Web-based E-therapy and Motivation for Change among Rural Appalachians with Substance Use and Co-Occurring Disorders

by

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This body of work is dedicated to my family for their unwavering support of me, and their belief that this was possible. You have my heart and I am blessed daily by your presence in my life.

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ABSTRACT

E-therapy is a novel approach to addressing the complex conditions of substance use disorders and mental illness. As part of the continuum of web-based recovery support services, the My Recovery program initiated an e-therapy component. This program was designed to address behavioral health access issues in rural Tennessee, specifically the Upper Cumberland region of Central Appalachia. The target population for this study was adults residing in the Upper Cumberland region of Tennessee who participated in e-therapy to address substance use disorders and co-occurring mental illness.

This program evaluation utilized a qualitative inquiry approach to delve into the experiences of individuals in treatment for substance use disorders and co-occurring mental illness. Through an analysis of transcripts of e-therapy sessions, the evaluation addressed the key research question: *How is motivation for change described and experienced among people who are in recovery from addiction and co-occurring disorders when using a web-based intervention?*

Twenty-one individuals participated in the My Recovery e-therapy program. A total of 88 transcripts were analyzed using the theoretical framework of motivational interviewing and the transtheoretical model of behavior change.

The experiences of the participants defined the struggles of recovery, and the daily vigilance to stay sober while dealing with mental health issues. This study illuminated these struggles through the lens of motivational for change.

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CHAPTER ONE: INTRODUCTION

Hidden within the hills and mountains of the Eastern corridor of the United States sits a region noted for its poverty, isolation from modern America, and eccentric ways underpinned by mountain folklore. Appalachia is geographically comprised of 420 counties in 13 states (Appalachian, 2016). It is anchored by the Appalachian Mountains, but not solely mountainous in terrain, nor can be characterized by a singular culture of its communities (Denham, 2016). Participants in this study were from the Upper Cumberland region of Tennessee, in Central Appalachia.

The historical and cultural context of the region is an important factor in understanding the significant substance use issues and mental health disparities experienced by the people of Appalachia (Appalachian, 2008; Anglin & White, 1999). Poverty, poor socioeconomic outlook, and limited access to services are significant issues faced by people in this region (Dunn, Behinger & Bowers, 2012).

From a historical perspective, poverty and substance use were interrelated in this region. In the Upper Cumberland Region of Tennessee, sustenance farming was the primary mode of meeting basic needs. Into the early 20th century, people were reluctant to seek external employment, including working with government officials to develop cash crops to shore up economic growth (Keith, 1995). The strong independent spirit of

the people of the Upper Cumberland was nurtured by the isolative nature of the physical terrain. Farm families bartered for goods, or sold homemade wares for extra money. In the Upper Cumberland, that sometimes included making and selling moonshine (Keith, 1995).

Generational economic despair continued to encourage side-bar cash enterprises. Growing and selling marijuana became the next generation of illegal substances used to sustain basic needs and promote cash flow in the region (Potter & Gaines, 1992; Kedia, 2004). Much of the Upper Cumberland region was part of an area identified as the "marijuana belt" (Kedia, 2004). Marijuana production was the primary agricultural income producer for the region. Income from marijuana was greater than any other cash crop in this region (Kedia, 2004).

Unfortunately, the legacy of illegal substance manufacturing, sale, and use continued to be embedded in the culture of the region. Methamphetamine manufacturing and sales took hold. The Tennessee Methamphetamine Task Force reported a 97.84% increase in meth lab seizures for the middle region of the state, which includes the counties of Upper Cumberland region. Putnam County, the location of the program under study, experienced an 83.3% increase from 2009-2010, the most recent data available from the Task Force (Tennessee, 2011).

Poverty in Appalachia

Poverty has remained a cross-cutting issue in this region. While the poverty rate in Appalachia has gone from 31% in1960 to 16.6% in 2013, some counties continue to experience per capita income levels below 75% of the national average (Appalachian, 2015). Poverty is the backdrop for the myriad health related disparities, mental health

issues, and substance use disorders plaguing rural communities (Dew, Elifson & Dozier, 2007; Appalachian, 2008).

In 1961, governors of the states within Appalachia appealed to President John F. Kennedy to help address the abject poverty of the region. Kennedy convened the President's Appalachian Regional Commission in 1963 to address economic development, and develop a plan to eradicate poverty in the region (Isserman, 1996). The following year, President Lyndon B. Johnson's addressed the nation, describing the plight of poor Appalachian Americans as living on the "outskirts of hope" and declaring a "unconditional war on poverty" (Johnson, 1964). Appalachia was a battleground for this war, a battle that remains in place today. Disparity, poverty, and socioeconomic distress are woven into the culture of the region, and substance addiction and mental health issues have taken hold.

Substance Use in Tennessee

Substance use disorders among people in rural Tennessee, particularly the Appalachian region, are a growing problem affecting the health and well-being of individuals in these communities. In 2011, Tennessee was fifth in the nation for prescription drug abuse (Edwards, 2012). Opioid use has significantly decreased from 2011-2012 to 2012-2013 among those between 18-25 (Edwards & Pennings, 2015). However, Tennessee continues to have nonprescription opioid usage at higher percentages than the national average (Lehenbauer-Baum & Jones, 2015).

Among Tennesseans entering treatment, individuals were 3.3 times more likely to report opioid use as their primary drug of abuse than the national average (Edwards & Pennings, 2015). Over a 10-year period, Tennessee has experienced a 250% increase in

drug overdose deaths. In 2014, 212,000 Tennessee adults reported abusing prescription opioids (Edwards & Pennings, 2015). Over 8,500 people sought treatment for opioid addiction annually (Edwards, 2012). The Treatment Episode Dataset showed that 51.5% of all drug and alcohol admissions in Tennessee were for alcohol treatment, and 39.8% of admissions were for opioids and synthetic drug use (U.S.D.H.H.S., 2012).

Co-occurring Disorders

As early as 2002, the Substance Abuse and Mental Health Services Administration (SAMHSA) identified co-occurring mental illness and substance use disorders as a top priority. Outlining a specific framework and identifying the impact of co-occurring disorders on the nation were key components of the Report to Congress on the Prevention and Treatment of Co-Occurring Substance Abuse Disorders and Mental Disorders (U.S.D.H.H.S., 2002). This report stated that approximately one-half of individuals in the United States with an addictive disorder had a co-occurring mental disorder.

The Epidemiological Catchment Area Survey and National Co-Morbidity Survey were two pivotal reports denoting the prevalence of co-occurring disorders within the general population and the treatment systems. The Epidemiologic Catchment Area (ECA) program of research was initiated in response to the 1977 report of the President's Commission on Mental Health. The purpose was to collect data on the prevalence and incidence of mental disorders and on the use of and need for services by individuals experiencing mental illness. Specifically, the Epidemiological Catchment Area Survey noted that 55% of community dwellers with schizophrenia and 62% of community

dwellers with bipolar disorder experienced a diagnosed substance use disorder (U.S.D.H.H.S., 2002).

The National Comorbidity Survey was one of the earliest population-based surveys in the United States to measure the presence of co-occurring disorders. Data from the National Comorbidity Survey were used to determine the extent to which there was co-occurrence of mental illness and addiction among respondents, the temporal relationship between these disorders, and the extent to which 12-month co-occurrence was associated with service utilization. The survey was a nationally representative general population sample of persons aged 15-54 that included noninstitutionalized individuals residing in the 48 contiguous states, with a supplemental sample of students residing in college campus congregate settings. The survey was conducted between 1990-1992 with a total of 8,098 completed interviews (Kessler et al., 1996).

Several key findings from the National Comorbidity Survey have informed the field in important ways, leading to a better understanding of the prevalence co-occurring mental illness and addiction and the association between these diseases. Prevalence estimates from this survey helped to frame the way in which clinical practice evolved over the last 20 years. This included the recognition that 41-65.6% of individuals with a lifetime addictive disorder also had a lifetime history of at least one mental disorder. Additionally, 50.9% of those with one or more lifetime mental disorders also had a lifetime history of at least one addictive disorder (Kessler et al., 1996).

Kessler et al. (1996) found relationships between several specific disorders. Results from the National Comorbidity Survey showed that some mental disorders had stronger relationships to alcohol, and drug dependence and abuse. Mania was more

strongly related than any other affective disorder or anxiety with both 12-month and lifetime dependence on alcohol and drugs. Conduct disorder and antisocial behavior were more strongly related to 12- month and lifetime abuse and dependence than anxiety or other affective disorders (except mania). Respondents with 12-month anxiety or mania were more likely than those with other mental disorders to have 12-month addictive disorders (Kessler et al., 1996).

The prevalence findings from early studies related to co-occurring mental illness and addiction in the U.S. population have remained consistent over the past 20 years. Findings from the National Survey on Drug Use and Health (Center, 2015) covered key areas of behavioral health and reinforced trends related to co-occurring disorders. The survey noted that 7.9 million adults (39.1%) with past year substance use disorder reported any mental illness, and 18.2% of adults with any mental illness also had a substance use disorder. Among individuals with a substance use disorder, 11.3% or 2.3 million had a serious mental illness within the past year. For those with a past year serious mental illness, 23.3% of those had a substance use disorder. Among adults aged 18 and over with a past year mental illness, those between ages 18-25 had the highest percentage of past year substance abuse. Adults with a past year serious mental illness and substance use disorder were highest among that same age range, 18-25 (Center, 2015).

Behavioral Health Disparities

The complex nature of mental illness and substance use disorders affects individuals, families and entire communities. Factors such as trauma experiences, poor socioeconomic conditions, educational and vocational limitations, and health disparities

make access to treatment and recovery services of paramount importance to the health, wellness and viability of the people in Central Appalachia. The lack of treatment resources exacerbates the myriad needs of people struggling with addiction and mental illness.

Treatment delivery systems and service utilization

Separate treatment services have historically been the primary means of treating individuals with co-occurring disorders and has served as a barrier to access (Ridgely, Goldman & Willenbring, 1990; Minkoff, 2001; U.S.D.H.H.S., 2005). This was due in part to separate federal and state funding structures which led to separate service delivery systems (Ridgely et al., 1990). Kessler et al., (1996) describes this funding structure as artificial separations between treatment segments. Managed care has served to continue this separation, with coverage limitations related to addiction and mental health treatment.

Kessler et al., (1996) found that individuals with co-occurring disorders were significantly more likely than others to receive treatment in specialty addiction treatment programs, in primary care settings, and to attend self-help groups. Individuals experiencing co-occurring disorders were no more likely than those without mental illness to obtain treatment. Among individuals with diagnosed substance dependence, mental health treatment was more often received from mental health service system (Kessler et al., 1996). This study found that separate systems of care were not the best approach to treatment of complex conditions such as co-occurring disorders.

Service utilization patterns among individuals with co-occurring disorders showed disparities among individuals in substance abuse treatment (Havassy, Alvidrez &

Mericle, 2009). Follow-up care for mental health treatment was significantly lower among those in substance abuse treatment settings than those in mental health treatment settings. Among individuals in substance abuse treatment, crisis residential detoxification was accessed more often among those with substance use disorders than those in mental health services. Individuals with substance use disorders had fewer days of outpatient treatment than those with mental disorders (Havassy et al., 2009). This study further indicates the need for access to care that insures both mental illness and addiction issues are addressed and adequate treatment is provided.

Tennessee is among the highest ranked states in the country regarding unmet treatment needs (U.S., 2006). Access to care is a significant issue in the state. In 2015, only 10.6% of individuals with substance use disorders received treatment (Edwards & Pennings, 2015). People in the Appalachian region are more likely to seek care through emergency rooms, and tend to wait longer before accessing treatment (Appalachian Regional Commission, 2008). They often under-estimate the extent and magnitude of their mental illnesses and addictions, which further influences their desire to obtain care when symptoms emerge (Appalachian Regional Commission, 2008).

Among all Appalachian regions, Central Appalachia has the greatest density of admissions for psychiatric problems. The report, An Analysis of Mental Health and Substance Abuse Disparities & Access to Treatment Services in the Appalachian Region (Appalachian Regional Commission, 2008), suggested that disparities existed in the Appalachian region specifically related to services to treat substance use and mental health disorders.

Web-based Interventions

In light of the extent of substance use issues in Tennessee, and the lack of access in rural communities, a web-based treatment and recovery program was developed as an innovative alternative and adjunct modality for individuals in rural Tennessee. At the time of program implementation, there were no known web-based treatment and recovery services and few face-to-face recovery support services targeting the identified geographic region. The program, My Recovery.vbhcs.org (My Recovery), targeted rural Tennessee populations and provided a venue to remediate barriers to access such as transportation and the lack of trained clinical staff in rural areas. The program was designed to address stigma related to attendance at mental health and addictions treatment facilities by offered a confidential alternative to traditional treatment and recovery approaches.

Web-based treatment and recovery is a relatively new intervention technique. Given this novel method of treatment delivery, the impact of motivation for change and the potential technological impediments to the classic client – therapist relationship that may be invoked by web-based interventions is worth investigating. My Recovery utilized motivational interviewing and the transtheoretical model for behavior change as part of its therapy and peer recovery program. These theoretical approaches are the foundation for this technology-based treatment service. Using a stage-wise approach to build motivation for change and help participants sustain long-term recovery was a significant component of the service delivery process in the My Recovery program.

Motivation for Change

Motivation for change is a well-developed concept related to addictions treatment and recovery. Miller and Rollnick (2013) developed motivational interviewing, an evidence-based practice in which motivation for change and a stage-wise approach to treatment is endorsed. Motivation is a pivotal influence on movement between stages of change, from the initial point of considering change, referred to as pre-contemplation and contemplation, to the preparation, action and maintenance stages of the change process (DiClemente, Bellino & Neavins, 1999). In addition to identifying and working within the client's stage of change, identifying and responding to change talk is a significant part of implementing motivational interviewing. Change talk, as with stages of change, is identified via the interaction between counselor and client, and through the interplay that occurs within the therapeutic relationship. It signifies what stage of change the individual is working from and provides cues for the therapist in eliciting further change talk and in moving the client further into the active change process (Miller & Rollnick, 2013).

Given the complex nature of the concept of motivation for change, a qualitative inquiry approach provided an opportunity to understand and provide perspective to this construct from the viewpoint of individuals involved in the treatment and recovery program. The following research question was addressed: How is motivation for change described and experienced among people who are in recovery from addiction and co-occurring disorders when using a web-based intervention?

CHAPTER TWO: LITERATURE REVIEW

My Recovery provided a venue for treatment and recovery in underserved areas, targeting the Upper Cumberland area of Tennessee. The program advanced the notion that web-based services can improve access, and provide a confidential way to address issues often bound by stigma and shame. The world-wide web has been used to connect people with health care providers, provide health information and assist in the management of chronic disease (Lau et al., n.d.; Merolli, Gray & Martin-Sanchez, 2013). Using the World Wide Web with the advent of web 2.0 enabling social media capability (Wolf-Branigin, 2009) promised to be a life-changing tool for people with chronic conditions, particularly in rural communities experiencing health disparities.

Barriers to Access among Rural Appalachians

People in the rural communities of Appalachia experience multiple barriers to accessing behavioral health treatment. Case study findings from the Appalachian Regional Commission's report, An Analysis of Mental Health and Substance Abuse Disparities and Access to Treatment Services in the Appalachian Region noted multiple barriers to service delivery. Transportation, stigma, payment issues, cultural and family concerns, privacy, lack of understanding of root causes of addiction and mental illness, multi-generational patterns of addiction, and availability of treatment services were identified as primary barriers to services (Appalachian Regional Commission, 2008).

In Central Appalachia, the geographic area for this study, people in economically distressed counties battle opioid addiction at greater rates than other counties within Appalachia and in the United States as a whole (Appalachian Regional Commission,

2008). This further compounds the complexity of the problems facing the people of the region.

Theoretical Constructs and Motivation for Change

My Recovery implemented motivational interviewing and the transtheoretical model of behavior change as part of the treatment regimen for e-therapy services. Several theoretical constructs serve as the foundation for motivational interviewing and the transtheoretical model and associate stages of change. These include self-determination, self-efficacy, and self-perception. The ability to measure, elicit, and support motivation for change are the driving concepts in treatment and recovery using motivational interviewing and the stages of change model. The manner in which motivation is operationalized within the behavioral change process frames the method of intervention, and the change process. These theories provide the backdrop for understanding the core of motivation, and its role in the interventions utilized as part of My Recovery.

Self-determination

Self-determination theory underpins the construct of motivation. An empirically-based theory, self-determination theory focuses on three distinct realms, autonomous motivation, controlled motivation, and amotivation (Deci & Ryan, 2008). The theory recognizes that social conditions affect the degree to which a person is capable of ascertaining motivation. This is of particular importance in the Appalachian community, where independence teeters on isolation. Culturally, the Appalachian community lends to a lifestyle of privacy that often leads to isolation, self-determination in which help is not often solicited and deep-seated beliefs about self-reliance (Ambrose & Hicks, 2006; Jones, 1994). Deci and Ryan (2008) described self-determination theory as a way to

conceptualize multiple arenas by which motivation is supported or challenged while attuning to the cultural attributes that influence motivation. These include the relationship of personality development, self-regulation, basic psychological needs, goals and aspirations, energy and vitality, nonconscious processes, culture, and social environment on motivation, behavior and overall well-being (Deci & Ryan, 2008).

Ryan and Deci (2000) identified motivation as *to be moved to do something*. Clinicians are often faced with the task of attempting to influence motivation for change. This becomes more difficult when addressing complex conditions such as co-occurring mental illness and addiction. Ryan and Deci (2000) suggested that there are levels and orientation to motivation. Levels refer to how much motivation a person may feel regarding a specific behavioral change. Orientation to motivation references underlying attitudes, or why someone might embark on change.

Self-determination theory distinguishes between intrinsic and extrinsic motivation (Deci & Ryan, 2008). Intrinsic motivation is defined as doing something because there is an internal or inherent interest, satisfaction, or enjoyment directly attributed to the behavior change. Psychological needs underpin intrinsic motivation, such as competence, autonomy and relatedness. An operational definition of intrinsic motivation utilizes two measures, behaviorally- free choice, and self-report of interest or enjoyment regarding a task. Environmental factors may facilitate or undermine intrinsic motivation. Factors influencing intrinsic motivation include perceived competency, autonomy, and positive feedback (Ryan & Deci, 2000).

Extrinsic motivation references doing something because it leads to a discrete outcome. Ryan and Deci (2000) stated that humans have a natural tendency for

motivation, a critical element in cognitive, social, and physical development. Internalization and integration of behaviors and beliefs are part of extrinsic motivation. Thus, something externally driven becomes important to the person intrinsically, supporting the continuation of the change behavior or task attainment. Extrinsic motivation moves along a continuum from external regulation to integrated regulation, in which identified behaviors, or regulations have been fully assimilated to the self, with autonomy much like intrinsic motivation.

Motivation is seen as a critical part of influencing individuals to seek treatment and engage in successful long-term recovery. DiClemente, Bellino, and Neavins (1999) were clear that motivation for change is not synonymous with motivation to participate in treatment. DiClemente et al. (1999) noted that internal motivation was more effective in determining long-term success, but external motivation was needed to promote short-term abstinence. This becomes particularly important in treatment engagement and retention. Motivation influences the progression through the change process and into sustaining recovery.

Self-perception

Self-perception theory postulates that individuals infer their internal attitudes and emotional states partly via observations of their own overt behavior, and the environment or situations around which that behavior is exacted. When the individual's internal cues are weak, unclear or confusing, reliance on external cues takes precedence. This is akin to following peers in risky behaviors, often a precursor to substance use disorders. Weak and unclear internal cues support a lack of insight or internal reference point by which the individual can separate the self from external, interpersonal perceptions (Bem, 1975). In

describing self-perception theory, Bem (1975) asserted that while overt behaviors may appear to be similar, the intent and meaning of actions are based on privately held self-attributes. When external reinforcement is lessened, overt behavior becomes driven by internal structures, such as beliefs and attitudes.

In looking at internal and external observations of behavior, Bem (1975) provided a clear example using insider and outsider perspectives. An individual may work diligently to solve a problem using internal cognitive processes, and can himself determine that he is working hard to solve the problem. However, the outsider cannot see this process in action, and may determine that the insider is not working to solve the problem. Motivational stages can be misinterpreted in much the same way. Therapists may observe behaviors from clients that may be categorized as lacking motivation or desire to change. Internally, or from the insider view, the client may be in pre-contemplation or contemplation, an internally driven state of change. Understanding the insider and outsider view of self-perception theory draws attention to the importance of the transtheoretical model and its utility in addictions treatment.

Bem (1975) found that behaviors as observed by the individual, formulate attitudes, and emotions are triggered by behaviors as perceived by the individual. This becomes a learning process and molding attitude based on behavioral cues influences future behavior. Miller and Rollnick (2013) noted that self-perception theory helped frame the communication concepts of motivational interviewing. Specific areas included the use of cognitive dissonance, and ambivalence as part of the change process. In making the argument for change, the individual's external verbalizations subsequently influence beliefs about the need to change (Miller & Rose, 2009).

Self-efficacy

Self-efficacy, grounded in Bandura's social cognitive theory (Bandura, 1977; Farkas, 2011), influenced the development of motivational interviewing and the stages of change model. Self-efficacy theory supports the motivational interviewing concepts of the individual's right to choose and capacity to change by evoking and internalizing motivation for change (Miller & Rose, 2009). Bandura (1977) stated that self-efficacy contributed to an individual's initiation and sustaining of behavior. The extent of personal self-efficacy related to how long a person maintained behavior, particularly when facing difficult or adverse circumstances (Bandura, 1977).

The belief that one can change as described in self-efficacy theory, is pivotal to moving along in the change process, and mastering the stages of change. Self-efficacy is regulated via specific cognitive, motivational, affective and decisional processes (Bandura, 1997 as cited in Bandura and Locke, 2003; Bandura, 1999). Supported by self-efficacy theory, the transtheoretical model utilizes behavioral and cognitive processes as part of the development of motivation and movement through stages of change into a sustained, or maintenance behavior (DiClemente et al., 1999).

In addictions treatment, relapse prevention is an area in which therapist and client spend a significant amount of time and energy. Bandura found that past performance influenced personal self-efficacy (Bandura & Locke, 2003), thus a successful outcome of an action or behavior produced positive self-efficacy. Several mediating factors related to self-efficacy influence performance, including goals, expectations and socio-cognitive issues (Bandura, 1997 as cited in Bandura & Locke, 2003). For individuals with multiple relapses, the contribution of self-efficacy in mastering recovery supports Bandura's

concept that successful past experiences solidify one's belief in the ability to change. Motivational interviewing and the stages of change model are designed to support and build positive self-efficacy as part of the change process.

Self-efficacy is pivotal in each phase of the change process. From initiation of the change, to maintenance or sustaining a new behavior, self-efficacy supports the continuation of change efforts (Bandura, 1999). In treatment and recovery of substance use disorders and co-occurring mental illness, efficacy beliefs play a role establishing and attaining goals. Expectations of outcomes, for example the ability to remain abstinent, are rooted in past attempts at sobriety, internal and external motivating factors, and personal agency. Motivational interviewing and the transtheoretical model are supported by self-efficacy theory, and concepts derived from the cognitive, affective and biological triggers that influence motivation to change.

Transtheoretical model of behavior change

Effective treatment of individuals with addiction requires an integrated, stage-wise approach (U.S.D.H.H.S., 2005). Predicting readiness for change and the construct of motivation to change are essential components of stage-wise treatment, and complement the motivational interviewing framework around which evidence-based treatment for complex issues such as substance addiction and co-occurring disorders has been built. Early work around the stages of change model came from smoking cessation research.

Prochaska and DiClemente (1983) developed five stages of change that they hypothesized people went through when embarking on a change. The transtheoretical model of change, and associated stages of change, includes 10 processes of change during the 5 stages. Miller (2009) took this further and used the stages of change concepts

as part of his work with motivational interviewing. The progression from ambivalence to commitment described with motivational interviewing mirrors the progression through the stages of change as described by Prochaska and DiClemente (1983).

Addressing complex conditions and relapse

The transtheoretical model of behavior change has been used to address behavioral intention and behavior change with complex conditions, such as co-occurring disorders (DiClemente et al., 1999). This model takes into account self-efficacy in the change process and allows the practitioner to tailor interventions based on the stage of change. In behavior change processes relapse often occurs, especially with addiction and mental illness.

Prochaska, DiClemente and Norcross (1992) provided a framework by which relapse is part of the change process, and the individual can continue to exhibit and experience intention to change as well as behavior change even when relapse has occurred. A spiral versus linear process (Prochaska et al., 1992) works well with individuals with these complex disorders, and provides ample opportunity to successfully move into behavioral maintenance without losing traction around self-efficacy. In other words, they can learn from relapse, and build upon knowledge and belief about change to further instill positive change opportunities via the increase in self-efficacy.

Stages of change

The transtheoretical model involves several stages of change and processes within each stage in which behavioral intention is identified and behavior change is realized. The stages of change are (Prochaska & DiClemente, 1983):

Pre-contemplation: no intention to change behavior.

Contemplation:	intention to change is beginning.
Preparation:	intention is clear and change is planned.
Action:	behavioral intention moves toward behavior change, counter-conditioning, reinforcement of new behaviors begin.
Maintenance:	change is sustained over time, typically 6 months or longer. Helping relationships and support, as well as helping of others solidifies this stage.

DiClemente, Nidecker and Bellack (2008) looked at the use of the stages of change model for complex conditions, specifically co-occurring disorders, and found this process to be effective in eliciting motivation for change and supporting self-efficacy. DiClemente et al. (2008) identified collaborative goal setting, a harm reduction approach and small steps to reach goals as beneficial in helping individuals with co-occurring disorders access motivation for change and realize change in behavior.

Cognitive deficits and the lack of decision-making capacity were identified as impediments to the ability to tap into motivation as part of the change process. Less motivated individuals need more structured, and proactive treatment approaches and those with serious mental illness need additional community supports, such as case management to further support adherence and motivation for change (DiClemente et al., 2008).

Attitudes, beliefs and intentions related to lived experience with serious mental illness and co-occurring disorders were seen as adversely effecting motivation for change (DiClemente et al., 2008). Difficulty with commitment, decision-making and adhering to

behavior change impacted the change process, and acted as barriers to change. External reinforcement appeared to assist in soliciting motivation for change, rather than relying on the internal forces of change, or intrinsic processes that support behavior change (DiClemente et al., 2008). Understanding the limits to the model, and modifications to the stages of change process provide guidance in serving individual with co-occurring disorders.

Of the ten processes of change identified by Prochaska and DiClemente (1983) two concepts from the transtheoretical stages of change model are of particular relevance to co-occurring disorders treatment. These are *consciousness-raising and environmental re-evaluation* which occur during the contemplation stage of change. These two processes are pivotal in the development of self-efficacy and the understanding that change is possible via behavioral intention.

Bennett, Bellack, Brown, and DiClemente (2009) found that in individuals with schizophrenia and active cocaine addiction, readiness for change (behavioral intention) was low, and individual with low readiness for change were less likely to obtain healthy change (abstinence). The early stages are highly relevant to building self-efficacy and without consciousness-raising and environmental re-evaluation, movement to actual behavior change is difficult, at best.

Consciousness-raising involves providing information to the individual about negative and positive health options, education about prognosis and about methods by which others have successfully changed (Prochaska & DiClemente, 1983). It involves assisting the individual in supporting past change attempts, thus building self-efficacy around the change process. Environmental re-evaluation is a process by which the

individual identifies the social structures that impede change, and those that may support change (Prochaska & DiClemente, 1983). This process also supports the development of positive social support systems.

Motivational interviewing

The emergent methodology shaping motivational interviewing incorporated the core concepts of stages of change, including the idea that motivational interviewing counselors elicit increased levels of change talk over time, paralleling the stages of change identified by Prochaska (Miller & Rose, 2009). Motivational interviewing consists of several specific interactional strategies that complement the stages of change model.

Miller and Rose (2009) identified both a relational and technical component to motivational interviewing. The relational component involved developing empathy and the interpersonal processes that take place as part of the counselor-client relationship. Technical aspects included the identification of change talk. This component was a transformative part of the process of behavior change, and in reducing resistance to change (Miller & Rose, 2009).

Miller's early work looked at counselor empathy and sustained change over time, noting that therapist empathy predicted two-thirds of the variance in client drinking during treatment 6-month post treatment (Miller & Rose, 2009). The effect of therapist style was larger than differences among behavioral interventions. Miller's conceptual model of motivational interviewing was born from these findings.

Change talk

Focusing on change talk, and evoking the client's own motivation to change are cornerstones of motivational interviewing. As this methodology progressed, change talk was further refined, and commitment language was linked to behavior change. As commitment language emerged in the client, behavior change was more likely to occur (Miller & Rose, 2009; Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003). As part of the motivational interviewing process, change talk was key to understanding the stage of change and readiness for change (Apodaca & Longabaugh, 2009; Westra & Aviram, 2013).

Change talk and commitment were linked and the strength of commitment was predicted by the strength of preparatory change talk (Miller & Rose, 2009). Amrhein (1992) explored the concept of change talk and distinguished subcategories in which motivation for change was described. These included desire, ability, reasons, needs and commitment. Commitment language directly and robustly predicted behavior change (Amrhein, 1992), further solidifying the connection between motivational interviewing and stages of change. In a meta-analysis of 72 studies using motivational interviewing, Hettema, Steele, and Miller (2005) found that the use of motivational interviewing almost doubled the rate of change talk, and reduced resistance among participants.

Other research found that change talk, or commitment talk, did not improve prediction of behavioral change (Hettema et al., 2005; Amrhein et al., 2003). Frequency of commitment language did not predict abstinence. The strength pattern of the commitment language was found to be a predictor of behavior change. Amrhein et al. (2003) found that behavior change was related to the steady increase in strength of

commitment language, rather than the frequency of commitment language, and commitment strength near the end of treatment was the strongest predictor of behavior change. This further connects the concepts of stages of change to motivational interviewing. Amrhein et al. (2003) reinforced this notion, and stated that the underlying concepts of readiness for change and stages of change support the process of commitment, and motivational interviewing.

In studies specifically addressing substance use disorders, the amount of change talk correlated with reductions in drug use at follow-up (Amrhein et al., 2003; Strang & McCambridge, 2004; Moyer et al., 2007). Gaume, Gmel, Faouzi and Daeppen (2008) studied the counselor – client relationship and the way in which counselors responded to change talk. The study found that change talk elicited more change talk and participants who began using change talk in sessions were more likely to continue using change talk. Counselor interactions and responses played an important role in soliciting change talk by clients.

Similarly, Barnett, et al. (2014) found a correlation between change talk and reductions in marijuana use. The counselor's use of open-ended questions was related to increased change talk (Barnett et al. 2014). Hettema (2005) noted that a mismatch of stages of change and counselor interaction may evoke resistance and defensiveness. The reciprocal nature of the elicitation of change talk is paramount to the change process.

Interventions and the stages of change

Interventions must be tailored to meet the specific stage of change, and to evoke movement toward action (Prochaska et al., 1992). Prochaska et al. (1992) recognized that therapies incorporating behavioral and existential processes were must useful during

action and maintenance stages, and therapies using experiential, cognitive and psychoanalytic modalities are most useful during pre-contemplation and contemplation stages.

The My Recovery website utilized the stages of change model, incorporating multiple intervention and communication styles to accommodate the stage of change and associated processes. This program evaluation focused on the e-therapy component of My Recovery and the way in which participants elicited change talk as part of their experiences related to recovery.

Web-based Treatment

As part of this literature review, no studies were located that specifically used motivational interviewing as part of an e-therapy treatment intervention for individuals with co-occurring disorders. The effectiveness of a variety of web-based interventions for individuals with substance use disorders was studied in a limited manner.

Similar to the My Recovery program, a web-based disease management program developed by Hazelden called My On-going Recovery Experience (MORE) was studied by Klein, Slaymaker, Dugosh, and McKay (2011). The research noted that website users with higher adherence reported fewer post-treatment drinking days than those who used the website less often. Percentage of days abstinent from alcohol was related to the number of modules accessed by participants. Klein et al. (2011) noted that compliance with the website may also be indicative of overall treatment compliance but abstinence could not be attributed solely to website usage.

Clinical effectiveness of web-based interventions

Clinical effectiveness of web-based treatment protocols was supported in numerous studies, but also noted variation in the duration of web-based interventions and frequency of use by participants (Postel, de Haan, ter Huurne, van der Palen, Becker, & de Jong, 2013; Rooke , Copeland, Norberg, Hine & McCambridge, 2013; Rooke, Gates, Norberg & Copeland, 2014). In a study of web-based intervention among participants with cannabis abuse or dependence diagnoses, there was no significant difference in abstinence levels between participants in the web-intervention and those in the control group. However, the study did show reductions in frequency of past-month cannabis use at a higher percentage than that of the control group, supporting the value of computer-delivered interventions (Rooke et al. 2013). Other studies found that web-based interventions were effective in reducing substance use either via self-report or scores on standardized measures such as the Alcohol Use Disorder Identification Test (Cunningham, Wild & Humphreys, 2011; Marsch et al. 2014).

Participants in web-based treatment and recovery programs showed reductions in alcohol use. Postel et al. (2013) noted that participants involved in e-therapy had greater gains in decreasing alcohol use than those in the control group. Murray et al. (2012) showed significant reductions in alcohol use from pre-post consumption reports. Matano et al. (2007) reported promising results in curbing alcohol use among participants with moderate risk of having alcohol problems. Although a different modality than the My Recovery format, web-based screening and brief intervention among college students found a short-term reduction in alcohol consumption among participants (Kypri et al. 2004; Doumas et al., 2009).

Demographic variables

Gender, age, and educational status impacted the use and effectiveness of web-based programs. Rooke et al. (2014) found that men had higher levels of engagement than women, but age was not a predictor of engagement in the web-based intervention. In a study of participants in the SMART Recovery web intervention, education level was a significant factor among individuals, showing a higher education level (16.3 years) among individuals who participated in the 3-month follow-up than the education level of individuals who did not participate (15.3 years) in the follow-up (Hester, Lenberg, Campbell & Delany, 2013).

Participants in an on-line intervention to reduce alcohol consumption were older (mean age of 41.4) compared to those who did not use the web-based intervention (Cunningham et al. 2011). Fifty-one percent of users were male and 82.5% had some postsecondary education (Cunningham et al., 2011).

In a replication study of the MORE program, age, and gender were significant predictors of the number of drinking days among web-site users and the number of logins and program module usage was significantly related to reductions in drinking days (Klein and Anker (2013). Saitz et al. (2004) found that participants using a web-site designed specifically to alcohol use screening and provide brief intervention were more likely to be men (71%) and those with screening scores noting possible alcohol abuse or dependence were younger (mean age 30.9).

In a multi-year study of the use of on-line peer support among individuals with mental health conditions, DeAndrea and Anthony (2013) reported that women were the predominant users of web-based support, as were individuals under age 50. Education

was positively related to use of the on-line peer support program among individuals with mental health conditions (DeAndrea & Anthony, 2013).

Limitations and barriers in web-based treatment

As with many novel treatment approaches, several studies illuminated barriers related to the use of web-based interventions. An employer supported web-based approach targeting employees with low to moderate risk of alcohol-related issues supported a preference among participants for individualized feedback rather than limited feedback from the website (Matano et al., 2007). Retention in treatment (Schaub, Sullivan & Stark, 2012) and equitability in service access (Murray et al. 2012) were also noted as problematic specifically regarding web-based interventions.

Retention in treatment and equitability in service access were shown as problematic specifically regarding web-based interventions (Schaub et al., 2012; Murray et al. 2012). Equitability of access barriers included slow internet service, inability to read or understand English, inability to use a computer, and technology problems with the computers (Murray et al.2012).

CHAPTER THREE: METHOD

Study Design

Qualitative research provides an opportunity to delve deeper into theoretical constructs in which more complex, detailed understanding of those constructs will inform the field and practice setting. The concept of motivation for change and its complexity provide a thematic backdrop for better understanding the ways in which individuals struggling with substance use disorders and co-occurring disorders experience motivation, and recovery. The web-based program provides a novel method by which to explore these concepts. A qualitative approach for this program evaluation is appropriate to address the identified research question: How is motivation for change described and experienced among people who are in recovery from addiction and co-occurring disorders when using a web-based intervention?

Epistemological framework

As part of a qualitative inquiry approach, a constructionist epistemological stance informed the framework for this program evaluation. This espouses that meaning is constructed by the way in which we engage in and interpret our world (Crotty, 1998). From the perspective of a qualitative program evaluation, the meaning of motivation through the coding of change talk provided a deeper level of understanding within the framework of a thematic taxonomy and concept and via the lived experience of participants (Creswell, 2013). The qualitative process provided a method by which inner perspective were captured, producing depth in understanding of meaning from the programmatic and participant perspective (Patton, 2015).

Reciprocity and constructionism

Reciprocity in the relationship between the social and individual construction of knowledge builds the constructionist framework. The meaning of motivation for change, as defined by lived experiences of people in recovery, is constructed from the social and cultural framework around addiction and from the deeper belief system rooted in stigma and stereotypes related to addiction. This constructed meaning is made relevant by the lived experiences of people struggling with addiction and co-occurring mental illness. From a constructionist stance, meaning comes through the reciprocal relationships between humans and objects. The interplay between human and object creates the conduit for meaning.

Within a constructionist epistemology, participant perceptions and experiences are compared to one another, illuminating differences and commonalities related to these experiences (Patton, 2015). For example, women and men experience substance use and mental health issues and treatment access differently (Lieberman & Massey, 2008; Room, 2005; Appalachian, 2008). Socioeconomic status, race and ethnicity, and geographical access influence the manner in which substance use and mental health issues are experienced, and accessibility of services (Dunn, Behringer & Bowers, 2015; Room, 2005; Arcury et al., 2005). All of these factors influence the construction of meaning around life experiences, including substance use issues and mental illness.

Reciprocity between the researcher and participants is developed through relationship building and mutual trust within the information exchange process (Patton, 2015). Reciprocity between the researcher and participants is less evident in this evaluation. The secondary analysis did not require an emersion of the researcher into to

the real-time experiences of participants. Rather, a post-intervention analysis of the transcripts provided for an intimate view of the relationship between participants and therapist, and the way in which participants constructed meaning around their experiences.

Reflexivity

In qualitative inquiry, the role of the researcher takes on a unique perspective. Developing self-awareness and the ability for self-reflection throughout the research process is paramount to the integrity of the study (Patton, 2015). Recognizing and acknowledging bias and past experiences is the responsibility of the qualitative researcher and insures that a transparent analytical process occurs, and the content is represented accurately (Creswell, 2013; Richardson & St. Pierre, 2008).

Researcher's reflexive voice

With this evaluation, reflexivity is of particular importance. The researcher works in the behavioral health field, and was a therapist for many years. With a career spanning 31 years, and diverse work experiences within the behavioral health arena, it is imperative that the reader understand the background that informs the researcher's stance. For this discussion, a first-person voice will be relied upon to fully discussion reflexivity and its importance in this evaluation (Patton, 2015).

As a therapist, I counseled people experiencing myriad issues. My early work included the treatment of children who had experienced trauma, typically sexual abuse. This informed later work with adults with substance use disorders and mental illness. The overarching themes contributing to their struggles continued to strike me, including childhood trauma, poverty, lack of treatment access. Moving into program development,

and oversight, I was confounded by the lack of opportunities for treatment among our most vulnerable citizens. In rural communities, people waited months for a bed at the local detoxification unit. I was also bewildered by the extent of illicit drug use in these small, seemingly sleepy country communities built around the beautiful landscape of the Upper Cumberland area of Tennessee.

Listening to the heart wrenching stories, and the daily struggles for sobriety among people in treatment framed my hope and desire for change. As a therapist, and a supervisor, I have used and taught motivational interviewing. I admit a bias towards this approach, and to the transtheoretical model of behavior change. This is partly because struggling for sobriety was translated in the clinical world as lack of motivation or desire to change. This attitude was indefensible to me, and motivational interviewing and the stages of change was the way I could convince treatment providers that giving up on people was never an option.

I must also report that I have bias towards the My Recovery program. I wrote my agency's federal grant application that supported the development of My Recovery, and oversaw the implementation of the program. The impetus behind this program was to address the access issues experienced by people in need of treatment and support in the rural areas of Tennessee. I have a deep affinity for the program, and have heard first-hand how the support received has changed lives. I never actually worked in the program, nor was I the therapist involved in the e-therapy services. I trained the therapists, wrote much of the website content, and supervised the program manager, who supervised the staff.

Bringing the issues of addiction and mental illness out of the darkness of stigma, and providing safe, strengths-based ways for people to attain a recovery lifestyle has been

the cornerstone of my career. For the purpose of discussing reflexivity and this evaluation, I have explored my own biases, and discussed the implications of these with a colleague. To be transparent, the details in the transcripts have affected me greatly. I have been part of many therapy sessions over the years, and heard of the horrific experiences people have endured, and sometimes miraculously survived. In these transcripts, I read about the progression of hope that shifted to despair, of thinking the battle was won then another relapse, and how addiction and mental illness ravaged self-esteem and self-worth. This not only affected me, it absolutely deepened my conviction and I am fully aware of this shift.

Evaluative process

Understanding how motivation for change is described and experienced by people in recovery (by way of transcriptions of treatment sessions from the My Recovery website) offered an opportunity for evaluation from a qualitative approach. The role of the researcher encompassed capturing and shaping the stories and experiences of participants (Creswell, 2013). Conducting this study from a qualitative program evaluation perspective provided the opportunity to inform programmatic process, and future program development. The evaluative process told the story not only of the participant experiences, but the story of the program, and its organizational constructs (Patton, 2015).

Sample and Participant Selection

Purposeful sampling of participants enrolled in the website who participated in e-therapy was conducted. The website was available and accessible to individuals who were in various stages of the recovery process. All individuals involved in the program

were diagnosed with substance use disorders and most suffer from co-occurring mental health conditions. This sample was derived from available program participants who participated in e-therapy, and who consented to allow the use their interactions with the website to be used as part of the program evaluation. The total number of participants in My Recovery during the three-year grant cycle was 235.

Initial steps included accessing and downloading all transcripts of e-therapy sessions. The transcripts were provided in Excel format. Transcripts were identified by discrete numbers and sorted by sex of the participants (5 men and 16 women). The sample size was a finite grouping of participants who utilized the e-therapy program (n=21). There were 88 transcripts available and coded for 21 participants.

This program evaluation was an analysis of services conducted from 2011-2013, and no active recruitment of participants occurred as part of the program evaluation. Recruitment into My Recovery occurred via during the course of the 3-year project and was conducted at Volunteer Behavioral Health Care System's local division, Plateau Mental Health Center. My Recovery was sustained beyond the grant cycle and is an active peer support website. However, the e-therapy component was not sustained beyond grant funding. The website hub is located in Cookeville, Tennessee, and serves approximately 200 individuals each year. The website is one component of a treatment and recovery continuum utilizing a structured, evidence-based approach that includes screening, assessment, medical detoxification, group therapy, individual therapy and self-help recovery support.

De-identified participant transcripts were obtained from participants enrolled between 2011 and 2013, in which informed consent was obtained. The informed consent

discussion included a brief orientation to the project, screening for computer skills, and a discussion of risks and benefits. Orientation included a description of the protocol, process and project timeframe. Participant expectations and concerns were addressed during this phase. See Appendix B for the sample informed consent form.

Inclusion and Exclusion Criteria

All participants who were active in e-therapy during the identified timeframe were included in the study. Participants who did not sign the informed consent were excluded. Inclusion criteria supported obtaining transcripts of all e-therapy participants to determine systematic units of analysis and themes in responses related to change talk in order to answer the identified research question.

There were no participants excluded from the analysis. Exclusion criteria was related to not having informed consent, and all participants signed informed consent.

Measures and Instruments

Several specific measures and instruments were used as part of the program evaluation. These included measures required by the funding agency, the transcripts of e-therapy sessions, web-site usage data, and a readiness for change assessment.

Demographic data

Demographic data including age, sex, race and ethnicity, drug use patterns, and mental health status was obtained via the Government Performance and Results Act (GPRA) assessment instrument. These data were used to provide descriptive statistics of My Recovery participants who did and those who did not participate in e-therapy.

The Substance Abuse and Mental Health Services Administration (SAMHSA) required the use of the GPRA in which measures of substance use, past treatment

attendance, multiple life domains (housing, employment, education, criminal justice involvement, family constellation) and demographic information were captured. The GPRA was administered at baseline, 6-month follow-up and discharge. As noted in Darby and Kinnevy (2010), the GPRA was developed by SAMHSA as a measure to assess outcomes of alcohol and drug treatment programs funded by the agency, creating a standardized method by which program outcomes could be compared. Darby and Kinnevy (2010) report that the GPRA was constructed using two standardized instruments, the Addiction Severity Index and the Treatment Services Review, both of which have undergone reliability and validity testing.

Transcripts of e-therapy sessions

Transcripts of sessions were downloaded into an Excel spreadsheet and prepared for coding. The transcripts included verbatim content of sessions between the participants and therapist. Each interaction between the therapist and participant was identified in a separate cell of the spreadsheet. Text wrapping insured that a completed segment of each response occurs within one cell. Cell columns were organized so that codes were entered in relation to motivational change talk, substance use, and mental health issues.

Web-site usage

Website usage was measured via the actual number of e-therapy sessions engaged in by participants. Individual interactions between counselor and participant coded as e-therapy sessions were identified and counted as a unique modality of web-site usage. A session constituted a discrete beginning and end in which e-therapy occurred, much like a face-to-face therapy session. Transcripts were running logs of sessions between one participant and one therapist.

Readiness for change assessment

Each participant completed the University of Rhode Island Change Assessment (URICA) prior to participation in the website. Based on the scoring from this instrument, the pre-intervention stage of change was determined and results were utilized to categorize participants in pre-contemplation, contemplation, preparation, action or maintenance stage of change.

The URICA has been a widely-used readiness for change instrument. McConnaughy, Prochaska, and Velicer (1983) initiated an assessment of the development of the URICA as a self-administered instrument of stage of change. The 32-item version of the instrument was scored with a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). An algorithm associated with scoring of four discrete subscales and a total composite score were used to indicate predicted end treatment outcomes at pre-treatment, to show progress during treatment or as a predictor of outcomes at discharge (McConnaughy et al., 1983).

In the last 20 years, multiple studies have addressed the psychometric properties of the URICA. Studies addressing validity and reliability of the URICA have produced mixed results. Henderson, Saules, and Galen (2004) noted that among polysubstance drug users, results of a multivariate multiple regression analysis showed that the URICA, when used at the beginning of treatment, was a predictor of treatment outcomes. The maintenance scale was the only scale to produce significant results, but the results diminished at 6-months post-treatment. In two multi-site, randomized clinical trials of individuals with alcohol and drug dependence, no moderating or mediating effects on treatment outcomes were found (Field, Adinoff, Harris, Ball & Carroll, 2009).

Other studies noted that the URICA subscale correlates were problematic. Belding, Iguchi, and Lamb (1996) reported that action scale was the only scale that produced statistically significant correlations with drug use variables. The study noted that high scores on the action scale were associated with lower reported drug use, and fewer days of use. However, the results of this study indicated that the maintenance scale correlated highly with contemplation items and additional assessment of external validity and factor analysis was warranted.

Blanchard, Morgenster, Morgan, LaBouvie, and Bux (2009) found that the URICA failed to predict treatment attendance, and the action scale was the only scale predicting treatment outcomes among individuals involved in substance abuse treatment. In a study of individuals with co-occurring psychiatric and addictive disorders, the URICA was found to have internal consistency; however, individuals with lower readiness to change scores demonstrated higher rates of treatment compliance. This study also identified the need to develop instruments that better quantify motivation and change (Pantalon & Swanson, 2003).

Issues relevant to the instrument included the relationship between subscales, the total score calibration and model-fit as related to motivation and prediction of treatment consistency as well as post-treatment predictors of continued maintenance of the change behavior. Although there are documented concerns about the scale, this instrument was used in the study to insure consistency with other programs at the agency in which state-level mandates required the use of the URICA.

Procedures

A qualitative program evaluation provided a vehicle for the voice of individuals struggling with complex issues, such as addiction. The transcripts extricated from the website provide the participant voice, and the program evaluation provided a method by which the participants' stories were told as part of capturing the programmatic story (Patton, 2015). A qualitative program evaluation offered a relational and social context by which to construct meaning from the perspective of program staff, and those participating in the program. It provided an opportunity to "illuminate the people behind the numbers and put faces on the statistics to deepen understanding and inform decision-making" (Patton, 2015).

Developing codes

Two specific standardized coding schemes were adopted as part of this evaluation. The Motivational Interviewing Sequential Code for Observing Process Exchanges (MI-SCOPE) (Martin, Moyers, Houck, Christopher, & Miller, n.d.) was used to develop change talk code schemes. Change talk phrases identified in each transcript were counted and documented using the spreadsheet as an initial coding process. An additional coding scheme was utilized based on the Human Relations Area Files, Initiation of Drug Abuse Preliminary Codes for Qualitative Analysis to ascertain specific substance use patterns among participants (N. Weatherby, personal communication, March 28, 2016).

Additional codes were developed to provide more robust descriptions of the experiences described by participants. These codes were added after the initial coding process, when additional themes emerged. These codes included mental health codes to

better describe experience as opposed to diagnostic category, and a code to identify references to trauma and abuse.

Code families were established to cluster codes into categories. Code families, code names and definitions are located in Appendix A.

Data Collection

The data collection processes occurred via downloaded and printed transcripts of sessions between therapist and participant. Each transcript contained written documentation of each session, with reciprocal responses between therapist and participant within discrete cells within the Excel document for each typed interaction.

Demographic data from the GPRA were accessed via a prior data collection process as part of the grant evaluation. These data were accessed to provide demographic information about the participants in e-therapy and those who did not participate in e-therapy.

The URICA instruments were scored and maintained as part of the program requirements. Scores from the instrument were obtained on each participant, and on individuals who did not participate in e-therapy.

Data storage

Storage of measurement instruments (GPRA and URICA) met current agency and SAMHSA protocols for the storage of research data. This includes the use of a locked file cabinet and locked door to the room in which the file cabinet is stored for hard-copy data.

Electronic file storage used password-protected access to the computer in which files are stored. Back-up files will be maintained on the agency's computer server and with the researcher.

Validity and Reliability

Miller and Rollnick (2013) identified specific change talk phrases and verbiage that reflects each stage of change. The MI-SCOPE manual identified phrases and coding methods related to change talk. This manual was used to guide the coding process and provide credibility with the findings from the study. As part of the qualitative inquiry process, the sources of researcher bias must be addressed (Creswell, 2013). This study used transcripts from web-based transactions, limiting the ability of the interviewer, or researcher, to impose bias via face-to-face interaction. Researcher reflexivity has been addressed in this evaluation. Using pre-determined change talk phrases, as described by the MI-SCOPE manual to assist with categorizing and coding themes minimized unintended omissions or over-interpretations of specific components of transcripts.

Inter-coder reliability

The use of two coders and establishing inter-coder agreement addressed reliability issues in qualitative research (Creswell, 2013). This study utilized two coders and multiple coding sessions. Initially, the primary researcher coded 10 transcripts using an open coding process to test the developed coding scheme. A second round of coding occurred by the primary researcher, and additional codes were established to address emerged themes.

The second coder received training on motivational interviewing via a 3-hour workshop and training from the researcher on the coding scheme and process. The second coder used the revised coding scheme and coded 10% of transcripts, achieving 94% agreement with the initial coding by the researcher.

The researcher conducted an additional coding round as data were entered into the software program (Atlas ti.7). After downloading transcripts into the software program, the researcher did comparative coding with each session and the coded transcripts in the Excel format. This process conferred the accuracy of codes from the initial process to the point of data analysis.

Triangulation is a recommended method by which validity can be established within the constructs of qualitative inquiry (Creswell, 2013). Additional data sources included the GPRA and the URICA data. Readiness for change was measured at baseline using the University of Rhode Island Change instrument and the scores from this were compared to actual e-therapy activities among participants and with those who did not participate in e-therapy.

Data Analysis

Data analysis began immediately upon obtaining completed transcripts. Data collection continued until transcripts from all e-therapy participants were coded.

Atlas.ti 7 qualitative data analysis software was utilized. Each transcript was formatted to meet the Atlas.ti 7 requirements. This included reformatting the Excel files into rich text files. These files were downloaded into the program, creating a hermeneutic unit. Each transcript was labeled as a distinct program document.

Data analysis included the organization of codes into structured families representing of categories related to motivational interviewing change talk by the participant, descriptions of substance use, descriptions of mental health or illness, and diagnostic categories of mental illness. Themes and attributes were identified within each transcript, then compared among transcripts for commonality. As part of the analysis

process, the pre-intervention URICA stage of change was incorporated to explore the relationship between change talk usage and stage of change.

Types of analysis

Atlas.ti 7 provided several ways to review and analyze data. Analysis of transcripts separately, the totality of transcripts, and specific clusters of transcripts occurred. Specific code family and code analysis took place. Use of object crawler allowed for terms to be located to support commonalities among participants. Numerous queries were conducted to identify counts, as well as content related to each code family and each discrete code.

Interpretation of data

Interpretation of data was conducted as themes emerge and larger insights were obtained related to change talk as well as the way in which participants discussed substance use and mental illness. The transcripts of participants were used to provide the context for the interpretive process, a deeper understanding of motivation juxtaposed against the data related to the number of web-based sessions participated in, and baseline URICA scores. Gender specific themes and narratives were highlighted as they emerged through the interpretation and reporting process. Through the interpretive process, stories were identified. These stories were then related to motivation for change and the use of change talk within the realm of addiction and mental illness. In determining the cultural construction of the stories and underlying themes, specific quotes were extracted and elements described as part of the representation of the evaluative process.

Utility of evaluation

Understanding the impact of motivation on the use of recovery supports, such as My Recovery and how change talk influences use of recovery support informs the field in significant ways. This qualitative inquiry provides counselors with an understanding of depth of the struggles participants' experiences as part of the recovery process. This further informs clinicians about the importance of attuning to and eliciting change talk throughout the therapeutic process, and supporting self-efficacy. The exploration of the use of web-based interventions, and the relationship of interventions to motivation for change provided information to guide practice and program development in addictions and co-occurring disorders treatment. The study addressed and answered the key research question: How is motivation for change described and experienced among people who are in recovery from addiction and co-occurring disorders when using a web-based intervention?

CHAPTER FOUR: RESULTS

The detailed descriptions provided by participants highlighted the challenges of recovery. Self-efficacy, self-esteem, and motivation for change waxed and waned over time, emphasizing that recovery is a nonlinear process. Sobriety was certainly the end goal, but there was no straight path toward that goal. Life experiences interplayed with, and sometimes interfered with achievement of this goal. Recovery was experienced in unique ways by each participant, yet there were shared challenges defining the process.

The qualitative program evaluation results included multiple analyses of transcript content in which change talk was identified, counted and contextually reviewed. Word and quote counts were obtained based on coding categories and code families to determine the type and strength of change talk based on each behavioral health condition (substance use and mental health issues). Within all transcripts (n=88), there were 3,928 quotes related to change talk. The therapist utilized more change talk phrasing, with 1,793 change talk quotes attributed to participants, and 2,135 change talk quotes attributed to the therapist. There were 2,374 total codes for participants. Change talk accounted for 76% of the total number of coded quotes.

Participants

The My Recovery program included 235 participants. Twenty-one individuals participated in the e-therapy component of the program. The GPRA was administered as part of the federally-required evaluation of the program. Data from the GPRA were used to obtain demographic characteristics of participants, including the population of study. There were few notable differences in the target population and the population of study.

Both groups had similar educational attainment. The mean age for e-therapy participants (40.62) was older than those who did not participate in e-therapy (32.83). Participants who did not engage in e-therapy had more web-based activities overall.

See Table 1 for a comparison of the characteristics of the qualitative sample and the participants who were not in the qualitative sample.

Table 1

Participant characteristics by whether or not they were in the qualitative study (N=256)

Characteristic	Not Qualitative (*n* = 235)		Qualitative (*n* = 21)	
	M	*SD*	*M*	*SD*
Types of website activities *	3.98	1.53	3.52	1.91
Readiness for Change Score	12.10	1.37	11.57	1.73
Education	12.97	2.57	12.43	2.77
Age	32.83	9.39	40.62	11.33
	n	Column %	*n*	Column %
Types of website activities				
Three or fewer activities	76	36.19	10	47.62
Four to six activities	134	63.81	11	52.38
Readiness for Change Score				
Less than 12.7	139	59.15	15	71.43
12.7 or greater	96	40.85	6	28.57
Gender				
Men	113	47.68	11	52.38
Women	124	52.32	10	47.62
Education				
11th grade or less	45	18.99	5	23.81
GED or High School Graduate	103	43.46	10	47.62
Some college or voc-tech	38	16.03	3	14.29
Associates or higher degree	51	21.52	3	14.29
Age				
18-24	42	17.87	1	4.76
25-34	108	45.96	7	33.33
35-44	51	21.70	5	23.81
45 and older	34	14.47	8	38.10
Co-occurring Disorders status and meds				
Screened as COD	115	50.44	7	33.33
Screened COD with meds	70	30.70	11	52.38
Not COD	43	18.86	3	14.29

* Activities include e-therapy sessions, logins to the website, meetings, chats, blogs, and posts.

URICA Scores

Participants were administered the URICA upon enrollment in the web-based program. Scoring for the instrument groups participants into discrete categories related to readiness for change. Based on the URICA scoring algorithm, the group average for precontemplation is 9.3, contemplation is 11, and participation (action) is 12.6. The mean URICA score for the My Recovery participants who were not involved in e-therapy was 12.10. The mean score for the e-therapy participants was 11.57. Participants engaged in e-therapy were less likely to be at the action stage or higher (28.7%) than those who did not use e-therapy (40.85%).

URICA scores were not associated with the amount and direction of change talk conducted by participants during e-therapy sessions. Nor was the URICA score indicative of a willingness to participate in e-therapy. Statements that endorse the commitment to change were found in all transcripts, with a count range from 1-85 endorsements of toward change. The participant endorsing 1 positive change code had a URICA score of 12.6, the participation/action readiness stage. The single positive change talk code expressed by this participant was regarding the need for treatment, or help with change.

The participant with the highest number of quotes (85) related to movement toward change scored 9.7 on the URICA, placing readiness for change in precontemplation / contemplation category. The largest number of change quotes with this participant reflected taking steps toward change (29 quotes) and commitment to change (20 quotes).

The URICA score was not related to the number of sessions of e-therapy attended. Participants attended from 1-13 sessions, and the readiness for change category was not associated with an increase in utilization of the e-therapy program. Mean number of sessions for participants in the action stage was 3.72. Mean number of sessions for participants in the contemplation stage was 3.67. The single participant scoring as pre-contemplative with the URICA attended 10 e-therapy sessions, and had the highest number of quotes noting a positive direction toward change.

Change Talk

Via the MI-SCOPE manual (Martin et al., n.d.) and additional coding modifications, coding was developed to determine direction of change talk. This provided the ability to ascertain readiness for change based on verbiage within each transcript. For example, commitment talk, identified by Martin et al. (n.d.) reflects a participant's explicit or implicit statements promoting positive change or maintaining the target behavior. Change talk was coded as positive, negative or neutral, forming the directional coding for each change talk category. Positive commitment to change had the highest code count among all change talk codes.

Positive change

Positive change talk described the movement away from substance use and toward sobriety and recovery. It also denoted shifting from active symptomology related to mental illness, and toward the ability to manage symptoms. This included seeking treatment, medication management, and recovery-oriented services. Coding of transcripts toward positive change included the participant's use of commitment language, and taking steps toward change. Motivational interviewing references desire for change,

ability to change, and recognizing the need for assistance in the change process. Expressing the reason for change is another component of accessing readiness for change. These constructs around motivational interviewing were coded as change talk per the MI-SCOPE specifications.

Commitment and taking steps

In the analysis of transcripts, commitment towards change was endorsed more than other change talk codes, with 101 quotes related to commitment. Taking steps toward change was endorsed with 99 quotes related to activities connected to positive change. There was a total of 364 quotes assigned to the MI participant code family in which change talk was directionally positive.

Statements coded as commitment toward change included:

> *"Just using once is not going to happen...I'll keep going, despite if it seems controlled or not."* (P16:129)
>
> "*i am willing to try anything to change into a better me."* (P 4:131)
>
> *"No i am NOT gonna do that i ain't going back there ever!!!!!"* (P19:159)

This type of language reflects the commitment to work toward, or continue the change process related to sobriety.

Taking steps toward change is specifically defined as behavioral aspects of the change process (Martin el al., n.d.). This is characterized by activities of the participant that endorses sobriety and management of mental health symptoms. E-therapy participants described taking steps through a variety of experiences and actions. This included statements such as:

> *"i am going to meetings and dont have time for cravings."* (P 2:5)
>
> *"i stopped smoking, been clean for a week, and ive been working out and lost 12 pounds*"(P 4:205)
>
> *"I took Clonidine 3 times/day as prescribed all last week for anxiety and it helped...I was hardly anxious at all and when I was it was only a 3"* (P 7:)

Commitment and taking steps were described in definitive terms, with absolutes about no substance use, and about managing recovery.

Desire and ability to change

The desire to change is another aspect of motivation for change. Desire for change was directionally coded, with neutral, positive and negative options. Positive desire for change reflects wanting to stop substance use, or wanting to manage symptoms of mental illness. Unlike ability, which specifically denotes the capability to engage in the change behavior, desire statements reflect the first steps toward change, seeing the need for something to change (Martin et al., n.d.).

Desire change talk was found 45 times in transcripts. Ability to change was counted 47 times in transcripts. Four transcripts had no positive desire quotes coded, and 7 transcripts did not have positive ability quotes. This is concerning, as desire and ability are considered precursors to the change process (Moyers et al., 2007).

Desire was expressed by participants in several ways. Quotes coded as desire include:

> *"I just want to be in control of myself"* (P 1:58)
>
> *"i just want to get better"* (P 4:63)
>
> *"i want to do for me and not others to feel their happiness"* (P 4:104)
>
> *"and i want to stop smoking both weed and cigarettes"* (P 4:108)

"i want my mind process to be different" (P 5:135)

Desire was often described using the term "want". This may have reflected the participant's insecurity or lack of self-efficacy in addressing complex issues such as substance use and mental illness. Participants also described a fear of going back to addiction, and desire was interconnected with this fear that their lives would be out of control, or they would experience loss related to their past using lifestyles.

"i do not, do not, wanna go back to where i was" (P21:68)

"I really really don't want my life to get out of control like it was..." (P16:15)

When describing the trade-off related to getting high versus the desire to stay sober, one participant wrote:

"No, certainly the feeling is not worth the negatives." (P16:38)

Ability was described within the context of substance use and mental health issues. The ability to manage cravings, and symptoms was discussed during several sessions. Ability also connoted being able to complete homework assignments requested by the therapist, or to conduct activities related to recovery. Ability was noted in the following quotes:

"i can try to do journaling about negative thoughts and what triggers them" (P 1: 179)

"one day at a time...keep doing what im doing." (P 8:80)

"i know i just got to learn to stay in today instead of thinking about six months from now" (P13:32)

Simply stating ability in terms of what a person has a capability to do may simplify the recovery process. The participants discussed difficulties and complexities related to getting and staying sober, and addressing mental illness coupled with addiction. These quotes frame the complex nature of recovery as related to one's ability to gain sobriety.

> *"i know there will be times when feeling come and they will hurt but i keep telling myself "you can get thru this"* (P15:140)

> *"On one hand, I feel like every addict, fighting for my life as best I can*" (P16: 509)

Expressing need

The positive expression of need for change was related to a recognition that the participant is in need of assistance or to shift a behavior. The definition used in this evaluation deviated from the MI-SCOPE definition to accommodate the descriptions found in the transcripts related to needing assistance, help, and services. This more often occurred in reference to mental health issues. Expanding the definition of this code was useful to the coding process in this evaluation. Positive statements about need were in 48 quotes. There were 8 transcripts with no coding related to need. The highest count of positive need was 12.

The expression of need should be taken within the context of the discussion. For example, one participant discussed that she had difficulty working on the 12-steps related to her recovery. While having difficulty with the process, she recognized the need to complete the requested assignment:

> *"BUT working the steps of course is helping me and I am greatful for it and getting all of this out helps so much"* (P11:189)

Another way in which need was expressed was in relation accessing specific treatment. When discussing a 12-month treatment option, this client expressed the need for the service to fulfill her deep desire for recovery.

> *"I am asking alot from my family to ask them to wait on me but i feel so drawn to this program and i feel like this will be a good step in my recovery that in hopes i can help some one else"* (P15:355)

Reason for Change

Making the argument for change is a central aspect of motivational interviewing (Miller and Rollnick, 2013). The positive coding for reason for change showed ways in which participants made the argument for change. The reason for addressing substance use issues proclaimed in the transcripts varied, but family was a consistent theme. Reason for change was coded 24 times in 8 transcripts. The highest number coded was 8, within the same transcript that had the highest count of code N381 (need).

The reason for change most often given was directly related to relationships and family. Familial ties are important aspect of Appalachian culture, and within the Upper Cumberland region (Denham, 2016; Keith, 1995). A desire to maintain marital relationships, and becoming an effective parent were highlighted within the transcripts. Quotes that formed this reason for change included:

> *"i lose my children, my husband and god's grace"* (P15:132)
>
> *"it just goes away i look at my family i look at things i have today that i know i dont have when im out there"* (*P13:)*
>
> *"Thanku it gets hard sometimes but i just think about my kids n put them before drinking n druging"* (P10:)

When discussing his new wife, one participant noted that:

> *"Yes, she is an intense positive influence, and she will leave if she smells drugs"* (P16:725)

Quotes related to reason for change tended to describe the negative effects of substance use, which became the positive argument for change. This seemed a bit paradoxical, but when reviewing transcripts, it became clear that the negative effects of use were pivotal in shifting from addiction to recovery. There were fewer discussions related to reason for change and mental illness. This may be due, in part, to a differing perspective that mental illness as a disease, and addiction as a moral issue (Room, 2005). Experiences related to the negative effects, and the argument for change were described as:

> *"death from OD. Lose [wife]. Wreck other family relationships. Be taken out of my job at my company.* (P16:455)

> *"i'm sick and tired of being numb"* (P15:137)

A particularly poignant discussion was related to triggers experienced by one participant. She was diabetic, and the syringes used with her medication were similar to those she used when using drugs. Her insight regarding the cause of the cravings, and her keen desire to remain sober were reflected in the conversation with the therapist. She reasoned that the needle used for insulin was for health as opposed to the unhealthy lifestyle of drug use. Her quote described the way in which she reasoned about this potential trigger for relapse.

> *"I told myself that these needles are for my insulin and they are going to make me healthy"* (P 7:454)

Negative change

Negative change talk was characterized within each motivational interviewing code as moving away from recovery, or maintaining substance use behaviors. It also denoted a lack of symptom management related to mental health conditions. Negative change talk was coded based on ability, desire, commitment, need, and taking steps. There were 130 negative change talk quotes coded within the transcripts. More quotes were found regarding the reason for change (Rea372) than other negative change talk categories.

Commitment and taking steps

Participants described continued substance use, and minimizing of the importance of substance use within the context of negative commitment talk. When asked about current drug use, one participant minimized a report of marijuana use:

> *"smoke a lot just a pinch."* (P1:9)

Some statements were matter-of-fact about substance use patterns. This included statements such as:

> *"i use weed"* (P4:6)
>
> *"i used yesterday"* (P4:8)
>
> *"i had some each day until it was gone, i didn't get drunk though"* (P14:132)
>
> *"I still don't stop all the way."* (P16:465)

One quote sums up the difficult prospect of a potential relapse, and the internal conflict experienced by individuals working toward recovery.

> *"I haven't crashed and burned, but it is a slippery slope I know. Last week, it was sort of like I had so much in my head, that my addiction worked on me."* (P16:435)

Negative commitment talk related to mental health issues were also present in the transcripts. Participants discussed feeling hopeless, and the difficulties of maintaining motivation for change.

> *"I feel like it's not even worth trying anymore"* (P11:47)

> *"I get all motivated and then I lose it [therapist name]. I don't even know if I can commit to anything"* (P9:36)

> *"i dont have to many goals because i am always in a negative state, i feel like when i do something positive no one sees it"* (P4:99)

These types of sentiments serve to negate the recovery process, and provide insight regarding the difficulties of maintaining motivation for change. The statements denote a lack of self-efficacy, reflecting an inability to master recovery.

When discussing the need to address specific events in one participant's life, negative commitment talk reflected an inability to commit to therapy. The interaction between the therapist and participant was related to past trauma experiences, and her desire to deal with the incidents. However, the participant was reticent to begin treatment to address the trauma. She was experiencing flashbacks, and afraid to delve further into the issue.

> *"okay well i definitely dont think im ready. i had a flashback last night. never had one over that and it freaked me out"* (P20:28)

Given this type of hesitancy, e-therapy may not be the most appropriate modality to address significant emerging issues such as new memories of childhood trauma.

Taking steps away from recovery, or toward maintenance of behaviors associated with substance abuse occurred 12 times throughout the transcripts. Participants described treatment interventions that seemed to worsen their conditions. They discussed difficulty attending face-to-face self-help support, and actual actions related to relapse. When discussing worsening symptoms, participants used the following descriptions:

> *"i strrated [started] writing and it just made it worse,"* (P4:159)
>
> *"when I talk about it I seem to have one."* (P18:73) (referencing discussing panic attacks with therapist)

Therapy and self-help support meetings in conjunction with My Recovery provided added support for participants dealing with the complexities of addiction and co-occurring mental illness. Attendance at external support services was difficult for some participants. Although coded as negative change talk, attendance at meetings seemed important to participants. Quotes reflected conflict about wanting to participate and being unable to attend meetings such as Alcoholics Anonymous and Narcotics Anonymous.

> *"but i dont know what else to do especially recently i havnt been makin but like two a week if that and thats not good"* (P13:284)
>
> *"only thing is to go to meetings and thats not happenin either"* (P13:384)
>
> *"i dont know why but im scared to go"* (P5:139)

Desire and Ability

Negative change talk related to desire and ability reflected a person's lack of self-efficacy, and continuing substance using behavior. For individuals with mental health issues, lack of desire and ability to change signified feeling inadequate or inability to deal with symptoms, or make positive change. There were 22 quotes related to negative desire

for change, and 37 quotes that signified an inability to begin or maintain recovery. Participants also experienced a lack of desire or ability in multiple life venues. This symbolized the relationship between substance use, mental illness and life capabilities in general.

> *"im to the point i dont want to do anything, i just want to give up,i dont even want to clean up, i try to keep the house clean caues i have vists but its hard to do anything, all i think of is my past, all day everyday.... i just want to let go, but i dont know how."* (P4:73)

Triggers about substance use can happen during the course of a typical day. One participant discussed how a simple shopping trip led to continued thoughts of using, and waning of her ability to maintain sobriety.

> *"ok well for instance fri and sat we were in cookeville finishin up her school shoppin and that old man ive talked about before that use to give me money for my drugs i seen him didnt speak to him but my minds not in a good place right now ever since i seen him and the using dreams wont stop its still every night"* (P13:295)

Other seemingly benign behaviors led to increased desire to use. These events insult past successes, and further affect one's belief in the ability to recover.

> *"its a weird feeling im not sure how to explain it but like ill be outside smoking and ill feel my mind going back into my old thinking pattern like its okay go use just one ull be okay youve been sober this long"* (P13:25)

> *"I'll just see something or be in a situation that reminds me of using."* (P16:178)

> *"was bent over the side of the tub washing my hair and all of sudden the sound of the water made me think of that rush I felt when i was using"* (P19:205)

The simple task of washing one's hair took on an ominous feel, when it triggered thoughts related to using.

As noted by Prochaska, DiClemente and Norcross (1992), motivation for change is not a linear process. Motivation, and recovery, can be affected by many factors, and can shift from day to day. Situations, people, and mental status affect a person's desire and ability to remain sober. One participant expressed a great deal of difficulty with cravings when around his ex-girlfriend due to their drug use history. This was interconnected with their sexual interactions, which further complicated the matter.

> *"have some cravings that have [girlfriend's name has been redacted] in them, involving using and sex. I have a wonderful, full sex life with [current girlfriend], but these thoughts keep coming up. It is kinds of disturbing to me, because [ex-girlfriend] is such a trigger."* (P16:677)

Further in the transcript, the participant continued to express concern.

> *"I can't block normal cravings for crack, and I don't really think I can block this junk either"* (P16:703)

Negative desire and ability certainly raise the risk of relapse, and fighting these emotionally charged concepts. Participants expressed an on-going battle between desire to use, and understanding the ramifications of relapse. There were also multiple attempts to justify the feelings related to desire to use, although they were sometimes balanced by counter-arguments related to consequences.

> **"***it will feel good, then I'll feel bad, then I'll want to use more"* (P16:124)
>
> *"i wish i had some now, but i'm glad i don't"* (P14:135)
>
> *"i have my days were i just want to drink the world away"* (P10:18)
>
> *"the temptation can always be there"* (P7:277)

Participants questioned their ability to deal with substance use disorders, and mental health issues. As they worked towards recovery, self-doubt seeped into the

discussions. Multiple quotes were found eluding to an inability to remain motivated, to maintain sobriety, and deal with symptoms of mental illness.

> *"I dont know what I can actually do to make the depression get better today"* (P7:562)
>
> *"im afraid the time will come that i cant cope with something that will happen cope with life on lifes terms"* (P13:112)
>
> *"i dont know if i am takin care of myself or not i dont know"* (P5:20)
>
> *"i feel like a loser cause i cant stop"* (P4:113)
>
> *"all of the bad things in my life just pop up and say deal with it, so i try to figure out how to make them better, but i cant never fix it so im stuck"* (P4:80)

One quote that reflects the negative effect of past experiences influencing self-efficacy sums up the difficulties related to the change process:

> *"no, i cant change the past but its holding me back from having a better future"* (P4:90)

Need and negative change talk

Negative change talk coded as need was located 17 times in the transcripts. These primarily reflected a dislike of therapy or self-help support meetings. The majority of these statements were made by one participant. This participant characterized his participation in e-therapy, and external self-help support meetings as steps he must take to meet the demands of drug court, rather than to sustain his own recovery. Statements included:

> *"i dont get into all the steps and the whole talking to strangers about my life"* (P6:259)
>
> *"i don't talk in meetings i go keep my head down and get paper signed"* (P6:644)

> *"like my meetings, honestly i hate aa meetings. to me it is a waste of an hour i could be doing something productive"* (P6:22)

In a traditional therapy setting, this type of discrepancy would be addressed via in-depth discussion about his current situation and beliefs about alcohol use. The therapist in the e-therapy sessions tended to shorten these sessions, and did not readily address this implicit resistance from a motivational interviewing perspective. This may have been related several factors, including the therapist's style, or the venue by which the session was conducted.

Reason for change

There were 29 quotes related to negative reason for change. These statements reflected reasons to continue substance use, or to be in high risk situations. One specific discussion between the therapist and participant was related to a high-risk situation. The participant argued for visiting a friend who took prescription pain medications, and reasoned that if her daughter came to the visit, her chance of relapse would be reduced. The participant had several reasons why the situation would not raise her risk of relapse. However, the therapist refuted these claims, and highlighted the discrepancy between her desire to stay sober, and her current behavior. Quotes from this participant denotes the difficult task of building a social network of non-using friends, and discontinuing friendships. Her conflict related to this friendship is seen in this series of quotes.

> *"Because she is a friend and we have a good working relationship. Because shes not an addict...she takes her medicine as prescribed....."* (P7:264)

> *"because she never offers them to me"* (P7:265)

> *"I dont think it is an unsafe place foir me to be..."* (P7:267)
> *"she sure wont understand if i cut off my friendship relationship with her all together"* (P7:288)
>
> *"its not her fault that I'm an addict in recovery and its not her fault her dr prescibed that certain medicine"* (P7:292)

Other quotes denoted cognitive distortions or irrational thoughts about risk and substance use.

> *"use pot to get rid of pain and stimulate an appetite"* (P1:7)
>
> *"i didn't get drunk though"* (P14:133)
>
> *"I don't think it would kill me. I'd have to slide a long, long way. But its certainly possible."* (P16:29)
>
> *"but it gives a person a break or an escape for a while"* (P16:484)
>
> *"Not knowing how to deal with it is what caused me to go out like i did"* (P19:22)

Cognitive distortions are commonly addressed in face-to-face therapy, and can be clearly identified via the e-therapy modality.

Neutral and Other Codes

Each code family included neutral codes related to change talk. Three neutral codes produced only one quote count (taking steps, reason, and need). Quotes that were coded neutral did not argue for or against change, or had no change talk that specifically identified directionality. Fourteen quotes were related to ability, 7 were related to commitment, and 9 quotes were connected to desire for change. Several quotes explored the important issues related to recovery without leaning for or against it. They also reflect the on-going conflict between substance use and sobriety.

> *"I am just afraid its all goin to sneak up on me and i will start having the cravings and all that cuz i have blessed not to have them at all"* (P19:31)

> *"I feel good until I get a pang when no one is looking."* (P16:146)
>
> *"I do that already and it does help some but then sometimes it feels like they cannot be stopped,"* (P18:154)

The MI-SCOPE recommends using a coding scheme that includes a code for "other" (Martin et al., n.d.). This code was used when the participants were not specifically addressing the target behavior, or discussed ancillary issues connected to recovery. There was a total of 551 quotes coded as Other. This code was also directional, denoting neutral, positive and negative statements. Quotes associated with this code addressed myriad ancillary items. These included physical health issues, childhood abuse, employment and job issues, marital and familial concerns, exercise and wellness, and criminal justice involvement.

Additional themes

The topics discussed by the participants were relevant within the context of the therapeutic relationship, even when change talk could not be ascertained. Quotes of information unrelated to or ancillary to change talk, substance use, and mental illness were not part of this program evaluation and analysis. However, during the coding process two distinct areas arose from this category worth further discussion. These included dreams related to substance use, and trauma / abuse experienced.

<u>Disturbing dreams of substance use</u>

Although not specific to actual substance use, this code was connected to the process of recovery, and the struggle for sobriety experienced by participants. Several participants reporting experiencing dreams related to substance use. The dreams included scenarios in which the participant relapsed. This topic became part of the therapeutic

discussion due to the distress the dreams caused, and because some participants experienced them more than once. A memo was used to denote when discussions regarding dreams occurred in the transcripts. The following quotes are examples of the descriptions of dreams provided by participants.

> *"i have had a using dream almost every night nothin to vivid where i dwell on it but i dream about buyin a pill every night im not sure if its the devil tryin to get in but god helps me he makes sure im safe and sound minded when i wake up"* (P13:244)

> *"scared because of the severity of the dreams and im talking in my sleep about using"* (P15:164)

> *"I was convinced I had a pipe in my mouth when I woke up."* (P16:276)

Trauma and abuse

An additional code was developed related to trauma and abuse. While this was not reported in the majority of the transcripts, this issue was particularly difficult for several participants. Statements and experiences expressed by participants described childhood abuse, or other trauma such as domestic violence. These were not specifically captured in the mental health codes. There is a connection between adverse childhood experiences and substance use disorders, as well as adult mental health conditions (Felitti et al., 1998). Reference to trauma and abuse were coded 40 times in the transcripts. Quotes were sometime graphic in nature, and described severe abuse experienced by participants.

> *"i was molested, and raped by most of my moms boyfrieds, and she still wont accept it she always denies it, she was mentaly abusive to all her children…"* (P4:42)

> *"I know i need do somehow deal with the feelings of the rape. That would be the main thing. I hardly ever have the nightmares anymore, only every once in a while, but it crosses my mind a lot"* (P19:16)

> *"well i am very insecure about myself. always have been just didnt know why and it took me along time before i even had sex with any body i was so ashamed and didnt understand at the time"* (P19:88)

> *"as a kid I was abused and mistreated in the hospital, mouth taped shut beaten, sexually abused"* (P1:28,31,32,34)

While not specific to change talk, the trauma experiences of participants warrant attention, and further research.

Substance Use and Mental Health Codes

Codes to identify substance use disorders and mental health conditions were constructed to assess participants' understanding and experiences related to these constructs. Discussions about mental health issues outweighed substance use discussions, emphasizing the importance of an integrated treatment approach. Substance use codes were counted 139 times. The codes identifying the behavioral aspects of use, effects of use, marijuana use, and narcotics use were most prevalent. Codes connected to mental health were cited 1,032 times. The codes noting the negative effects of anxiety, depression, general mental health status, and treatment-related phrases were found more often than other mental health codes.

Substance use codes

These codes provide insight regarding types of substances participants reported using, and experiences related to use.

<u>Effects and behaviors</u>

The following quotes express effects of substance use.

> *"the drug addiction lost my job"* (P9:12)

> *"I think I have more of the shakes today, like my hand shaking."* (P16:197)

> *"my pharmacy gave me the same kind of needles I used to use when I shot up"* (P7:448)

Behavioral aspects of substance use were connected to shame, guilt and disappointment. This was evident when one participant discussed blackouts during a relapse. During the relapse, she participated in one of the on-line chat groups with My Recovery. Her discussion with the e-therapist related concern about her behavior during that blackout.

> *"I WOULD never break a promise had it not been in that condition"* (P11:181)

> *"it is totally not fun to remember what you did in a blackout..ha"* (P11:164)

> *"I know when I had the blackout my sexual orentiation was brought up....and I don't ever want anything I say in that matter to be misunderstood.....and if it makes sense"* (P11:154)

Re-engaging in therapy is important after relapse. However, this sequence highlighted the difficulties faced upon returning to treatment. A welcoming treatment environment (Minkoff, 2001; U.S.D.H.H.S., 2005) is imperative to combating the resultant shame and guilt associated with relapse.

Transitions to and from sobriety

Two codes defined transitioning to sobriety, and transitioning to use. Content related to these codes signified change talk, to some degree. However, the quotes were coded with one of the transition codes when change talk was not clearly in the present tense, or when discussions about recovery were more prominent. There were instances in which parallel coding occurred, with change talk and transition phrases. Transitioning to

sobriety is a lifelong process, and measuring success is important to maintaining this lifestyle.

> *"you know i am proud of myself for i have gone almost 60 days without any drugs and i want to continue to stay clean no matter how anyone makes me feel"* (P15:380)

Internal and external conflict around sobriety, and recovery was seen throughout the transcripts. This quote highlighted the complex nature of co-occurring disorders.

> *"suffered from depression most of my life. recovering alcoholic, no alcohol since April 2013. Drug of choice is pot. I think it is the best pain medication in the world"* (P1:2)

Mental health codes

Mental health is described in many ways. Diagnoses provide a common language to ascribe symptomology and behaviors. Specific diagnoses were discussed minimally throughout the transcripts. Typically, these discussions were prompted by a question from the therapist regarding prior diagnoses. More often, participants described behavioral aspects of mental illness, and used terminology related to feelings, and emotions rather than actual diagnostic categories. This is consistent with the cultural language around mental illness in which issues are framed with behavioral terms like "a case of nerves" (Keefe & Curtain, 2012; Van Schaik, 1988). Four diagnoses were identified: schizophrenia, post-traumatic stress disorder, bipolar disorder, and depressive disorder. Otherwise, mental health codes were descriptive in nature.

In understanding the experiences of participants related to mental health, it was more useful to code symptoms and behaviors. These codes were directional in nature, noting neutral, negative and positive quotes. Negative aspects of general mental health conditions (quotes not specifically describing other conditions), anxiety, and depression

were found more often than other codes. Participants also reported positive aspects of anxiety and depression, noting improvement in symptoms.

Men reported more negative anxiety related symptoms (21 quotes) than other mental health issues. Women reported anxiety symptoms (56 quotes) and depression symptoms (59 quotes) almost equally.

General mental health codes

Descriptions of mental health issues held positive and negative connotations. Throughout the evaluation, it was evident that mental health issues dominated sessions, and influenced substance use recovery efforts. Emotional aspects of recovery are interwoven with expressions of self-efficacy, exposing the need to treat both conditions as primary (Minkoff, 2001). Quotes defining this struggle included:

> *"feel like I am striving to meet everyone elses emotional needs while mine are neglected"* (P1:75)
>
> *"i am intelligent and know better than most of my negative thoughts but they still win"* (P1:186)
>
> *"no but i try everyday to change it, cause it keeps coming to my brain, how do i stop thinking of those things"* (P4:87)
>
> *"im mentally exsaused i cant take it im worried about everything my daughter s husband an i got into it too"* (P5:77)
>
> *"I was having psychotic symptoms and thought I was going insane in the true sense of the word and didn't want to live if it was gonna have to be like that"* (P7:635)

Quotes within this coding scheme reflected views and perspectives of self-efficacy, with many quotes offering negative portrayals of self-efficacy.

> "*It makes me feel useless and totally disregarded"* (P9:10)

> *"no dont have time but i dont think i will ever be happy"* (13:133)
>
> *"i guess reality hit, when i got home all the guilt and shame came back"* (P21:4)

Further exploration of self-efficacy was reflected in discussions of trust. One participant discussed trust at length during one session.

> *"I guess you could say I have major trust issues"* (P1:49)
>
> *"i have no friends"* (P1:114)
>
> *"i trust no one"* (P1:115)

She characterized herself as being maladjusted and having severe depression. This participant continued to discuss her self-image with the following statements:

> *"stupid, you know better. you can do better than that. why you have to be so stupid? why would you think anyone cares?"* (P1:151)

Based on transcript coding for positive general mental health, benefits were derived from the recovery process. From a co-occurring perspective, management of mental health symptoms facilitates recovery from addition. Participants experienced positive mental health, evidenced in the following quotes:

> *"im getting back to my old self again"* (P10:14)
>
> *"I dont know it just stopped...I quit worrying about everything I didnt let everything bother me...dont know how it happened tho"* (P7:27)
>
> *"i am doing awesome im in a good mood today"* (P13:441

The mental health statements reflected the transient nature of the emotional state of participants. Some days were better than others. Recovery was a fluid process, and the mental state of the participant changed as they sought sobriety and a healthy mental status.

Descriptions of anxiety, and depression

The two primary mental health issues discussed by participants were depression, anxiety and post-traumatic stress disorder. Participants experienced anxiety and depression in a variety of ways. However, there were common themes regarding their experiences. Panic attacks were described by several participants. Racing thoughts, or excessive worry also plagued participants. Stress was triggered by life circumstances such as finding employment, or locating housing. There was also a sense that the onset of anxiety was surprising, with no real explanation.

"well the anxiety just popped up out of no where yesterday" (P20:36)

"sometimes they come on with little or no warning." (P18:161)

"a lot of times tho I dont even know why I have it" (P7:76)

Participants reported days in which they did not experience anxiety. One participant reported feeling anxiety in one session, and having low anxiety in another session. She also discussed stopping medication for anxiety and continuing to have low anxiety.

"n fact I have stopped taking my anxiety med in the morning it's been about 3 days so far" (P7:439)

"anxiety has been pretty low" (P7:590)

Several participants described depressive symptoms. This was often characterized as sadness, uncontrollable or excessive crying, and isolation. These experiences were described by participants in varying degrees, and during the course of multiple sessions. One participant described depression as hindering her ability to live, and feeling like a prisoner.

> *"i just wonder when am i gin to start livin my depression keeps me prisoner i feel"* (P5:62)

This participant also questioned her purpose, and expressed helplessness and isolation throughout several e-therapy sessions.

> *"like what is my purpose on this earth for"* (P5:49)
>
> *"im not i feel like im in a bubble and im about to burst"* (P5:9)
>
> *"i hav lots goin on in my head but i also feel empty"* (P5:125)
>
> *"i feel lost today"* (P5:182)

Neither mental health issue was connected or attributed to stopping substance use, nor were the symptoms discussed as part of the participant's recovery from addiction. There was discussion about the use of medication for anxiety and depression. Specific to anxiety, participants discussed the use of benzodiazepine medications and their concerns about the addictive nature of these medications. Sometimes this subject was broached by the therapist, and at other times, the participant expressed concern. Generally, the discussions were related to reducing the use of the medication, or requesting that the physician take the participant off of the medication.

Cultural Implications

The Appalachian culture is underpinned with evangelical Christianity (Keefe & Curtain, 2012). This belief system directly opposes the behavioral aspects of substance use. It has been a perplexing dichotomy for researchers and historians studying the region and its people (Keefe & Curtain, 2012, MacMasters, 2013).

During the course of coding transcripts numerous references to Christianity were found. Quotes related to trust in God, spirituality, the use of prayer, and referencing of biblical lessons were found throughout the transcripts. While drug and alcohol use is not

acceptable in the evangelical Christian doctrine, relying on faith was evident in the transcripts, as seen the following quotes:

> *"prayed about how i was feeling and God just started puttin ppl in my life to change those feelings and thought"* (P13:446)
>
> *"i am spiritually lead and feel this is god answer to my prayers*" (P15:360)
>
> *"GOD is def the key with out him in my life i wouldnt be sober today"* (P13:239)
>
> *"always known it but never cared now i do cuz i want to go heaven"* (P13:75)
>
> *"im worried to but all i can do is pray and trust in god"* (P13:345)
>
> *"but the Bible says Be anxious for nothing..."* (P7:84)
>
> *"I learned a great deal of being a godly woman"* (P15:398)
>
> *"Its good god keeps away from those bad thoughts"* (P13:481)
>
> *"I will by the grace of god. I have been thru worst and better is ahead!"* (P8:103)
>
> *"I'm doing good been in my bible this morning and i DO get on my knees every morning and night"* (P13:11)

It was apparent that participants obtained some solace from the struggles of substance use and mental disorders through religious outlets. Their reliance on faith to heal, and trust that God would take care of things reflected the cultural underpinning of the region (Keefe & Curtain, 2012). From a clinical perspective, it is vital to understand the cultural underpinning of any group seeking treatment and recovery services.

CHAPTER FIVE: DISCUSSION

Recovery is a complex process. It involves the depth and breadth of a person's live, and lifestyle. This qualitative inquiry provided a window into the struggles experienced by people seeking recovery from addiction, and attempting to reconcile their mental health as part of their recovery. The research question that framed this evaluation was: *How is motivation for change described and experienced among people who are in recovery from addiction and co-occurring disorders when using a web-based intervention?* The answer to this question is as complex as the notion of a recovery lifestyle.

Major Findings

It cannot be stated strongly enough that the participants involved in this program were fighting for their lives. Sometimes this was a very real fight, with feeling so of hopelessness and uselessness that lead to suicidal thoughts. More often, the fight came in the form of dealing with triggers that hit out of the blue, managing thoughts that led down dark paths, and rebuilding trust in themselves and with their loved ones. Their experiences with recovery were cloudy, unpredictable, and painful.

Recovery was not experienced as a singular event, but part of every aspect of each day, woven into their lives, and defined who they were. This definition was in contrast to their identities when actively using drugs and alcohol, and how they define themselves in relation to their mental health. The core conflict within each participant seemed to be in reconciling their past, and living through the shame and guilt associated with addiction and mental illness.

In coding and analyzing transcripts from the e-therapy sessions, change talk was readily recognized. Motivation for change was evident in the discussions between therapist and participant. Descriptions were sufficiently detailed to ascribe motivation for change directionally, and understand the back and forth nature of the state of motivation experienced by participants. Commitment and taking steps were described in definitive terms, with absolutes about not using substances, and ways to manage recovery. Positive commitment to change had the highest code count among all change talk codes. This reflected the overarching recovery orientation of participants, regardless of the difficulties they experienced.

Participants described the desire to change, and wanted to fulfill their goal of recovery. Desire was often described using the term “want”. This is positive commitment language, but also had connotations of uncertainty about ability to successfully master recovery. This terminology seemed to reflected insecurity or lack of self-efficacy in addressing complex issues such as substance use and mental illness. Fear of relapsing and returning to the lifestyle associated with using was a theme within the desire coding schema. Fear was described in reference to their lives being out of control, or in experiencing loss related to their past using lifestyles.

Participants often used negative arguments to help them stay sober, rather than strength-based views of the recovery process. For example, quotes related to reason for change described the negative effects of substance use, which became the positive argument for change.

The ability to recover was often questioned by participants, reflecting the intense, overwhelming struggle indicative of the process. The way in which participants

experienced and described motivation for change included a waxing and waning of motivation, self-doubt that re-emerged on other days as certainty about their abilities, days in which depression loomed, and times that were colored with happiness. Overall, there was an undercurrent of struggle, a weight that was never completely lifted, as though the battle was never really won.

Participant descriptions of self-efficacy provided a window into deep-seated, well-rooted personal views of themselves and the world around them. For many of the participants, their belief in their ability to stop using substances was watered down by past traumas, multiple relapses, and discord with their families and communities. Participants did not induce self-praise, and rarely acknowledged successes. Mental illness seemed to exacerbate these feelings, and further insult self-efficacy.

Concepts related to self-determination and self-perception were prevalent within the transcripts. In the Appalachian region, self-determination underpins the assumptions that outside help is unneeded and independence is a strong suit (Ambrose & Hicks, 2006; Jones, 1994). There was some dissonance between the need for help and the desire to tackle the issues on their own. The nature of e-therapy as a modality lends to autonomy and provides some control over the environment, session content, and timing of sessions. This may support self-determination and self-perception as part of motivation for change.

As part of the constructs of self-perception, Bem (1975) noted that weak or unclear internal cues supported a lack of insight. Several participants made comments that supported poor insight, especially regarding substance use and its connection to risky behaviors. Clinically, motivational interviewing provides a means by which poor insight can be challenged, and the dissonance between internal desires and external behaviors

highlighted. This type of interaction between therapist and participant was seen in the transcripts, and is an important aspect of increasing motivation for change.

The participants discussed difficulties and complexities related to recovery from the perspective of mental illness and addiction. Their motivation to be sober, and to overcome this burden was woven throughout their discussions. However, was evident that mental health issues dominated sessions, and influenced substance use recovery efforts.

Participants did not overtly state interconnections between their substance use behaviors and their mental health conditions. It was not clear that participants connected addiction to mental illness, or understood the interactive nature of co-occurring disorders. They spoke very distinctly and separately about these issues. However, they readily acknowledged mental health issues, and described these issues in detail. Typically, anxiety and depression were described as part of their daily struggle, and sometimes these occurred together.

For many of the participants, multiple addictions and mental illnesses were very real aspects of their lives. Dealing with multiple behavioral health issues certainly influenced motivation for change. They described feeling anxious, depressed, detached, and thinking about using all in the same day, sometimes at the same time. The prospect of having so many negative issues to deal with at one time certainly supported the descriptions of being overwhelmed and helpless.

Completing seemingly mundane tasks such as washing hair, or going to the store, triggered intense feelings related to substance use. Dreams became entangled with haunting memories of past use, and hung over the participants for days after their dreams

occurred. This further exacerbated the recovery process, and complicated the desire to remain sober.

Religious connotations were found in multiple transcripts. This reflected the cultural norms of the region, and a need to latch onto something more powerful than themselves in their struggle for sobriety. Given the difficulties faced by the participants, calling spiritual support was a natural response.

The scores related to the change assessment (URICA) were not attributable to engagement in e-therapy. The change assessment conducted a baseline provided a starting point for the therapist and participant, and should be used to guide the therapeutic process. However, the stage of change noted in the assessment did not have a bearing on the use of e-therapy, or the amount of positive change talk in which participants engaged.

Informing Clinical Practice

The inability to identify a relationship between the URICA scores and participation in therapeutic activities informs clinical practice. While standardized measures assist clinicians in many ways, using instruments such as the URICA should be conducted within the context of a comprehensive clinical setting. Solely using the URICA, or other assessment to formulate an interpretation about a person's ability, capacity, or motivation to change can diminish opportunities to engage people in treatment. As noted in this evaluation, the stage of change identified by scoring an instrument may not be the true indication of a person's ability, or desire to enter and benefit from therapy.

The clinician is responsible as a partner in the therapeutic process, and in that role, holds some responsibility for the process of motivation for change. This evaluation

highlights the importance of being extremely attuned to subtle and overt change talk. In e-therapy settings, this includes soliciting change talk in a more overt manner, and carefully clarifying the text written by participants. In face-to-face sessions, reflective listening and clarifying questions are common practice, and can further deepen the process of eliciting change talk. Identifying change talk in this setting requires particular attunement to phrasing and actual verbiage. The process may seem artificial or cumbersome, thus authenticity in responses becomes even more important to the therapeutic process.

To fully realize the possibilities of an integrated practice for co-occurring disorders, clinicians must take a lead in connecting substance use disorders and mental illness. This includes assisting participants with understanding that recovery is dually focused. Risks related to relapse must attune to mental status as well as substance use disorders. Treatment planning should be integrated, building a service delivery process that interweaves the issues, symptoms and behaviors of substance use disorders and mental illnesses. This was not evident from the clinician or participant perspective in this evaluation.

From the programmatic perspective, the evaluation provided an opportunity for clinical staff to develop an understanding of the depth of struggle faced by people in recovery. This informs the establishment of programming that truly attunes to how these struggles influence daily life, and the ability to establish a sense of normalcy.

Limitations

This program evaluation was a retrospective review of transcripts. The study sample was limited to individuals who participated in the e-therapy sessions, and this was a finite sample. Eighty-eight transcripts from 21 participants contained enough information to begin to realize the complexity of the processes of recovery. Traditionally, ethnographers believe that information from 30 to 40 participants may be necessary to achieve saturation. Although the transcripts provided the researcher with a robust set of data by which to formulate the evaluation, the lack of face-to-face interviews may have precluded potentially important context and information. Follow-up and clarifying questions could not be addressed, and this may have led to misinterpretation of some quotes.

As with all qualitative analyses, interpretation of data is subjective, and reflexivity must be addressed. This was addressed during each phase of the evaluation; however, self-assessment has limits and bias is part of any human interaction. The bias brought by this researcher included a keen dedication to the work of recovery, and affinity for working with people in rural communities.

Areas for Future Research

This evaluation led to additional questions and opportunities for research. The evaluation did not include post-intervention substance use information. The research design was not intended to address program efficacy. Recommendations for future research in e-therapy and the use of motivational interviewing for complex conditions includes the ability to ascertain program efficacy over time. Understanding participant views of the e-therapy process is another area for further research, and the relationship

between satisfaction with the intervention modality and maintaining motivation for change.

E-therapy is a relatively new treatment modality. Future research should delve into the characteristics of people who are best suited for this treatment modality, and who may not be well-suited for web-based treatments. This evaluation did not address the therapist / participant relationship and how the therapist helps or hinders motivation for change in an e-therapy setting. An evaluation of that interrelationship will provide valuable insight into the change process.

There is still so much to learn about the recovery process, and why some people can sustain long-term recovery and others cannot achieve that goal. Co-occurring substance use disorders and mental illness further complicate recovery. Research on how successful recovery is attained, and how treatment providers can best facilitate this process are worth additional inquiry.

Conclusion

Motivation for change is a well-developed construct important to the process of recovery. However, motivation is not a constant state, nor does it necessarily grow over time. There are many internal and external factors related to motivation. These same factors can hinder or help the recovery process. Self-efficacy, for example, can turn the tide toward or away from motivation, and can affect an individual's sobriety.

Recovery is more complicated than simply maintaining motivation to change. Substance use and mental illness are woven into the fabric of the individual's life, and unraveling these issues often requires the unraveling of family, friends, and the only lifestyle they knew. In this unraveling, replacing the negative aspects of one's life with

positive, recovery-centered supports is not an easy task. It takes more than self-help support meetings, therapy, and a spiritual awakening. It requires a reconstruction of the meaning of the person's life, their core sense of self, and a robust build-up of self-efficacy. Spiritual guidance, networks of positive family and friends, and recovery support services such as My Recovery can certainly facilitate this process. Ultimately, the process is internal, harder than most can imagine, and requires constant vigilance. As seen in the descriptive experiences of the participants in this study, freedom from addiction comes with the challenges of recovery.

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APPENDICES

APPENDIX A: CODE FAMILY, CODE NAMES AND DEFINITIONS

Code Description	Abbreviation	Family Code / Neutral	Positive -for change	Negative-against change	Both
MI SCOPE Codes - Therapist					
Advise	Adv	1			
Affirm	Aff	2			
Confront	Con	3			
Direct	Dir	4			
Emphasize control	Econ	5			
Feedback	FB	7			
Filler	Fill	8			
Inform	In	9			
Self-Disclosure	Sdis	10			
General Information	GI	11			
Permission Seeking	Perm	12			
Closed Question	CQ	13	14	15	
Open Question	OQ	16	17	18	
Opinion	Op	19			
Raise Concern	RC	20			
Simple Reflection	SR	24	21	22	23
Complex Reflection	CR	28	25	26	27
Support	Sup	29			
Structure	Str	30			
Warn	Warn	31			
MI SCOPE Codes - Participant					
Ask	Ask	32			
Follow / Neutral	FN	33			
Commitment	C	34	341	342	

Desire	D	35	351	352	
Ability	A	36	361	362	
Reason	R	37	371	372	
Need	N	38	381	382	
Taking Steps	TS	39	391	392	
Other	O	40	401	402	
HRAF CODES	**Family**	**Subcode**	**Subcode Description**		
Drink, Drugs, Indulgences	27	**273**	**Alcoholic Beverage**		
		273a1	Transition to addiction		
		273a2	Transition to sobriety		
		273b	Behavioral aspects		
		273c	Initiation to alcohol		
		276	**Narcotics and Stimulants**		
		276a	Effects /Actions		
		276a1	Transition to addiction		
		276a1a	Transition to sobriety		
		276a2	Change transtiion-between drugs		
		276a2o	Overdose		
		276a3	Initiation to illegal drugs		
		276b	Preparation /Quantity		
		276b1	Cocaine		
		276b2	Heroin		

		276b3	Speedball		
		276b4	Amphetamines		
		276b5	Crack		
		276b6	Marijuana		
		276b7	All other		
		277	Tobacco		
		neutral	positive	negative	
Magical and Mental Therapy	755				
	mental health treatment	755t	755t1	755t2	
Added after 1st coding	mental health symptom depression - no dx noted	755d	755d1	755d2	
Added after 1st coding	mental health symptom anxiety/ stress /nerves /racing thoughts - no dx noted	755a	755a1	755a2	
	other general mental health concerns	755g	755g1	755g2	
	suicidal thoughts, expressions related to life, living /worthlessness	755s	755s1	755s2	
	Trauma and abuse				
DSM Codes	**Diagnoses /Description**	**Code**	Used when specific DX is mentioned		
	Panic D/O	300.01			
	Generalized Anxiety	300.02			
	Phobia	300.29			

	Bipolar	296.50			
	Major Depression	296.30			
	Unspeicified Depressive D/O	311.00			
	PTSD	309.81			
	Schizophrenia	295.00			

APPENDIX B: INSTITUTIONAL REVIEW BOARD NOTICE

IRB
INSTITUTIONAL REVIEW BOARD
Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129

MIDDLE TENNESSEE STATE UNIVERSITY

IRBN001 - EXPEDITED PROTOCOL APPROVAL NOTICE

Wednesday, October 05, 2016

Investigator(s): Vickie Harden; Norman Weatherby
Investigator(s') Email(s): *norman.weatherby@mtsu.edu*
Department: Health and Human Performance

Study Title: Web-based E-therapy and Motivation for Change among Rural Appalachians with Substance Abuse and Co-occurring Disorders
Protocol ID: **17-2020**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXPEDITED** mechanism under 45 CFR 46.110 and 21 CFR 56.110 within the category *(7) Research on individual or group characteristics or behavior* A summary of the IRB action and other particulars in regard to this protocol application is tabulated as shown below:

IRB Action	APPROVED for one year from the date of this notification	
Date of expiration	10/31/2017	
Participant Size	22	
Participant Pool	**Adult clients who particpated under the SAMSHA grant**	
Exceptions		
Restrictions	Only review of records from adult particpants who gave informed consent as part of the SAMHSA grant	
Comments		
Amendments	**Date**	**Post-approval Amendments**

This protocol can be continued for up to THREE years (10/31/2019) by obtaining a continuation approval prior to 10/31/2017. Refer to the following schedule to plan your annual project reports and be aware that you may not receive a separate reminder to complete your continuing reviews. Failure in obtaining an approval for continuation will automatically result in cancellation of this protocol. Moreover, the completion of this study MUST be notified to the Office of Compliance by filing a final report in order to close-out the protocol.

Continuing Review Schedule:

Reporting Period	Requisition Deadline	IRB Comments
First year report	10/31/2017	
Second year report	10/31/2018	
Final report	10/31/2019	

has contact with participants. Anyone meeting this definition needs to be listed on the protocol and needs to complete the required training. **If you add researchers to an approved project, please forward an updated list of researchers to the Office of Compliance before they begin to work on the project.**

All research materials must be retained by the PI or faculty advisor (if the PI is a student) for at least three (3) years after study completion and then destroyed in a manner that maintains confidentiality and anonymity.

Sincerely,

Kellie Hilker
Compliance Officer/ MTSU Institutional Review Board Member

APPENDIX C: INFORMED CONSENT

VOLUNTEER BEHAVIORAL HEALTH CARE

INFORMED CONSENT TO PARTICIPATE IN PROGRAM ACTIVITIES AND EVALUATION

Your permission is being sought for you to take part in a Program Evaluation activity as part of the My Recovery.vbhcs.org web-based treatment and recovery program.

Taking part in this program evaluation is totally up to you. The de-identified GPRA, URICA, screening, and web-site session data and information collected from you will be part of a larger data base that will include information collected from other individuals involved in these services. This information will help us to describe treatments and services that you receive and will make it possible to examine which services worked best. The information will be kept private as required by law. If you have any questions about the information collection activity, please contact you clinician or staff person at the center.

Purpose of Information Being Collected:

1) Examples of how this information will be used:
   Evaluate the effectiveness of web-based programs, evaluate the client-therapist relationship and use of evidence-based practices in web-based services, look at differences in web-based vs office-based outcomes, review the screening and determine who best benefits from this type of program.

2) Describe the type of individuals being served:
   Individuals in this program are adults who have diagnosed substance use disorders or co-occurring disorders and have been involved in the residential treatment program with VBHCS (New Leaf). All participation is voluntary.

3) Describe the types of services people receive:
   Services include screening, assessment, access to the website, blogs, chat rooms, recovery-oriented groups and individual e-therapy.

4) Determine which type of individuals receive which type of service:
   All participants have access to all services provided via MyRecovery.vbhcs.org.

5) Determine the degree to which people improve during services:
   The program evaluation will assist in determining the degree to which improvement is made related to substance use and co-occurring disorders. The service will be

offered to individuals who are screened as appropriate for the web-site. This includes having access to a computer and internet connection.

What is involved in collecting this information?

Data collection includes the use of SAMHSA required instruments (GPRA) as well as a measure of stage of change (URICA), the screening and data collected through the website. The assessment instruments are conducted as part of face-to-face or telephone interviews with participants. The GPRA is conducted at the beginning, at 6-months and discharge. The URICA is conducted at the beginning and at discharge.

You can tell us to stop collecting information at any time. Information will be collected by clinicians or qualified staff members. You and the staff person will decide whether or not certain parts of the questions can be answered by you.

What are the Risks of being involved in this activity?

The primary risk is the uneasiness you may feel when talking about personal and sensitive things. Center personnel are aware of this and will act in ways to help reduce the uneasiness. Some of the questions asked may make you feel uncomfortable. You don't have to answer any of the questions asked and you may take a break at any time during the time we are collecting information. You may also stop being involved at any time.

The website has controls in place to help address risk, as well. This includes key word flags in the event a participant is at risk of self-harm. A facilitator will contact the participant when this occurs, and the agency's crisis team will assist in cases of high risk, such as possible suicidal feelings or actions.

What are the benefits to taking part in this information activity?

Individuals who are part of information collecting activities may benefit by receiving better services than they would experience in other situations. Also, all who are part of this activity may help others understand their problems and how to treat them.

Will my information be kept private?

Medical records that identify you will be kept private as required by law. Federal Privacy Regulations provide safeguard for privacy and security. You will not be identified by:

- Name
- Social Security Number,
- Address,

- Telephone Number, or
- any other direct personal identifier.

You could be assigned a unique code number that will identify your information & keep it private.

Information collected may be presented at scientific meetings or published in a scientific journal. This information will be presented without any link to your personal identity.

What are my rights to not take parting this activity or to withdraw from the information collection process?

You may choose not to be a part of an information collection process, or, if you agree to have your information collected, you may withdraw from this activity at any time. If you withdraw from the activity, no new information about you will be collected. You can also tell us not to use the information we already have collected, but you must do this in writing. We ask that you please contact your clinician or other center personnel if, at any time, you decide not to be part of the activity.

PERMISSION/Understanding:

I understand that:

- At any time, I am free to cease participating in the research project without any explanation and that the method involved will not cause any physical harm or pain.
- This/my information is private and confidential, and I will not be identifiable in any way.
- My privacy will be protected according to the policies of Volunteer Behavioral Health Care and the State of Tennessee's laws.
- My participation will have no effect on treatment or other services available to me at Volunteer Behavioral Health Care.

I hereby give permission for my participation in the above described research effort being carried out by Volunteer Behavioral Health Care:

Name

_____

Signature Date

Staff Signature Date