help and expertise of a

significant other (i.e. other efficacy; Morrison, 2016). Rehabilitation counselors might focus on establishing themselves as an expert resource and communicating their beliefs in a clients' ability to succeed (in a genuine way) to strengthen their collaborative relationship and improve clients' self-efficacy beliefs.

Interpersonal factors and relational efficacy beliefs

Given that interrelational sources of self-efficacy, or relational efficacy beliefs, are subjective and formed based on a client's perceptions and interpretations, this study explored how interpersonal factors, including interpersonal style and distress, impact other-efficacy and RISE beliefs. Researchers have found that individuals with certain interpersonal tendencies imagine others' actions and beliefs in predictable and potentially inaccurate ways (Beretta et al., 2005; Locke, 2005). Interpersonal styles represent general ways of interacting with others, that may be informative regarding how a client might interact with his or her counselor. Interpersonal factors and entrenched relationship schemas likely impact how clients view their counselor's helpfulness (i.e. other efficacy) and RISE beliefs.

This study examined the relationship between interpersonal factors and relational efficacy beliefs (i.e. other-efficacy and RISE). The results demonstrated a significant relationship between interpersonal distress and relational efficacy beliefs and showed that relational efficacy beliefs mediated the relationship between interpersonal distress and WA. The study also demonstrated a relationship between communal interpersonal style and relational efficacy beliefs and showed that relational efficacy beliefs mediated the relationship between communal interpersonal style and WA. Finally, the study showed that agentic style was negatively associated with relational efficacy beliefs and that relational efficacy beliefs mediated the relationship between agentic style and WA.

Conclusion. Findings from this study extend the existing literature regarding WA by demonstrating a link between interpersonal circumplex factors and social cognitive relational efficacy beliefs. Vocational rehabilitation counseling, like mental health counseling, is a relational process that is likely to be impacted both by interpersonal functioning and personality as well as relational beliefs. This study shows how interpersonal factors (i.e. tendencies toward certain behaviors and overall problems interacting with others) affect the client-counselor relationship in part through their impact on client beliefs about their counselor (i.e. other-efficacy and RISE). Understanding how interpersonal tendencies and exchanges affect client beliefs about their counselors could be important to overcoming ruptures in the working alliance. Counselors might ask direct questions regarding their client's beliefs regarding their relationship and about their client's perceptions regarding their helpfulness. Through understanding and addressing those feelings, counselors may be able to move past distressing interpersonal exchanges to form stronger relationships with their clients.

Implications for Future Research

The findings from this study support interpersonal factors and relational efficacy beliefs as predictors of WA in vocational rehabilitation. As a counseling profession, rehabilitation counselors should value the impact their relationship with clients has on outcomes. Although client assessment is routine, assessments are typically aimed at measuring physical and vocational abilities rather than predicting their collaborative relationship with their counselor. This study suggests that assessing client interpersonal factors and relational efficacy beliefs may be a way to predict or explain client-counselor relationships.

Future studies might explore ways of promoting positive relational efficacy beliefs in the context of vocational rehabilitation. Client beliefs are a changeable construct and a potential tool for improving WA and vocational outcomes. Promoting relational efficacy beliefs, other-efficacy and RISE, may also be a way of promoting self-efficacy, which is related to job search outcomes (e.g. Moynihan, Roehling, LePine, & Boswell, 2003). Given the many barriers individuals with disabilities face in pursuing work in the competitive labor market, their relationship with their counselor and beliefs about their counselor may be especially important in determining their engagement and persistence in the vocational rehabilitation process.

Future studies might include measures of counselor interpersonal style, relational beliefs, and WA. It would be interesting to know how counselors' views of their relationships with their clients are similar or different from their clients' views. Additionally, studies might assess how client RISE beliefs match with their counselor's self-report beliefs regarding the client's job search efficacy.

Finally, future studies might explore how interpersonal theories and considerations of interpersonal factors might be integrated into rehabilitation counseling education. Vocational rehabilitation counseling is a unique process regarding communication, negotiation, and collaboration between a client and a counselor. It would be interesting to examine how specific interpersonal exchanges within rehabilitation counseling session impact WA and a client's engagement with the rehabilitation process.

Limitations to the Study

There are several limitations to this study that should be considered when interpreting the findings. First, participants might not be representative of entire population of individuals

receiving VR services. This study used a convenience sample that recruited VR consumers through an online survey. Although the researcher attempted to collect data from various states and to survey diverse individuals, participants were predominantly from two states and were predominantly Caucasian. Additionally, the online format of the survey likely reduced the representation of VR consumers who are less technologically able or who do not have access to a computer and internet connect. The number of uncompleted surveys suggests that some individuals had difficulties completing the survey and were unrepresented in the sample; it is possible that those individuals represent subsets of VR consumers who, due to a disability or other factors, have difficulty completing an online survey. For example, individuals with vision impairment who completed the survey tended to have longer completion times, although the researcher made the survey as accessible as possible.

Another limitation is that this study used descriptive correlational analyses so that no statement can be made regarding causation or directionality of the observed effects between interpersonal factors, tripartite belief constructs, and WA. Another potential limitation is that this study used self-report measures for data collection, which makes the data subject to bias (e.g. social desirability bias). Lastly, the power analysis suggested that this study may not have had sufficient power to detect the unique effects of certain predictor variables; in particular this might be true for interpersonal factors, which previous studies have shown to have a small effect on WA.

Conclusion

This study suggests that interpersonal factors and the tripartite efficacy beliefs model are both associated with WA in vocational rehabilitation. The findings support that interpersonal factors impact WA through their impact on relational efficacy beliefs. The

tripartite model holds a great deal of promise as a contributor to success in VR services because not only WA, but also the job search process is impacted by client self-efficacy.

Future research is needed to further validate this study's findings and to better understand interpersonal and relational predictors of WA. Additionally, future studies should seek to develop interventions aimed at improving WA and in turn improving VR outcomes for individuals with disabilities.

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APPENDIX A: Institutional Review Board Notice of Approval

Education and Social/Behavioral Science IRB
3/12/2019

Submission ID number:	2019-0215
Title:	Interpersonal factors and relational efficacy beliefs as predictors of working alliance in vocational rehabilitation
Principal Investigator:	BRIAN N PHILLIPS
Point-of-contact:	ANTONIO ROBERT REYES
IRB Staff Reviewer:	OLYVIA KUCHTA

The ED/SBS IRB conducted a review of the above referenced initial application. The study was determined to qualify for exemption under federal criteria because:

The research does not fall under VA regulations, and is not FDA-regulated. In addition, the research falls within the following category(ies) of exempt research outlined under federal criteria:

Category 2: Research involving the use of educational tests, surveys, interviews [NOTE: If children are involved in the research it can only be determined to be exempt under this category if the research is limited to educational tests or observation of public behavior, the investigator(s) cannot participate in the activities being observed, and the identities of the subjects either cannot be readily ascertained or the disclosure of the subjects' responses would not put them at risk.]

NOTE: If the research under this exemption application becomes federally supported or changes such that it becomes subject to VA or FDA regulations, the exemption status no longer applies.

To access the materials the IRB reviewed and accepted as part of the exemption determination, please log in to your ARROW account and view the documents tab in the submission's workspace.

Although the human subjects research described in the ARROW application referenced above was determined to meet the federal criteria for exemption and thus does not require continuing review, please be aware of your responsibilities related to the conduct of the research and when additional IRB review is required. Prior to starting research activities, please review the Investigator Responsibilities for Exempt Human Subjects Research guidance (https://kb.wisc.edu/images/group99/shared/BSIR_Exempt.pdf) which includes a description of the types of changes that must be submitted to ensure the research continues to comply with the conditions of the exemption and/or category(ies) of exemption.

If you have general questions, please contact the Education and Social/Behavioral Science IRB

at 608-263-2320. For questions related to this submission, contact the assigned staff reviewer.

APPENDIX B: Email Invitation to VR Consumers

My name is Antonio Reyes and I am a graduate student researcher at the University of Wisconsin—Madison. We are currently conducting a research study regarding people receiving services from a state vocational rehabilitation agency. The study involves a one-time, online survey that takes approximately 10 to 15 minutes to complete. Participation in this study is completely voluntary and your answers will be kept confidential. Participation will not impact the services you are receiving from your rehabilitation counselor or state VR agency. To participate in the study, you must be at least 18 years old and be able to give informed consent.

If you are one of the first 300 people to participate in the study, you will be eligible for a $5 Amazon gift card provided by our research team. To receive the gift card, you will need to provide a valid email address at the end of the survey.

If you are interested in participating in the study, please click on the link below for the survey and additional information:

https://uwmadison.co1.qualtrics.com/jfe/form/SV_3fkJIj3FS6vJgrP

If you have any questions about the study, please do not hesitate to contact me: areyes7@wisc.edu

Thank you for your time.

Antonio Reyes, M.S., CRC
Graduate Student
Department of Rehabilitation Psychology and Special Education
University of Wisconsin—Madison
areyes7@wisc.edu

APPENDIX C: Informed Consent Information

INFORMED CONSENT

UNIVERSITY OF WISCONSIN-MADISON
Research Participant Information and Consent Form

Study Title: Personality and beliefs as predictors of working alliance

Principal Investigator: Dr. Brian Phillips (phone: 608-263-6279) (email: bnphillips2@wisc.edu)

DESCRIPTION OF THE RESEARCH:

You are invited to participate in a research study about factors that influence beliefs about yourself, beliefs about your ability to work, and your relationship with your rehabilitation counselor. You have been asked to participate because you are receiving services from a state vocational rehabilitation agency.

What will my participation involve?

If you decide to participate in this research, you will be asked to complete a brief questionnaire that will ask you to describe your beliefs about yourself and others. Your participation will last approximately 10 to 15 minutes. Your participation is voluntary, and you may decide to stop at any time. You do not have to answer any questions that you do not want to answer.

Compensation: **Gift cards will be offered to the first 300 participants in the study. To receive the gift card, participants must provide a valid email address.**

Are there any risks to me?

Your participation in this study is of minimal risk to you. Your responses in the study will not impact any services or benefits you are receiving through your rehabilitation agency or

from your rehabilitation counselor. One of the potential risks in this type of study may be a breach of confidentiality.

To minimize the risk to you, identifying information will not be included in publications or stored with survey results. If you reveal any identifiable information to open ended questions, we will remove it from the research record for your protection.

Another potential risk is that your relationship with your rehabilitation counselor might be impacted if he or she were to obtain the results of the survey. However, as noted above, data collected in the study will never be shared with service providers and will only be available to researchers. Additionally, some of the questions may be sensitive or personal for you; however, you can skip questions as you like, and participation is voluntary.

Are there any benefits to me?

There are no direct benefits to you for participating in this study. The primary benefit of the study is that the information obtained will be used in an effort to better understand and, where necessary, to improve rehabilitation counseling services for people with disabilities.

How will my confidentiality be protected?

Identifying information will not be included in any publications. Only group characteristics will be published.

Whom should I contact if I have questions?

You may ask any questions about the research at any time. If you have questions about the research, you should contact the Principal Investigator Brian Phillips, Ph.D. at (608)-263-6279. If you are not satisfied with the response of the research team, have more questions, or want to talk with someone about your rights as a research participant, you should contact the Education and Social/Behavioral Sciences IRB at (608) 263-2320.

Your participation is completely voluntary. If you decide not to participate or to withdraw from the study, you will not be penalized in any way.

If you want to keep a copy of the consent document, you will need to print this page before continuing with the survey.

By continuing with this survey, you consent to participate in the research study.

APPENDIX D: Study Questionnaire

Section 1: Demographic Information

1. How old are you?	
2. What is your gender?	Male Female Other
3. Please indicate your race/ethnicity (select as many as apply)	White Black or African American Latino Asian Native Hawaiian or Pacific Islander American Indian or Alaska Native
4. What is your highest level of education?	Less than a high school degree High school degree or equivalency Associate degree Bachelor's degree Master's degree or higher
5. Are you currently employed?	Not employed Part-time employment Full-time employment
6. What is your marital status?	Married Cohabitating Single Divorced Widowed Separated
7. Are you currently receiving Social Security benefits?	Yes, Social Security Disability Income (SSDI) Yes, Supplemental Security Income (SSI) Yes, both SSDI and SSI No
8. How would you characterize your most work limiting disability or medical condition? (choose the category that best fits)	Physical disability Psychiatric disability Cognitive or learning disability Other medical condition

Section 2: Interpersonal Problems (IIP-C-IRT)

This is a list of problems that often come up when dealing with other people. Please read each problem in the list carefully and think about whether it has been a problem for you with *any* significant person in your life. Then select the answer that best describes how true each statement has been for you. There are no "right" or "wrong" answers. Please describe yourself as honestly as possible, we will keep your responses confidential.

		Not at all	A little bit	Moderately	Quite a bit	Extremely
1.	It is hard for me to understand another person's point of view	1	2	3	4	5
2.	It is hard for me to put somebody else's needs before my own.	1	2	3	4	5
3.	It is hard for me to feel close to other people.	1	2	3	4	5
4.	It is hard for me to ask other people to get together socially with me.	1	2	3	4	5
5.	It is hard for me to be assertive with another person.	1	2	3	4	5
6.	I am too gullible.	1	2	3	4	5
7.	I am overly generous to other people.	1	2	3	4	5
8.	I open up to people too much.	1	2	3	4	5
9.	I argue with other people too much.	1	2	3	4	5
10.	It is hard for me to trust other people.	1	2	3	4	5
11.	It is hard for me to give a gift to another person.	1	2	3	4	5
12.	It is hard for me to join in on groups.	1	2	3	4	5

13.	It is hard for me to be firm when I need to be.	1	2	3	4	5
14.	It is hard for me to be assertive without worrying about hurting others' feelings.	1	2	3	4	5
15.	I trust other people too much.	1	2	3	4	5
16.	I clown around too much.	1	2	3	4	5
17.	I try to control other people too much.	1	2	3	4	5
18.	I want to get revenge against people too much.	1	2	3	4	5
19.	It is hard for me to show affection to people.	1	2	3	4	5
20.	It is hard for me to socialize with other people.	1	2	3	4	5
21.	It is hard for me to confront people with problems that come up.	1	2	3	4	5
22.	It is hard for me to let other people know when I'm angry.	1	2	3	4	5
23.	I try to please other people too much.	1	2	3	4	5
24.	I want to be noticed too much.	1	2	3	4	5
25.	I am too aggressive toward other people.	1	2	3	4	5
26.	I am too suspicious of other people.	1	2	3	4	5
27.	It is hard for me to experience a feeling of love for another person.	1	2	3	4	5

28.	I am too afraid of other people.	1	2	3	4	5
29.	It is hard for me to be aggressive toward someone when the situation calls for it.	1	2	3	4	5
30.	I let other people take advantage of me too much.	1	2	3	4	5
31.	I put other people's needs before my own too much.	1	2	3	4	5
32.	It is hard for me to stay out of other people's business.	1	2	3	4	5

Section 3: Job Search Self-Efficacy

Please think about your goal to find competitive employment as part of your vocational rehabilitation program and respond to the following questions.

		Not at all confident	Somewhat confident	Confident	Very confident	Totally confident
1.	How confident are you that you can obtain more than one good job offer?	1	2	3	4	5
2.	How confident are you that you can be successful in your job search?	1	2	3	4	5
3.	How confident are you that you can get invited for job interviews?	1	2	3	4	5
4.	How confident are you that you can get a job offer in an organization that you want to work in?	1	2	3	4	5
5.	How confident are you that you can get a job that you really want?	1	2	3	4	5
6.	How confident are you that you can get a job as soon as possible?	1	2	3	4	5
7.	How confident are you that you can get a job with a very good salary?	1	2	3	4	5
8.	How confident are you that you can get invited for second interviews?	1	2	3	4	5

9.	How confident are you that you can get invited for site visits?	1	2	3	4	5
10.	How confident are you that you can obtain a very good job?	1	2	3	4	5

Section 4: Job Search Other-efficacy

You have seen these questions before, but this time respond based on your confidence in **your rehabilitation counselor's ability to help you** find competitive employment as part of your vocational rehabilitation program.

		Not at all confident	Somewhat confident	Confident	Very confident	Totally confident
1.	How confident are you that your counselor can help you obtain more than one good job offer?	1	2	3	4	5
2.	How confident are you that your counselor can help you to be successful in your job search?	1	2	3	4	5
3.	How confident are you that your counselor can help you get invited for job interviews?	1	2	3	4	5
4.	How confident are you that your counselor can help you get a job offer in an organization that you want to work in?	1	2	3	4	5
5.	How confident are you that your counselor can help you get a job that you really want?	1	2	3	4	5
6.	How confident are you that your counselor can help you get a job as soon as possible?	1	2	3	4	5
7.	How confident are you that your counselor can help you get a job with a very good salary?	1	2	3	4	5

8.	How confident are you that your counselor can help you get invited for second interviews?	1	2	3	4	5
9.	How confident are you that your counselor can help you get invited for site visits?	1	2	3	4	5
10.	How confident are you that your counselor can help you obtain a very good job?	1	2	3	4	5

Section 5: Job Search Relation-Inferred Self-Efficacy

You have seen these questions before, but this time respond based on **how confident you believe your rehabilitation counselor is** about your ability to find competitive employment as part of your vocational rehabilitation program.

It is okay if you are not sure what your rehabilitation counselor believes. We are interested in knowing your perceptions about your counselor's beliefs.

		Not at all confident	Somewhat confident	Confident	Very confident	Totally confident
1.	How confident is your counselor that you can obtain more than one good job offer?	1	2	3	4	5
2.	How confident is your counselor that you can be successful in your job search?	1	2	3	4	5
3.	How confident is your counselor that you can be invited for job interviews?	1	2	3	4	5
4.	How confident is your counselor that you can get a job offer in an organization that you want to work in?	1	2	3	4	5
5.	How confident is your counselor that you can get a job that you really want?	1	2	3	4	5
6.	How confident is your counselor that you can get a job as soon as possible?	1	2	3	4	5
7.	How confident is your counselor that you can	1	2	3	4	5

	get a job with a very good salary?					
8.	How confident is your counselor that you can get invited for second interviews?	1	2	3	4	5
9.	How confident is your counselor that you can get invited for site visits?	1	2	3	4	5
10.	How confident is your counselor that you can obtain a very good job?	1	2	3	4	5

Section 6: Working Alliance

The following sentences describe some different ways you may feel or think about your rehabilitation counselor and your vocational rehabilitation (VR) services. Using the following seven-point scale, respond to every item quickly with your first impression.

		Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
1.	The counselor and I agree about steps to be taken to be successful in the VR process	1	2	3	4	5	6	7
2.	The counselor and I both feel confident that our current activities in the VR process are helpful.	1	2	3	4	5	6	7
3.	I believe my counselor likes me	1	2	3	4	5	6	7

4.	I have doubts about what we are trying to accomplish in the rehabilitation plan.	1	2	3	4	5	6	7
5.	I am confident in the counselor's ability to help me.	1	2	3	4	5	6	7
6.	We are working toward mutually agreed upon goals.	1	2	3	4	5	6	7
7.	I appreciate the counselor as a person.	1	2	3	4	5	6	7
8.	We agree what is important for me to work on.	1	2	3	4	5	6	7
9.	The counselor and I have built mutual trust.	1	2	3	4	5	6	7

10.	The counselor and I have different ideas regarding what is important in the rehabilitation plan	1	2	3	4	5	6	7
11.	We have established a good understanding between us regarding the kind of changes that would be good for me.	1	2	3	4	5	6	7
12.	I believe the ways we are working toward my goals are correct.	1	2	3	4	5	6	7