A Dissertation

titled

Validation of the Mental Health Recovery Measure as a Clinical Assessment

by

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Submitted to the Graduate Faculty as partial fulfillment of the requirements for the Doctor of Philosophy Degree in Psychology

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An Abstract of
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The Mental Health Recovery Measure (MHRM) is a self-report measure designed to comprehensively assess the construct of mental health recovery from the perspective of the individual living with serious mental illness. The MHRM provides scores in several recovery subdomains, as well as a total recovery score that can assess the overall level of recovery an individual is experiencing. To date, the MHRM has only been used as a program evaluation tool to assess recovery before and after participating in treatment programs designed to promote the recovery process, such as the Wellness Management and Recovery (WMR) program. It has also been used as an outcome measure for other recovery-focused programs (Walston, 2011). The purpose of the current study was to develop the MHRM into a measure that can be used as a clinical assessment, treatment planning, and individual clinical evaluation tool and, as such, help establish the MHRM as an integral part of the evidence based practices for individuals with serious mental illness. The current study examined the MHRM as a clinical tool to be used for individual interpretation and treatment planning, established normative data with ranges of scores and preliminary cut points that can be used to indicate where recovery begins for an individual relative to their peers or to a non-clinical population.
The final phase of the current project included the creation of programming to utilize the results of the analysis of the MHRM into a practical clinical tool for use by professionals and para-professional. Results indicated that individuals participating in the WMR program score significantly differently than university students or individuals in the community. The MHRM demonstrated good reliability and validity with the WMR population. The established cut points are a starting point to generate feedback and discussion with a client about where they are in their recovery process. The scoring and interpretation program is a workable prototype and can now be used in other studies to examine the utility and meaning of the interpretive narrative summaries.
For my family, I would never have been able to even contemplate graduate school without your love, support, and pushing to always excel and get the most out of life. I thank you for the times when I needed the extra boost and you were there to help me get through. I also offer heartfelt appreciation for the amazing example set by my mother and father; both as parents, but also as strong, goal-oriented professionals who were never afraid to go after what was important to them. I would not be the same person without you both.

For my husband, Jeremy, I offer the most genuine appreciation for everything you have done and been for me. Your continued support the entire time I worked through graduate school; putting your own career on hold; being a stay-at-home-dad during my residency; helping me create an amazing dissertation project...what else can I say but thank you and I love you very much, and cannot wait until I can reciprocate for you. You are awesome and I am lucky to have found you.
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The completion of this dissertation would have never been possible without the guidance from my committee members, support from my advisor and internship preceptor, and love and support from my family and husband. It has been a long journey and I could not have gotten this far without the assistance of many individuals. For that, I would like to express my deepest appreciation to all of them.

For my committee members, thank you for offering your sage words of wisdom and challenging me to thoughtfully create a project that is of great worth to my area of research. Your efforts to help me academically, professionally, and personally will not be forgotten and your examples have served as guidelines for my professional career.

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Preface

“Recovery is what people with disabilities do” (Anthony, 1993). Individuals can suffer great physical illnesses or accidents and still recover. Though the individual in the car accident lost his legs, he can still be said to be recovered. Another person may experience a life-long battle with diabetes, but may be in recovery from the first time their symptoms caused them significant distress. Recovering from physical illness or disability does not mean all symptoms are gone, or that all suffering has disappeared. Why should mental illness be any different?

Serious mental illness (SMI) is a psychiatric disability, and is multi-dimensional, causing problems with educational, vocational, residential, and social needs and wants (Anthony, 1993). SMI can cause an individual to have serious functional limitations and disabilities. Similar to a physical illness, recovery from SMI involves much more than just recovering from the specific mental illness itself.

“Recovery” has become a buzz word in the public mental health field. Although the idea of recovery has been described since the early 1900’s (Beers, 1907) or even earlier with the Moral Treatment Movement in England and France (Rees, Lipsedge, & Ball, 1997), the idea and concept of recovery was re-introduced in the 1980’s, when individuals with psychiatric disabilities began publishing their accounts of their mental illness and their struggles to maintain wellness (The Evaluation Center, 2005). In the
most basic terms, mental health recovery is the process by which a person with mental illness can live a fulfilling and meaningful life (Deegan, 1996). As Deegan (1996) stated, “The concept of recovery is rooted in the simple yet profound realization that people who have been diagnosed with mental illness are human beings,” which is actually not a new concept (Davidson, Rakfeldt, & Strauss, 2010).

The model used within the public mental health system to conceptualize and treat serious mental illness has been affected by the concept of recovery, as our model changed from being prescriptive to more consumer empowerment and recovery focused (Hupp, 2011; Fisher, 1997). Prescriptive models focus on a healthcare provider determining the best treatment for a problem that is afflicting an individual, while the newest mental health treatments and modalities focus on promoting collaboration between provider and consumer, and recognizing that the consumer has an important voice in their treatment, as well. Treatment also centers on wellness, rather than illness, and examining the consumer’s life as a whole in the recovery process, rather than focusing on their specific diagnosis or simply managing the symptoms of their illness.

Programs have been established to focus on promoting recovery and helping individuals on their recovery journeys, and many measures have been developed to assess these programs for their efficacy and usefulness. The Wellness Management and Recovery (WMR) program is a program that is designed to promote communication, social support, wellness, and self-empowerment (Wellness Management and Recovery, 2011). WMR is designed to promote mental health recovery among individuals experiencing serious
mental illness in either nontraditional community settings or traditional inpatient or outpatient settings.

The Mental Health Recovery Measure (MHRM, Young & Bullock, 2003) is a self-report measure created to assess individual recovery. It was designed to comprehensively measure the construct of mental health recovery from the perspective of the person living with serious mental illness. The MHRM provides scores in several recovery subdomains, as well as a total recovery score that can assess the overall level of recovery an individual is experiencing. The MHRM was developed from a specific conceptual model of the mental health recovery process (Young & Ensing, 1999) that was grounded in the lived experience of recovery for persons with psychiatric disabilities; however, the MHRM was initially developed as a research outcome measure, not as a clinical assessment or treatment planning tool. Although the MHRM has been successfully used across several studies as an effective and sensitive measure of individual change as well as a group measure of recovery, it was developed solely as a research outcome tool, and it is typically used as an omnibus measure, not as an individualized assessment that can be interpreted clinically with regard to “how much recovery” a given individual is expressing relative to peers, or as a clinical tool that would facilitate collaborative treatment planning between a provider and consumer based on the individual’s total score or pattern of subscale scores or responses to specific items.

Currently, the MHRM is used as a program evaluation tool to assess recovery before and after participating in the WMR program, examining both group averages and matched pre-post program changes for each individual to determine whether a given individual significantly improved or deteriorated using a reliable change index (RCI;
Jacobson and Truax, 1991), based on the known standard error of measure for the
MHRM Total Score. In addition, the MHRM is being used in approximately 120 sites,
and has been translated into numerous languages, including French, Danish, Chinese,
Dutch, Korean, and Portuguese with primary use as a measure of individual recovery.
There are no published self-report recovery measures that can be administered and then
be used as a clinical tool to provide immediate feedback, with ranges of where the
individual falls on a continuum of recovery, such as the Beck Depression Inventory-II,
that is used for measuring depression (Beck, Steer, Ball & Ranieri, 1996). It is proposed
that with additional development, the MHRM could be a useful clinical instrument for
this task, as it can give a total recovery score, as well as provide feedback on subdomains
of recovery to focus on. The primary goal of the proposed study is to advance the
development of the MHRM so that it can be used as an interpretive clinical tool by
providers and consumers, including ranges of scores to indicate how much recovery an
individual is experiencing.
Chapter One

Literature Review

The History of the Recovery Movement in Public Mental Health

History paints a picture of a time when individuals with mental illness were treated like criminals, and were kept in prison-like environments (Pulice & Miccio, 2006). Treatment was not as much a focus (Lester & Gask, 2006) because mental illness was believed to lead to declining life outcomes, no matter what intervention was used. This treatment later segued into hospitalization of these individuals, with new treatments ranging from intense medication regimens to lobotomies or electroshock therapy. Some believed that institutionalization changed individuals with mental illness into a “good patient” (Goffman, 1968). The 1960s and 1970s seemed to bring change in the way mental health was considered, and individuals with serious mental illness were now labeled as “clients” (Pulice & Miccio, 2006), and treatment began to focus on psychiatric rehabilitation (Anthony, 1993). Research began to show that nearly half of individuals diagnosed with serious mental illness did not inevitably decline, and actually seemed to have positive outcomes (Harrison et al., 2001).

At this point, one of the biggest changes was that clients were able to make their own choices about their mental health treatment, as well as the shift to deinstitutionalization (Anthony, 1993). The 1970s was a time of gaining civil rights for people with mental illness, and the mental health consumer movement ensured that individuals with mental illness would no longer be oppressed or dehumanized, and facilitated the idea that recovery could occur (Pulice & Miccio, 2006).
This consumer movement focused on deinstitutionalization and giving support and rights to individuals with mental illness (Pulice & Miccio, 2006). One of the changes involved calling these individuals “consumers,” and both these consumers and mental health professionals began examining and treating mental illness in new ways. Treatment began to focus on recovery, and the idea that consumers could become more independent and achieve more with their lives than was ever previously thought possible. “Hope” and “Empowerment” became central concepts fueling the engine of the recovery movement. Consumers became less dependent on traditional mental health services, and peer-operated mental health facilities were created, as well as other self-help treatments. Consumers began to think differently about their mental illness: “Recovery is a journey where I was able to not only reestablish my abilities, strengths and faith in myself but…to go beyond any expectations I have of myself” (Mancini, 2006). Since the President’s New Freedom Commission on Mental Health (2003), the “hope of recovery” has become the focus of mental health treatment in individuals with serious mental illness.

The focus on recovery and hope led to the search to find out exactly what recovery is comprised of, and to examine all aspects of it, with a goal of promoting recovery among consumers (Mancini, 2006). Mental health professionals began working collaboratively with their clients, and began focusing less on the clients’ labeled illnesses, and more on how to participate on more meaningful activities in life, such as school, work, and relationships. At this time, the concept of recovery was thought to be partially dependent on environmental factors (such as supportive relationships, meaningful activities, and mental health treatment), and personal factors, such as hope, as well as the collaborative relationship with a mental health professional (Mancini, 2006). In addition,
some researchers cited physical health as being important to interpersonal well-being and mental health (DeMasi et al., 1996).

The process of recovery began to become more structured for agencies, in the hopes that this phenomenon could be studied (Sowbel & Starnes, 2006). For instance, an outline of agencies using a recovery model was established (Anthony, 2000). In this set of guidelines, an agency must use the “language of recovery” in treatments; program evaluation will be conducted, and specific goals involving consumer input and satisfaction will be created; training in recovery principles will be taught to mental health professionals; a protocol for rehabilitation must be created, and it must be recovery-focused. In addition, recovery focuses more on wellness than illness (Onken et al., 2002), as well as helping the consumer take care of basic needs, such as housing, and transportation.

**Conceptual Models of Recovery**

Though the process of recovery differs for individuals, and programs designed to promote the recovery process may take different forms, there seems to be a consensus on three conceptual models of recovery: the medical model, the rehabilitative model, and the empowerment model (Andresen et al., 2003). The medical model postulates that mental illness is a disease and that recovery occurs when an individual is “cured” and returns to their beginning state of health, prior to onset of their mental illness. This definition, also called clinical recovery, syndromal recovery, or remission, focuses on the absence of symptoms (Ellis & King, 2003). This model is not frequently used to describe the recovery process (except when referring to medications, symptomatology, and hospitalization), as recovery as defined here is the absence of mental illness symptoms
In fact, consumers who follow this model of recovery may not believe they are ever recovered, because of three things: they do not ever feel the same as they did prior to the onset of their mental illness, they continue to rely on medication to control symptoms, and they may not believe it is possible for a person with mental illness to get better (Andreson et al., 2003).

The rehabilitative model is based off the medical model, but recognizes that mental illness is not “curable” in the medical model sense, but that clients can return to some semblance of their life prior to mental illness (Andreson et al., 2003). This model, also known as the functional model of recovery, states that though the mental illness may still be present, a client can continue to function in society by changing their attitudes, feelings, skills, goals, and roles (Anthony, 1993; Ellis & King, 2003). Recovery is an ongoing process in this model, and though symptoms persist, individuals hope to reach goals in life (Corrigan & Phelan, 2004).

The third model of recovery is the empowerment model, and it is completely different from the other models. During the psychiatric survivor movement in the 1970’s (Adame & Knudson, 2007), groups of individuals who had previously suffered from mental illness, came together to meet and develop strategies to “change their status from powerless victims to agents of change” (Bassman, 1997). This model states that mental illness has no biological basis, and that mental illness is actually caused by extreme emotional distress (Andreson et al., 2003). In addition, the process of how the individual responds and is responded to, is important to their continuing recovery development. Recovery is the process of empowerment, understanding, and hope that an individual experiences in response to their mental illness. According to this model, every individual
is able to reach full recovery, and to feel whole again (Ellis & King, 2003). Continued mental illness is not an idea supported by advocates, and extreme views of the model postulate there is no need for medical treatment.

Though these three models exist, many consumers embrace yet another model: psychological recovery (Andreson et al., 2003), which presumably falls somewhere between the rehabilitative model and the empowerment model. This model proposes that an individual recovers from the devastation of life that can be due to a mental illness. In addition, the recovery process would emphasize living a meaningful life and establishing a positive sense of self. The psychological recovery model does not have a specific view of whether or not mental illness is still present during recovery, and seems to be the best fit for consumers’ ideas about recovery from mental illness.

So what is recovery? Understandably, it has been hard to definitively categorize recovery, as it is a multifaceted set of values, an idea, a movement, a philosophy, and a policy (Turner, 2002; Onken, 2002). Recovery seems to imply that there are conditions both internal and external that affect an individual (Jacobsen & Greenley, 2001). Internal conditions, such as attitudes and experiences interact with external conditions, such as life circumstances and events, and the combination affects the recovery process. The dictionary definition of the word “recovery” means “the process of combating a disorder (as alcoholism) or a real or perceived problem (“Merriam-Webster online”, 2011) but that seems to be only a piece of the recovery definition for consumers. A group of consumers who were involved in a national research project examining recovery defined it as the following (Mulligan, 2003):
Recovery is an ongoing dynamic interactional process that occurs between a person’s strengths, vulnerabilities, resources, and the environment. It involves a personal journey of actively self-managing psychiatric disorder while reclaiming, gaining and maintaining a positive sense of self, roles and life beyond the mental health system, in spite of the challenge of psychiatric disability. Recovery involves learning to approach each day’s challenges, to overcome disabilities, to live independently and to contribute to society. Recovery is supported by a foundation based on hope, belief, personal power, respect, connections, and self-determination.

Measures of Recovery

With such a varied idea of what recovery is, and all the dynamic components that are involved, how can recovery be measured? One problem facing the mental health community is the difficulty in finding and putting together the components of a successful treatment that actually helps individuals with serious mental illness recover (Farkas, Gagne, Anthony & Chamberlin, 2005). There are many different instruments available to measure recovery, some of which assess different domains within recovery, while others measure the difference between the amount of recovery in what the consumer and provider report, or even how much an agency or specific program is promoting recovery (Campbell-Orde, Chamberlin, Carpenter & Leff, 2005). These measures vary in their lengths and domains, as well as their stage in development, including psychometric properties. In addition, recent recovery measures are becoming more consumer-oriented, and many use direct feedback from consumer interview and input (Campbell-Orde et al., 2005). Other recovery focused clinical tools are not only
consumer-oriented, but have been specifically developed to promote shared decision making between consumers and clinical staff (Deegan & Drake, 2006).

In 2000, the first version of a compendium of recovery measures was created (Ralph, Kidder & Phillips, 2000), which contained 18 different recovery-oriented measures, categorized as being either recovery measures or recovery-related measures (Ralph et al.). In 2005, this compendium was updated to include 13 different measures, categorized as either measures of recovery-promoting environments or measures of individual recovery (Campbell-Orde et al., 2005). There are a number of different recovery measures, but the following are more well-known.

**Consumer Recovery Outcomes System**

The Consumer Recovery Outcomes System (CROS 3.0, Bloom & Miller, 2004) was originally developed in 1997, and is a clinical tool designed to address facets of recovery that were not just related to symptom reduction and agency service usage (Campbell-Orde et al., 2005). The developers also strived to create simple and usable outcome material that could easily be interpreted. Recovery is assessed by examining the following areas: Hope for the future, daily functioning, coping, and quality of life.

Conceptually, the CROS seems to have developed following the psychological recovery model; that is, somewhere between the rehabilitative model and the empowerment model. There is a focus on recovery and hope, but also on medication management and mental health treatment.

The CROS 3.0 is composed of three questionnaires that are periodically completed by consumers with serious and persistent mental illness and the clinical staff member that primarily works with them, as well as a supplemental form (VIP) that is
designed to be completed by another support person in the consumer’s life. The staff and consumer forms both contain 38 items, which are in a self-report, four point Liker-style response, while the VIP form contains 33 items. The CROS 3.0 is used to assess clinical status (i.e. the recovery) of the consumer, as well as identifying any areas of disagreement between consumer and clinician rating in any of the recovery areas. There is also an index on the consumer form that assesses the consumer’s satisfaction with treatment, while the clinician form has an index that assesses service use. Treatment satisfaction and service utilization are part of the larger recovery concept that is being modeled by the CROS 3.0 system.

When the questionnaires are completed, they are faxed to the CROS Service Center (CROS, L.L.C., 2011). When both (or all three) questionnaires are received, the data is entered into a computerized system and a report is generated. This “Treatment Progress Report” (CROS, L.L.C., 2011) helps consumers identify strengths and weaknesses and their clinical progress and it also makes clinicians more aware of the consumer’s needs and helps provide feedback. In addition, program evaluation reports can also be generated to track program effectiveness and impact of treatment.

The CROS has several strengths, as well as some weaknesses. The CROS has robust psychometric properties, as well as being focused on the collaboration between the mental health consumer and the treatment professional. In addition, the CROS was developed using consumer output, and is strength-based and recovery-oriented. Multiple sources of data are collected and used to provide a more thorough conceptualization about an individual’s recovery and rehabilitation.
One weakness of the CROS is the lack of psychometric properties with an ethnically and geographically diverse population. The VIP form is not always used, and the psychometric properties of the form are unknown. In addition, predictive validity has not yet been established for the CROS. There is some difficulty in the scoring process for the CROS. The complexity of having three forms completed by different people and faxed to a third party data service translates into a delay in scoring and the report that is generated by those scores.

**Illness Management and Recovery Scales**

The Illness Management and Recovery (IMR) Scales were designed to measure outcomes from the Illness Management and Recovery Program (Campbell-Orde, 2005), but also to assess clinical progress. In contrast to other popular recovery models, the IMR scales were developed with a focus on an individual’s illness and managing their illness, which seems to be based on a rehabilitative model of recovery. The scales were conceptualized from a stress-vulnerability model of severe mental illness, which postulates that the severity of the mental illness and the likelihood of relapse are both influenced by the interaction between biological vulnerability and socio-environmental stressors.

The IMR scales are comprised of a clinician version and a client version, and both have 15 Likert-style questions. The client and clinician rate the client on progress, and compare the results from both individual questionnaires. The questionnaires are given at some regular interval, and are used to track progress, whether individual symptoms or IMR Program, over time.
The IMR Scales have both strengths and weaknesses. They are easily administered and user-friendly. They are designed to assess different domains of self-management of illness, and provides data from both consumer and the clinician. One weakness is that the IMR scales are in the early stages of validation, so some psychometric data is unknown. In addition, predictive validity is unknown.

**Mental Health Recovery Measure**

The Mental Health Recovery Measure (MHRM) is a 30 item, self-report measure designed to assess the recovery process for individuals living with serious mental illness (Young & Bullock, 2003) for research purposes. The development of the instrument, and the specific items comprising the measure, was grounded in understanding the recovery process from the perspective of individuals with serious mental illness (Young & Ensing, 1999), and is comprised of subdomains that fit the conceptual model of psychological recovery, somewhere between the rehabilitative model and the empowerment model. The eight domains are: Overcoming Stuckness, Self-Empowerment, Learning and Self-Redefinition, Basic Functioning, Overall Well-Being, and New Potentials, as well as domains that assess Spirituality and Advocacy/Enrichment. Each of the eight domains contains four items, except Spirituality which is comprised of two items.

The MHRM is comprised of items that are rated using a 5 point Likert scale, which ranges from “strongly disagree” to “strongly agree.” The instrument has been used with adults with a diagnosis of serious mental illness from racially diverse backgrounds, including African American/Black, White, Hispanic/Latino, and Mixed Ethnicity. The most recent normative sample (N=279) (Campbell-Orde et al., 2005) had the following minority ethnic makeup: African American/Black 24%, Hispanic/Latino 4%, Mixed
Ethnicity 7%, and Asian .5%. The measure has been used with individuals from inpatient settings, criminal justice systems, outpatient setting, residential setting, and peer-run program setting.

In terms of psychometric properties, the MHRM has been shown to demonstrate good reliability and validity (Campbell-Orde et al., 2005). Reliability was established by assessing internal reliability as well as test-retest reliability. The internal reliability coefficient alpha for the MHRM was .93, while internal reliability for the individual subdomains ranged from .60 through .89. One week test-retest reliability had a value of $r=.92$, while two week test-retest reliability value was $r=.91$.

The MHRM demonstrates good content validity, as well as “face validity,” as the items on the instrument were developed from a specific conceptual model of recovery (Young & Ensign, 1999) which was itself derived from a grounded theory analysis of qualitative consumer feedback, describing their own recovery process (Campbell-Orde et al., 2005). In establishing relationships between the MHRM and other conceptually related measures, such as Empowerment or Resiliency, the convergent validity values have been found to be moderate to high, ranging from $r=.57$ to $r=.75$ (see Table 1).

<table>
<thead>
<tr>
<th>Measurement</th>
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<tr>
<td>MHRM and the Empowerment Scale (Rogers, Chamberlin, Ellison, &amp; Crean, 1997)</td>
<td>.67</td>
<td>150</td>
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<tr>
<td>MHRM and the Conner-Davidson Resilience Scale (Connor &amp; Davidson, 2003)</td>
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<td>MHRM and the Resilience Scale (Wagnild &amp; Young, 1993)</td>
<td>.75</td>
<td>150</td>
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<tr>
<td>MHRM and the Community Living Scale (Smith &amp; Ford, 1990)</td>
<td>.57</td>
<td>150</td>
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</tbody>
</table>
The MHRM has been shown to demonstrate improvement, or significant change for individuals who completed a recovery focused evidence-based practice (Bullock, O’Rourke, Farrer, Breedlove, Smith & Claggett, 2005).

The MHRM has several strengths and weaknesses. One strength is that the MHRM focuses on consumer recovery goals and progress, without relying on symptom management or symptom expression. The MHRM was developed from qualitative research focused on direct consumer feedback. In addition, the MHRM is easy to use and score. A weakness of the MHRM is that it has no clinical application at this time, and is solely used as a research outcomes measure.

**Clinical Assessment Tools**

Assessment of clinical progress is essential component of any mental health treatment program. As exemplars of the way in which individual clinical assessment of specific theoretical constructs has traditionally been integrated into the diagnosis and treatment process, clinical assessment tools have been developed to assess depression, such as the Beck Depression Inventory-II (Beck, Steer, Ball & Ranieri, 1996), or anxiety, such as the Beck Anxiety Inventory (Beck, Epstein, Brown, & Steer, 1988). Both assessments are self-report questionnaires that measure the degree to which an individual has been experiencing a variety of either depression or anxiety symptoms over the course of the previous two weeks. Both assessments have developed score ranges to determine what level of depression or anxiety the individual is experiencing. For instance, the BDI-II contains 21 questions, each answer scored on a scale value of 0 to 3. The cutoffs for scores are as follows: 0–13: minimal depression; 14–19: mild depression; 20–28:
moderate depression; and 29–63: severe depression. Higher total scores indicate more severe depressive symptoms.

In contrast to the Beck instruments, the MHRM is currently used only as an omnibus program evaluation measure to assess average group treatment changes in recovery, or proportions of individuals who show reliable statistical gains or losses in their Total MHRM scores following participation in treatment. It is unknown whether the MHRM is also appropriate for utilization as a more individualized clinical tool, i.e., as a way to assess an individual’s unique pattern of responses to the MHRM items. In addition, it is unclear if the MHRM can assess an individual’s personal level of recovery at different time intervals and compare the individual’s MHRM score to their peers to determine “how recovered” the individual is the same way that the Beck Depression Inventory II can be used to identify how depressed an individual is compared to others.

**Evidence Based Practice in Recovery**

In addition to trying to understand what recovery means to a particular individual, public mental health providers are also responsible for implementing an evidence-based practice that the recovery concept is consistent with (Rogers, Farkas & Anthony, 2005). One of the main features of evidence-based practice (EBP) is the focus on the relationship between scientific evidence, clinical expertise, and the individual client’s needs (McKibben, 1998). The provider has the task of using the evidence and their own training to make the most informed and helpful treatment decisions for their clients. This very statement seems to go against the concept of recovery, in that the concept of recovery promotes the individual client having a part in deciding their treatment. Consumer developed recovery-focused EBP is lacking in the literature and public mental
health arena, and Rogers, Farkas, & Anthony (2005) discuss some of the limitations of existing evidence-based practices involving recovery.

First, research outcomes focus on the data provided from agencies and hospitals, such as length of time hospitalized, employment rates, and recidivism (Rogers, Farkas & Anthony, 2005). The new conceptualization of psychological recovery has more of a focus on consumers’ goals, rather than the focus of raw data collected. Another limitation is that there rarely seems to be a positive correlation between recovery-related outcomes and EBP. EBP research has not typically focused on outcomes such as empowerment, or social support. Similarly, these subjective and more qualitative recovery outcomes have not been as seriously considered in EBP. In addition, EBP does not always make use of findings from non-empirical studies.

When studying specific treatment programs, EBP focuses on the fidelity to the entire model as being more successful. However, for some programs such as assertive community treatment (ACT), it has been demonstrated that only a few elements of the program are needed (i.e. team approach) to produce positive outcomes (McHugo et al., 1999). In addition, EBP has neglected to examine the relationship between the mental health provider and the consumer. This basic concept of helping and learning is an important piece of recovery, and needs to be addressed and included in the analysis of recovery EBP (Rogers, Farkas & Anthony, 2005). In summary, the newest conceptual model of recovery, the empowerment model, needs to be studied in an empirical way to further inform public mental health treatments and provide EBP methods to treat serious mental illness that lead to recovery.
**Statement of Problem**

Most current recovery measures are used for research purposes, such as measuring outcomes for specific recovery-focused programs. In terms of clinical tools, the Recovery Self-Assessment (RSA) seems to be the only recovery measure that can be used to give immediate feedback to the agency or clinician administering it; however, it was not designed to assess the degree of an individual’s recovery, but rather it addresses program evaluation and the individual’s sense of recovery through the agency and program involved (Campbell-Orde et al., 2005). The CROS is a useful clinical tool, but because of the nature of the data collection and analysis involved, there is a delay between when the forms are filled out and when the treatment report is returned.

**Purpose of the Current Study**

As with any mental health assessment tool, accurate measurement and meaningful interpretation is needed to provide the most effective treatment. The MHRM was designed to assess an individual’s perception of their degree of recovery, in terms of the psychological recovery model (Young & Bullock, 2003), and being able to use this instrument in a clinical setting, with immediate feedback for both the consumer and the clinician, would be an extremely beneficial expansion of the current use of the MHRM. Having an immediate interpretation of the individual’s score available could help shape treatment planning for the consumer, as well as give concrete feedback as to how far along the typical “recovery trajectory” an individual is, relative to their peers. It would also provide direct clinical feedback to both the provider and the consumer to highlight specific domains where progress in recovery was either lagging behind or out ahead of their peers. Areas of recovery that were lacking or deficient could be targeted for
intervention, and if used over time, specific recovery improvements could be tracked, as well as identifying when an individual is losing previously achieved levels of recovery.

The purpose of the proposed study is to expand the MHRM from being used solely as a research tool into a clinical tool that can be used as part of an initial assessment to “benchmark” and individual’s level of recovery, as well as regular intervals to follow treatment progress. To do so, it will be necessary to develop a normative set of ranges for recovery scores that can determine a stage of recovery an individual is in at any given time relative to their peers. Individuals’ scores on the MHRM will be examined both at the Total score and subdomain level, identifying the people who are less (or farther) along on the recovery spectrum. In doing this, the MHRM will promote treatment that is more individualized to “meet the person where they are at” on their recovery journey, and the MHRM will help facilitate collaboration between the mental health provider and the consumer. This will help to better meet the needs of the consumer overall, as well as giving more focused and specific goals for treatment planning. The overarching goal would be to be able to use the MHRM as a clinical assessment, treatment planning, and individual clinical evaluation tool, and as such, the MHRM would be an integral part of the evidence based practices for individuals with serious mental illness.

A critical step in meeting the ultimate goal for the current study will be solving the technical and logistical problems of getting the rich clinical data from the MHRM into the hands of the providers and consumers in a form so that it can actually be used. As such, the proposed study aims to accomplish three things: 1) Develop a computerized scoring program to provide immediate feedback for consumers and clinicians in
traditional and non-traditional therapeutic settings, even for use at consumer operated sites; 2) Generate a profile with plotted scores and a summary of the client’s strengths and weaknesses, similar to that of the Personality Assessment Inventory (PAI) (Morey, 1991); and 3) Both the scoring protocol and interpretive profile generated will be comprised of very clear and practical language that can be easily used and interpreted by non-professionals in the community. MHRM scores will be converted from raw scores into T-scores, and the resulting profile will be developed along with norms that will establish recovery “cutoff” points, in which a clinician can say an individual’s profile looks like the profile of a person “in recovery” versus “not yet in recovery,” or somewhere on the continuum in between. A narrative will be created to summarize key elements in the individuals’ profile.

**Research Questions**

The current study addressed the following research questions: Can the Mental Health Recovery Measure be expanded from its current use as a research outcome and program evaluation measure into a clinical tool that can be used for individual interpretation and treatment planning? Can ranges of scores be established that can be used to indicate what level of recovery an individual is currently experiencing relative to their peers or to a non-clinical population, or what areas of recovery are specific strengths or weaknesses for the individual with regard to helping them establish and achieve their own personal recovery goals?
Chapter Two

Methods

Research Design

The current study was completed in three phases. Phase I was comprised of archival MHRM and demographic data from a population of individuals with SMI. Phase II was comprised of new MHRM and demographic data from two sources: college students and a sample of adult individuals recruited via web-based resources who were not from a population of individuals identified with SMI. Phase III was the technological component of the project, which consisted of designing and creating code for a scoring and interpretation program for the MHRM that would utilize the normative and comparative data from Phase I and Phase II. The current study was reviewed and approved by the University of Toledo Institutional Review Board.

Measures

Demographic Form. Demographic information included participant’s age, gender, ethnicity, marital status, level of education, and whether they have, or ever have had, a mental health diagnosis (for non-WMR group participants). Participants who identified themselves as having a mental health diagnosis were asked to provide the diagnosis.

Mental Health Recovery Measure. The Mental Health Recovery Measure (MHRM) (See Appendix B) was developed by Young and Bullock (2003) and is a 30-item, self-report measure of mental health recovery. The MHRM is based on individual and focus group interviews with individuals experiencing severe and persistent mental illness, and was developed qualitatively from a grounded theory model of recovery (Young & Ensing,
The measure is comprised of eight conceptual recovery domains: 1) Overcoming Stuckness, 2) Self-Empowerment, 3) Learning and Self-Redefinition, 4) Basic Functioning, 5) Overall Well-Being, 6) Spirituality, 7) New Potentials, and 8) Advocacy/Qaulity of Life. Participants respond to each item on a 5-point Likert scale, ranging from Strongly Disagree to Strongly Agree. The internal reliability coefficient alpha for the MHRM was .93, while internal reliability for the individual subdomains ranged from .60 through .89. One week test-retest reliability had a value of $r=.92$, while two week test-retest reliability value was $r=.91$ (Campbell-Orde et al., 2005). The MHRM demonstrates good convergent validity as measured by the relationship between the MHRM and other conceptually related measures, such as empowerment, resiliency, and living skills (Andresen, Caputi, & Oades, 2010). The convergent validity values have been found to be moderate to high, ranging from $r=.57$ to $r=.75$.

**Symptom Distress Scale.** The Symptom Distress Scale is a 15-item, self-report measure of an individual’s reported level of distress caused by psychiatric symptoms. The normative sample was collected from the Ohio Department of Mental Health in 2005 (Ohio Department of Mental Health (ODMH), 2005). The sample consisted of 28,804 consumers who were within 0 to 44 days of admission into mental health service. The item responses range from values of 1-5 representing the amount of distress, 1 indicating “Not at all” and 5 indicating “Extremely”. The total possible score is 75, with higher scores indicating more distress. Although complete psychometric information is not yet available for the Symptom Distress Scale, it was cited as having "adequate" reliability and validity with the Beck Depression Inventory and all but two scales from the Minnesota Multiphasic Personality Inventory (ODMH, 2005). Additionally, internal
consistency was calculated from a sample of nearly 1,500 individuals from the Outcomes Implementation Project and was found to be excellent (Cronbach's alpha = .93, n = 1,479) (ODMH, 2005).

**Phase I**

*Participants*

The first part of the current study was archival and utilized a computerized, deidentified database of existing MHRM scores, gathered from a program focused on promoting wellness and recovery for individuals with serious mental illness – the Wellness Management and Recovery (WMR) program. There were 1091 WMR participants with complete MHRM scores. Due to incomplete demographic information reported, the demographic information presented is only a subportion (N=222) of the overall WMR population. The average age for the WMR sample was 45.23 (SD = 13.62), and ranged from 17 to 78. There were 437 females and 327 males reported in the sample, and the proportion of ethnic minorities was African-American = 11.1%; Hispanic/Latino = 5.0%; Native American/Pacific Islander = 3.5%; Other = 1.5%. (See Table 2 for additional comparative demographic information.) For the WMR participants, the mean MHRM Total score prior to participation the WMR program was 76.46 (SD=21.78).
Table 2. *Comparative Demographic Information*

<table>
<thead>
<tr>
<th></th>
<th>WMR $^1$</th>
<th>University</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
</tr>
<tr>
<td><strong>Level of Education</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>K-12</td>
<td>30</td>
<td>13.8</td>
<td>5</td>
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<tr>
<td>High School/GED</td>
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<td>36.7</td>
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<tr>
<td>Trade/Tech School</td>
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<td>6.4</td>
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<tr>
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<td>2 yr/Associate Degree</td>
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<td>0</td>
</tr>
<tr>
<td>4 yr/Bachelor Degree</td>
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<td>0</td>
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<tr>
<td>Graduate Degree</td>
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<td>Never Married</td>
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<td>11.0</td>
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<tr>
<td>Separated</td>
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<td>4</td>
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<tr>
<td>Nursing Home</td>
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<td>0</td>
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<td>1.4</td>
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<td>1.4</td>
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<tr>
<td>Part Time</td>
<td>19</td>
<td>8.6</td>
<td>36</td>
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<tr>
<td>Unemployed</td>
<td>77</td>
<td>34.7</td>
<td>10</td>
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<td>Student</td>
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<td>1.8</td>
<td>51</td>
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<tr>
<td>Homemaker</td>
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<td>3.2</td>
<td>0</td>
</tr>
<tr>
<td>Retired</td>
<td>9</td>
<td>4.1</td>
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<tr>
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</tr>
<tr>
<td>Inmate of Institution</td>
<td>3</td>
<td>1.4</td>
<td>0</td>
</tr>
</tbody>
</table>

$^1$For the WMR group, data is reported for the number of persons for whom demographic information was available. For the University and Community samples, demographic data is reported for the full sample size of each group.
Phase II

Participants

Participants in Phase II were recruited from two sources: University and Community. The University sample consisted of undergraduate students at the University of Toledo using a convenience sampling procedure, via the University’s research-participant pool (SONA Systems). Community participants were recruited through web-based local classified advertisements such as Craigslist and Amazon Mechanical Turk (an online survey website that individuals can sign up for and earn money). The advertisement specifically noted that the current study was being conducted to understand the process of recovery from a mental or physical illness. All participants were required to be eighteen years old or older, and participation was voluntary. Participants from the University student sample were provided credit towards a psychology course in which they were enrolled.

The University sample was comprised of 102 participants. The average age for the University sample was 19.17 (SD = 2.93), and ranged from 18 to 35. There were 72 females and 24 males in the sample. The proportion of ethnic minorities for the College sample was African-American = 9.8%; Asian = 2.0%; Hispanic/Latino = 1.0%. Based on self-report, 17 participants (16.6%) from the University sample endorsed having a mental health diagnosis at some point in their lives. In addition, 10 of the 17 people who endorsed having a mental health diagnosis reported have more than one Axis I disorder. Diagnoses reported by the University sample included: four with a diagnosis of Attention-Deficit/Hyperactivity Disorder (3.9%); 12 with an Anxiety or Depressive disorder (11.7%); 2 with Bipolar Disorder (1.9%); and 2 with Post-traumatic Stress
Disorder (1.9%). Additional comparative demographic information for the University sample is presented in Table 2.

The Community sample contained 69 participants who were not college students and were not part of the WMR implementation project. The average age for the non-college/non-SMI sample was 32.54 (SD = 6.85), and ranged from 21 to 57. There were 38 females and 8 males in the sample. The proportion of ethnic minorities was African-American = 4.3%; Hispanic/Latino = 2.9%; Asian = 1.4%; Other = 1.4%. In the Community sample, 34 (50.7%) endorsed having a mental health diagnosis at some point in their lives. Of those diagnosed, 25 (36.2%) had an Anxiety or Depressive disorder; five (7.25%) had Bipolar Disorder; five (7.2%) had Post-traumatic Stress Disorder; one (1.44%) had a personality disorder; one (1.44%) had Conversion Disorder; one (1.44%) had Obsessive-Compulsive Disorder; and one (1.44%) had Attention-Deficit/Hyperactivity Disorder. Like the University sample, 12 of the 69 people (17.39%) reported having two Axis I diagnoses. Seventeen (24.6%) of the 69 participants endorsed having a physical disability. See Table 2 for additional comparative demographic data.

Procedure

Online data collection was utilized to recruit a larger and more representative sample than could be recruited through just the University research system. All demographic and assessment items were entered into an online survey service, Psychdata.org, to be filled out by participants on the internet. Prior to beginning filling out measures, participants were informed of confidentiality, as well as the requirements of the research study and the associated risks and benefits. An email address and phone
number was provided for participants to contact should they have questions pertaining to the study. Participants were given the chance to consent to participate in the study, and they validated that they were at least 18 years old.

After having completed the preliminary consent and age eligibility statement, the participants in the comparative samples were administered a written vignette (See Appendix C) instructing them to think about a time in their life that they experienced emotional difficulty, such as depression, anxiety, or grief. They were instructed to think about the difficulty they had in dealing with their situation and how they managed to “recover” from that situation. All participants were asked to complete a demographic form, as well as the Mental Health Recovery Measure (MHRM) and the Symptom Distress Scale. The estimated time to complete the survey was 15 minutes.

**Phase III**

One of the goals of the current project was to make the MHRM a user-friendly clinical tool that could be used by clinical professionals and paraprofessionals in community agency settings and even by consumers themselves in consumer-operated service center settings. Using Microsoft Visual Basic, a scoring program was developed which was used to convert raw scores into T-scores and provide immediate scoring feedback.

Besides giving T-score information and the instant scoring feedback, a profile is generated to display the individual’s MHRM recovery Total score and scores on each of the subdomains of the MHRM. Each profile includes areas of strengths and weaknesses within the different areas of recovery, and provides a graphical display of scores, as well as a narrative summary that explains key elements of the individual’s profile. The
narrative summary information language was taken from Young and Ensing’s (1999) focus groups which helped to create the MHRM items.
Chapter Three

Analyses and Results

The first group of analyses directly related to the sample in Phase I, which was the
group of individuals living with SMI who participated in the WMR program. Specific
analyses examined validity and outcomes post-treatment, which included establishing a
Reliable Change Index for the MHRM.

Phase II analyses examined the differences between the two original comparison
sample groups and the WMR sample group. Specific analyses included examining group
differences on the MHRM, establishing new reliability statistics and demographic
information for a sample of individuals who were not drawn from a population of persons
living with SMI, and establishing clinically significant cut points to determine what score
an individual must reach for them to be categorized as being “looking more like an
individual from the population of people in recovery” or “not yet looking like an
individual from the population of people in recovery.” As explained further in the
section on group differences, no significant differences were found between the
University sample and the Community sample for any of the MHRM scores, so the two
comparison groups were subsequently combined and labeled “Combined Comparison”
group for analyses.

Phase III analyses were the technical steps taken to transform raw MHRM data
into meaningful interpretive data for both clinicians and consumers. The main goal was
to design, create, and execute an electronic scoring and interpretive program for the
MHRM to be more accessible and written and displayed in a way that is practical and
more widely understood. Specific tasks involved transforming raw data into T-scores,
creating written interpretive narrative summaries to provide feedback for scores and making a graphical display of scores that clearly explained the individual’s strengths and weaknesses as related to their overall recovery and each of the recovery subdomains of the MHRM.

Phase I

Internal Reliability of the MHRM Total and Subdomain Scores

To address internal consistency of the MHRM, coefficient alpha values and item to total correlations were calculated for the MHRM Total score as well as separately for the eight subdomains. For the MHRM Total score, internal reliability using Cronbach’s alpha was .92 for WMR participants and was .88 for the Combined Comparison group participants. Within the WMR sample, the item to total correlation values ranged from .48 to .78, while the item to total correlation values for the Combined Comparison group ranged from .30 to .82. (See Table 3).

Table 3. Item-Total Statistics by Group

<table>
<thead>
<tr>
<th>Subdomain-Total Correlation</th>
<th>Alpha if Deleted</th>
<th>Subdomain-Total Correlation</th>
<th>Alpha if Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overcoming</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stuckness</td>
<td>.67</td>
<td>.91</td>
<td>.53</td>
</tr>
<tr>
<td>Self-Empowerment</td>
<td>.83</td>
<td>.90</td>
<td>.78</td>
</tr>
<tr>
<td>Learning &amp; Self-Redefinition</td>
<td>.77</td>
<td>.91</td>
<td>.74</td>
</tr>
<tr>
<td>Basic Functioning</td>
<td>.74</td>
<td>.91</td>
<td>.59</td>
</tr>
<tr>
<td>Overall Well-Being</td>
<td>.81</td>
<td>.90</td>
<td>.82</td>
</tr>
<tr>
<td>New Potentials</td>
<td>.83</td>
<td>.90</td>
<td>.77</td>
</tr>
<tr>
<td>Spirituality</td>
<td>.48</td>
<td>.93</td>
<td>.30</td>
</tr>
<tr>
<td>Advocacy/Quality of Life</td>
<td>.70</td>
<td>.91</td>
<td>.59</td>
</tr>
</tbody>
</table>
George and Mallery (2003) provide the following rules of thumb: less than .5 is unacceptable; .5-.6 is poor; .6-.7 is questionable; .7-.8 is acceptable; .8-.9 is good; greater than .9 is excellent. For both the WMR and Combined Comparison group, the overall alpha level for the MHRM would increase if the two items comprising the Spirituality subdomain were removed.

**Criterion-Related Validity**

In order to evaluate criterion validity of the MHRM, the MHRM Total score was correlated with the Symptom Distress scale score. There was a significant inverse correlation for both the WMR sample ($r = -0.46, p < .001$) and the Combined Comparison sample ($r = -0.69, p < .001$), such that as an individual’s MHRM Total recovery score increased, their self-reported Symptom Distress decreased.

**Pre-Post Treatment Differences on the MHRM**

In order to examine outcomes for the WMR program and sensitivity of the MHRM to changes in self-reported recovery as a function of participating in a recovery-focused treatment program, pre and post MHRM Total and subdomain scores were calculated and dependent (correlated) $t$-tests were conducted to evaluate differences in the pre and post MHRM Total scores and subdomain scores for the WMR sample. Results indicated that all of the subdomain scores, as well as the MHRM Total score, were significantly different between pre and post measurement, such that the mean post-WMR MHRM scores were significantly higher (more improved) compared to pre-WMR. (See Table 4). The effect sizes for these statistically significant increases were in the small to medium range (Cohen’s $d = 0.24 - 0.48$). (See Table 4.)
**Table 4. Mean Pre and Post MHRM Scores for WMR Participants (N = 576)**

<table>
<thead>
<tr>
<th></th>
<th>Pre</th>
<th>Post</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHRM Total</td>
<td>76.46</td>
<td>86.36</td>
<td>21.78</td>
<td>19.52</td>
<td>-52.44</td>
<td>(575)</td>
<td>&lt;.001</td>
<td></td>
<td></td>
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<tr>
<td>Overcoming Stuckness</td>
<td>11.13</td>
<td>12.22</td>
<td>3.05</td>
<td>2.74</td>
<td>-31.97</td>
<td>(575)</td>
<td>&lt;.001</td>
<td></td>
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<tr>
<td>Self-Empowerment</td>
<td>9.83</td>
<td>11.38</td>
<td>3.71</td>
<td>3.32</td>
<td>-41.05</td>
<td>(575)</td>
<td>&lt;.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning &amp; Self-Redefinition</td>
<td>11.53</td>
<td>12.82</td>
<td>3.28</td>
<td>2.88</td>
<td>-41.80</td>
<td>(575)</td>
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<tr>
<td>Basic Functioning</td>
<td>9.71</td>
<td>10.92</td>
<td>3.36</td>
<td>3.13</td>
<td>-39.95</td>
<td>(575)</td>
<td>&lt;.001</td>
<td></td>
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<tr>
<td>Overall Well-Being</td>
<td>9.55</td>
<td>11.18</td>
<td>4.03</td>
<td>3.51</td>
<td>-38.87</td>
<td>(575)</td>
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<td>New Potentials</td>
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<td>11.61</td>
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<td>(575)</td>
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<td>5.96</td>
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**Determining Reliable Change Indices for the MHRM**

A Reliable Change Index (RCI = 1.96, p < .05, Jacobson & Truax, 1991) was calculated for the participants in Phase I to determine a minimum change value by which reliable change on the MHRM and subscale scores could be demonstrated. Simply put, the RCI is used to determine if an individual improved after a treatment. To calculate a RCI, the following formula must be used (Jacobson & Truax, 1991):

\[ RCI = \frac{\bar{x}_1 - \bar{x}_2}{SE} \]

\( \bar{x}_1 \) is the pre-WMR score, and \( \bar{x}_2 \) is the post-WMR score. \( SE = s_1 \sqrt{1-r_{xx}} \); \( s_1 \) is the standard deviation of the pre-WMR group and \( r_{xx} \) is the reliability. On average, WMR participants increased by 9.9 points on the MHRM from pre to post measurement. Based on Cronbach’s alpha (internal reliability) of the MHRM items (.92), and the pre-WMR mean and standard deviation (M = 76.46, SD = 21.78) and the post-WMR mean and standard deviation (M = 86.36, SD = 19.52), a change score of +/- 17.07 (RCI = 1.96, p < .05) is an indication of a statistically significant individual change for the MHRM Total
score (ODMH, 2006). Out of the 576 matched pre and post MHRM scores, 159 individuals (26.6%) demonstrated a statistically significant MHRM Total score change in the improved direction (i.e., statistically reliable improvement) following participation in the 10 session WMR program, while 33 individuals (5.7%) demonstrated a significant deterioration from pre to post-WMR.

Though the reliable change index determined for the current sample (17 points, using a RCI = 1.96, \( p < .05 \)) clearly indicates a statistically significant level of individual change, it is not the most sensitive way to determine clinically meaningful individual change in treatment outcomes, as individuals may experience meaningfully less symptomatology and distress or meaningfully greater levels of personal recovery change at less than a conventional level of statistical significance. As such, a "clinically meaningful change" in an individual's recovery process may also be measured using a slightly more liberal RCI of 1.28, which corresponds with a conventional \( p < .20 \) (Bullock, 2009). Using the Cronbach’s alpha reliability of the MHRM items (.92), the pre and post –WMR means and standard deviations, combined with a RCI of 1.29 (\( p < .20 \)), a change score of \(+/-11.23\) was calculated. This means that if individuals demonstrate a positive 11 point change, it is indicative of meaningful change on the MHRM. Using this RCI value, 210 of 576 individuals (36.5%) of the WMR participants demonstrated a significant MHRM Total score improvement following participation in the 10 session WMR program, while 48 (8.3%) demonstrated a significant deterioration. Table 5 presents the RCI change scores for the Total MHRM and the MHRM subdomains for both the RCI=1.96 (\( p < .05 \)) and RCI=1.28 (\( p < .20 \)) levels.
Table 5. *Reliable Change Indices for MHRM Total score and MHRM subdomains (N = 576)*

<table>
<thead>
<tr>
<th></th>
<th>Change Score RCI = 1.96, p &lt; .05</th>
<th>Change Score RCI = 1.28, p &lt; .20</th>
<th>Pre Mean</th>
<th>Pre SD</th>
<th>Post Mean</th>
<th>Post SD</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHRM Total</td>
<td>17.07</td>
<td>11.24</td>
<td>76.46</td>
<td>21.78</td>
<td>86.36</td>
<td>19.52</td>
<td>.48</td>
</tr>
<tr>
<td>Overcoming Stuckness</td>
<td>2.39</td>
<td>1.57</td>
<td>11.13</td>
<td>3.05</td>
<td>12.22</td>
<td>2.74</td>
<td>.38</td>
</tr>
<tr>
<td>Self-Empowerment Learning &amp; Self-Redefinition</td>
<td>2.90</td>
<td>1.91</td>
<td>9.83</td>
<td>3.71</td>
<td>11.38</td>
<td>3.32</td>
<td>.44</td>
</tr>
<tr>
<td>Basic Functioning</td>
<td>2.62</td>
<td>1.73</td>
<td>9.71</td>
<td>3.36</td>
<td>10.92</td>
<td>3.13</td>
<td>.37</td>
</tr>
<tr>
<td>Overall Well-Being</td>
<td>3.16</td>
<td>2.08</td>
<td>9.55</td>
<td>4.03</td>
<td>11.12</td>
<td>3.51</td>
<td>.42</td>
</tr>
<tr>
<td>New Potentials</td>
<td>2.80</td>
<td>1.84</td>
<td>10.17</td>
<td>3.58</td>
<td>11.61</td>
<td>3.15</td>
<td>.43</td>
</tr>
<tr>
<td>Spirituality</td>
<td>1.88</td>
<td>1.24</td>
<td>5.40</td>
<td>2.41</td>
<td>5.96</td>
<td>2.16</td>
<td>.24</td>
</tr>
<tr>
<td>Advocacy</td>
<td>2.78</td>
<td>1.83</td>
<td>9.13</td>
<td>3.54</td>
<td>10.42</td>
<td>3.26</td>
<td>.38</td>
</tr>
</tbody>
</table>

Figure 1 graphically illustrates the change in scores for pre and post-WMR program, with the pre-program scores on the x-axis and the post-program scores on the y-axis. The area between lines A and D demonstrates score differences between -17 and 17 (RCI = 1.96, p<.05), while the area between lines B and C demonstrates score differences between -11 and 11 (RCI = 1.28, p<.20). When an RCI of 1.96 (p<.05) is used, scores that fall within the range of A to D indicate that the change in score may be due to chance and random measurement error, so reliable change is indicated at each of the lines. If a more relaxed RCI of 1.28 (p<.20) is used, scores that fall between the range of B to C indicate that the change in score may be due to random measurement error. Scores on the left side of the center line are referred to as reliable improvement, while scores on the right side are considered reliable deterioration. (See Figure 1).
Figure 1. Scatter plot of MHRM scores at initial and post-WMR program

Phase II

Group Differences on the MHRM Total and Subdomain Scores

To examine score differences between the WMR population and the two comparative groups, an overall Multivariate Analysis of Variance (MANOVA) was conducted on the MHRM Total score and all subdomain scores considering them multiple, correlated dependent measures. The MANOVA revealed a statistically significant difference as a function of group (WMR versus Community), between a participants’ Total MHRM subdomain scores, $F(3, 2504) = 29.44, p < .001$; Wilk’s $\lambda = .708$, partial $\varepsilon^2 = .16$. Following the significant MANOVA, individual AN OVAs were
run comparing the groups on the MHRM Total score and subdomain scores. Because the sample size between the three groups was unequal, Levene's test for equality of variance was run, and where appropriate, adjusted degrees of freedom and significance values for unequal variances were utilized. Due to unequal sample sizes and unequal variances, Games-Howell post hoc procedures were conducted. These analyses found significant differences on the MHRM Total score such that the mean MHRM Total score for the WMR group (i.e., with SMI) was significantly lower (M=76.5) than the MHRM Total score for both the Community sample (M=110.72) and the University sample (M=113.30), F (2, 1259) = 209.38, p<.001. Likewise, these analyses found significant differences in the same direction (WMR sample significantly lower than both the Community and University samples) on all of the MHRM subdomains (see Table 6).

Table 6. ANOVA Comparisons of Differences in MHRM Total and Subdomain Scores for the WMR, University, and Community Groups (Total N = 1262)

<table>
<thead>
<tr>
<th></th>
<th>F</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHRM Total</td>
<td>209.38</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Overcoming Stuckness</td>
<td>82.36</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Self-Empowerment</td>
<td>199.18</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Learning &amp; Self-Redefinition</td>
<td>176.57</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Basic Functioning</td>
<td>146.41</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Overall Well-Being</td>
<td>144.22</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>New Potentials</td>
<td>162.77</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Spirituality</td>
<td>16.67</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Advocacy/Quality of Life</td>
<td>160.47</td>
<td>(2, 1259)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

No significant differences were found between the University sample and the Community sample for any of the MHRM scores, so the two comparison groups were subsequently combined and labeled “Combined Comparison” group for further analyses. See Table 6 for means and standard deviations on the MHRM Total score and sub-domains of the
MHRM by group. See Table 8 for means and standard deviations on the MHRM Total score and sub-domains of the MHRM and score comparisons for the WMR group and Combined Comparison group.

Table 7. *Mean (SD) Scores for MHRM Total and MHRM Subdomains by Group*

<table>
<thead>
<tr>
<th></th>
<th>WMR Mean</th>
<th>University Mean</th>
<th>Community Mean</th>
<th>Combined Comparison Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MHRM Total</td>
<td>76.46</td>
<td>113.30</td>
<td>110.72</td>
<td>112.26</td>
</tr>
<tr>
<td>Overcoming Stuckness</td>
<td>11.13</td>
<td>14.49</td>
<td>14.57</td>
<td>14.52</td>
</tr>
<tr>
<td>Self-Empowerment</td>
<td>9.83</td>
<td>16.11</td>
<td>15.26</td>
<td>15.77</td>
</tr>
<tr>
<td>Learning &amp; Self-Redefinition</td>
<td>11.53</td>
<td>16.49</td>
<td>16.49</td>
<td>16.49</td>
</tr>
<tr>
<td>Basic Functioning</td>
<td>9.71</td>
<td>14.55</td>
<td>14.06</td>
<td>14.35</td>
</tr>
<tr>
<td>Overall Well-Being</td>
<td>9.55</td>
<td>15.24</td>
<td>14.78</td>
<td>15.05</td>
</tr>
<tr>
<td>New Potentials</td>
<td>10.17</td>
<td>15.55</td>
<td>15.00</td>
<td>15.33</td>
</tr>
<tr>
<td>Spirituality</td>
<td>5.40</td>
<td>6.61</td>
<td>6.51</td>
<td>6.57</td>
</tr>
<tr>
<td>Advocacy/Quality of Life</td>
<td>9.13</td>
<td>14.27</td>
<td>14.06</td>
<td>14.19</td>
</tr>
</tbody>
</table>

N = 1091
N = 102
N = 69
N = 171
An independent samples *t*-test was conducted to evaluate if gender differences existed among those who completed the MHRM. Neither the Combined Comparison sample nor the WMR sample exhibited gender differences on the MHRM Total score or MHRM subdomains.

**Clinical Cutpoints**

The MHRM was initially developed as a research tool, based on a specific conceptual model of mental health recovery, that could serve as a reliable and valid measure of the amount of individual change in mental health recovery following participation in recovery-focused treatment programs like WMR. Thus, to date, the MHRM has not been used as a diagnostic tool or a clinical indicator of whether a given person is “in recovery” (or not) relative to peers or to a normative population, nor are there currently established “clinical cut points” used to determine recovery or absence of recovery (Bullock, 2009). By examining the mean differences and distribution
differences between the clinical WMR sample and the “normal” Combined Comparison group on the MHRM, a cut point score for clinical significance can be calculated (Jacobsen & Truax, 1991). Clinical significance means that the client has returned to some level of non-clinical functioning from a previously clinical level of functioning. The determination of a clinically significant cut point (Jacobsen & Truax, 1991) uses the means and standard deviations for a measure of both a clinical population and a non-clinical population to establish a cut point at which an individual’s score becomes clinically significant. In order to calculate a cut point that indicates clinical significance, the following formula must be used (ODMH, 2006):

\[
\text{Cut point} = \frac{(M_{WMR} \times SD_{non-clinical}) + (M_{non-clinical} \times SD_{WMR})}{SD_{non-clinical} + SD_{WMR}}
\]

After completing the analysis of means and standard deviations between the clinical population and non-clinical sample, it appears that a person must score a 98 (T-score = 60) on the MHRM Total score to be classified as reaching an overall clinically significant level of recovery (Jacobsen & Truax, 1991). This means that when a person scores a 98 on the MHRM Total score, they no longer belong to the “dysfunctional” or “clinical” range; but rather, they look more like a person from a non-clinical sample. Figure 2 demonstrates a graphical display of the WMR MHRM score distribution and the Combined Comparison distribution on the same graph and illustrates where the cut point of 98 would fall for both the clinical and comparative samples.
Figure 2. MHRM Total Score Distribution for the WMR Group (Series 1: Persons with SMI) (N=1091) and the Combined Comparison Group (Series 2) (N=171)

Each subdomain was included in the analysis and has its own corresponding cut point for clinically significant recovery. See Table 9 for clinical cut points.

Table 9. Clinically Significant Cut Points for MHRM Total and Subdomains

<table>
<thead>
<tr>
<th>Clinical Cut point</th>
<th>MHRM Total</th>
<th>Overcoming Stuckness</th>
<th>Self-Empowerment</th>
<th>Learning &amp; Self-Redefinition</th>
<th>Basic Functioning</th>
<th>Overall Well-Being</th>
<th>New Potentials</th>
<th>Spirituality</th>
<th>Advocacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>MHRM Total</td>
<td>97.75</td>
<td>13.17</td>
<td>13.20</td>
<td>14.38</td>
<td>12.32</td>
<td>12.73</td>
<td>13.18</td>
<td>5.98</td>
<td>12.20</td>
</tr>
</tbody>
</table>
**Phase III**

*Development and Creation of a Scoring and Interpretation Program for the MHRM*

The key goal of Phase III analytic and technical activities was the development of a scoring and interpretation program for the MHRM that utilized the normative data and outcome results of Phase I and Phase II of the study. The first challenge in Phase III was determining what software platform to use, since the platform needed to be readily available and useable to the largest potential audience of users of the MHRM. After exploring several software options, Microsoft Visual Basic was chosen to create the MHRM scoring and interpretation program. Visual Basic is free and available on all computers that utilize the Microsoft operating system and is easily downloaded and installed on individual computers. This means any computer equipped with Microsoft can run the MHRM scoring program.

Many ideas, formulas, and trial and error runs were planned and brought together to form the workable prototype for this scoring and interpretation program. For instance, when the program loads, there is an option to enter client information, which includes the client’s name, gender, age, ID, marital status, education, and the test date.
After the client enters in their information, they can choose to begin the assessment. The individual then answers the MHRM questions, and when complete, the individual is instructed to get their test administrator.

The test administrator then clicks on the “Generate Report” button, and the profile is created, including a graphical display of the client’s scores, as well as an interpretive narrative summary that further clarifies the individual’s scores.
Figure 6. Graphical Display of Profile

The graphical profile generated uses standardized T-scores to help generalize the information being shared, and the narrative summary information is free of psychological jargon that is not easily interpreted by a lay-person.

T-scores are linear transformations of raw scores and have a mean of 50 and a standard deviation of 10. This method of standardized scores was used because the T-scores metric is easily interpreted with respect to standard deviation, and the scores are
easy to calculate, as well. In addition, using T-score transformations allows the user to
easily compare the MHRM score to any other similarly standardized score. The WMR
population means and standard deviations from the MHRM and the subdomains were
used as the norms for the MHRM Assessment Instrument, and the T-scores were
calculated using those means and standard deviations. In order to calculate T-scores, first
Z-scores were generated from raw MHRM scores using SPSS, and were consequently
transformed into T-scores (Appendix D).

In order to provide extra interpretive information, the means for the Post-WMR
sample were plotted on the same graph as the scores from a participant’s MHRM to
provide a visual of where a higher functioning and more recovered population would, on
average, score in response to items on the MHRM. Like the PAI, it provides a visual
“skyline” to give instant feedback and comparison as to where an individual’s score is in
comparison to a “more recovered” sample. Using the language provided by consumers
during a focus group helps to ensure that the tool remains something “user-friendly” and
generally easy to understand and interpret for realistic applications. The profile graph is
easy to read and visually demonstrates an individual’s scores in a practical way,
especially for individuals who learn and understand material better when it is presented
visually.

After the graphical profile, there is a narrative summary that provides a more in-
depth explanation than the graph of the profile, which is helpful for individuals who want
more insight into what areas they seem to be struggling with. Calculated clinical cut
points were used to identify which interpretive narrative summary an individual would
see on their score report. For instance, on the Overcoming Stuckness subdomain, if a
person above the cut point of 13, they would receive a different interpretation than if they scored below the cut point. If the score was above the cut point, they would receive the following interpretation:

You have acknowledged and accepted that you have mental illness, which is the first step on your recovery journey. You have a new desire to take better care of yourself and to have a better life. You have the want and need to change, as well as the motivation to begin to do so. You may have found someone or something that inspires you and gives you hope, and you are ready to move on and improve your life.

If the score was below the cut point, they would receive this interpretation:

You are at the beginning of your recovery journey, which may be the hardest to overcome. Acknowledging and accepting that you have mental illness is a crucial piece to this part of your journey. You may feel like you aren't ready to change, or you may feel ready and either physically, emotionally, or otherwise not be able to change.

Some ideas to help you include:

- Finding someone who has experienced a similar recovery journey and use them as inspiration and a mentor for your journey
- Connect or reconnect with your own sense of spirituality. Many others find this to be useful in finding a source of hope that things can get better
- It is important that you somehow believe that change and progress is possible for you, and you need to have the desire to work toward that change.
The program is designed to create a pdf version of the client’s profile, so it can be printed easily and given to the client for their own interest.

**Discussion**

The purpose of the current study was to accomplish the following: 1) Update norms for the current WMR sample; 2) Establish norms for a non-clinical sample and compare how this group differs from the WMR group on the MHRM and create clinically significant cut points to distinguish if and when an individual is “in recovery” versus “not yet in recovery,” or somewhere on the continuum in between; 3) Develop a computerized scoring program for the MHRM to provide immediate feedback for consumers and clinicians in traditional and non-traditional therapeutic settings; and 4) Generate a profile with plotted scores and a summary of the client’s strengths and weaknesses, similar to that of the Personality Assessment Inventory (PAI) (Morey, 1991).

*Criterion-Related Validity: The MHRM and the Symptom Distress Scale*

Individuals in both of the WMR (SMI) group and the Combined Comparison group demonstrated a significant inverse relationship between their overall MHRM Total score and their Symptom Distress Scale score. The pattern was such that as an individual’s symptom distress decreased, their recovery score increased. This finding suggests that less psychological distress is related to higher levels of recovery, though with correlational studies it is not possible to say if recovery led to less distress or if the opposite is true.

**WMR Program Norms**

A Reliable Change Index (RCI) was calculated for the WMR participants to determine a minimum change value by which reliable change on the MHRM and
A score change of 17.07 was found to be a significant individual change (corresponding to RCI=1.96, p<.05), while a change score of 11.24 was found to be a meaningful individual change (corresponding to RCI=1.29, p<.20), with participants on average gaining nearly 10 points on their individual MHRM total score, and 44.44% of the WMR participants in this sample achieved that. Using the more conservative RCI =1.96, WMR participants must demonstrate a 3 point improvement in score post-treatment to indicate significant individual change. Using this criterion, between 25-34% of participants reached reliable change on an individual subdomain. However, using the more liberal RCI = 1.29, participants need to improve by only 2 points. The more liberal value yields between 40-45% of participants reaching reliable change. This finding suggests that an individual does not have to have a significant change in every subdomain to have a significant change in overall recovery. This means that an individual may demonstrate areas of strengths and weaknesses within the overall recovery concept, and the individual subdomains that are still lacking may be targeted in treatment.

This is the first attempt at establishing meaningful cut points and interpretations of an individual’s MHRM Total and subdomain scores, and the cut points and actual interpretations are still hypotheses and will need to be examined more thoroughly. The practicality and utility of the cut points needs to be observed by way of the narrative interpretations that are given, symptom distress, and whether or not a one or two point difference really makes a difference in that person’s life and recovery journey. In addition, future studies can examine clinically significant change, which is when an
individual has demonstrated reliable change and has scored above the clinically significant range on the MHRM Total score.

**Group Differences on the MHRM Total and Subdomain Scores**

Significant group differences were found between MHRM scores for those individuals living with SMI who had participated in the WMR program and a comparison sample of individuals from a community/university setting. Because the current study was designed to assess normative groups living without SMI in order to establish what a non-SMI population should score on the MHRM and its subdomains, this finding was expected. Though there were individuals in the Combined Comparison group with a mental health diagnosis, the group overall tended to respond to the MHRM in a less distressed way. In fact, every subdomain score was significantly different between the groups, indicating that those participants from the Combined Comparison sample (living without SMI) tended to be functioning better in all the measured areas.

**Internal Reliability of the MHRM Total and Subdomain Scores**

The Cronbach alpha for the MHRM for the current WMR sample (.93) indicated the MHRM has an acceptable level of internal consistency (Cortina, 1993), which also applies to the combined comparison groups. It is interesting to note that across all three groups the alpha level would increase if the Spirituality subdomain were removed, which suggests that the subdomain may benefit from further examination. However, the Spirituality subdomain was more highly correlated with the other subdomains in the WMR sample than the other group, which further suggests that spirituality may be a more important factor in the process of psychological recovery that those who have not experienced a similar situation cannot grasp. Overall, though, the results suggest that though the MHRM has subdomain scores that can be separately examined for specific
treatment considerations, the MHRM total score is also a useful number in identifying an individual’s overall recovery phase.

Limitations/Future Directions

Though the MHRM has been extensively used for WMR purposes and other research protocols for individuals with SMI, the profile with narrative summary has not. Further studies can research the efficacy of the profile for the consumer to see if it is helpful for them. In addition, the MHRM has not been used as a treatment planning tool, and the usefulness of having the specific subdomain strengths and weaknesses discussed needs to be studied.

Norms have been updated for the WMR population and preliminary norms for non-SMI samples have been collected, but further studies of how these two populations differ as measured by the subdomains of the MHRM are needed. In particular, examining populations that have a similar recovery trajectory would be helpful, as they might have a better idea of what recovery is. Populations might include individuals with a physical health disability, a learning disability, or non-SMI mental health diagnoses (such as post-traumatic stress disorder). In addition, clinical cut points using these non-SMI populations need to be re-evaluated with a larger sample.

Conceptual Models of Recovery

Though programs such as the WMR Program and other recovery-oriented programs base their assumptions about recovery on a model of psychological recovery (Anderson et al., 2003), researchers and clinicians still use categories that dichotomize individuals’ level of functioning. This is a conceptual limitation of the MHRM scoring program and feedback that will be provided to consumers. Though we understand and
can explain that the recovery process is dynamic and these scores are measurements at one time across the span of their recovery process, there is still a risk that someone may interpret the feedback as being restrictive and not as empowering and helpful. The language needs to be more tentative so that the individual can choose whether or not the feedback relates to them and their unique situation.

In addition, the general language of the feedback for the interpretive summaries needs to be tested and adjusted before finalizing the MHRM scoring program and making it available for use. The current reading level is at an 8th grade reading level, and may contain language that is not necessarily recovery-oriented. A focus group comprised of consumers would be beneficial in finalizing language and feedback.

**Scoring and Interpretation Program**

Even though a workable prototype of an electronic scoring and interpretation program is complete as planned for the current study, the programming platform allows for changes to be made if additional features are desired, depending on future research or clinical goals. One such feature is to create a cumulative database to store scores and allow the clinician to run comparative reports to track a consumer’s recovery progress. This database would also allow for easy access to scores and demographic information for research purposes, as well.
References


Ohio Department of Mental Health (2005). Ohio Mental Health Consumer Outcomes
System-Adult Consumer Form. Office of Research and Program Evaluation: Columbus, OH.

Ohio Department of Mental Health (2006). *Ohio Mental Health Consumer Outcomes System Report 12: Reliable Change and Clinical Significance for Outcomes Instruments.* Office of Research and Program Evaluation: Columbus, OH.


Oxford University Press.


Appendix A

Mental Health Recovery Measure (MHRM)

The goal of this questionnaire is to find out how you view your own current recovery process. The mental health recovery process is complex and is different for each individual. There are no right or wrong answers.

Please read each statement carefully, with regard to your own current recovery process. For each question circle the statement that best represents the way you feel:

Strongly Disagree
Disagree
Not Sure
Agree
Strongly Agree

1. I work hard towards my mental health recovery.

Strongly--------Disagree---------------Not----------------Agree----------Strongly
Disagree                      Sure                       Agree

2. Even though there are hard days, things are improving for me.

Strongly--------Disagree---------------Not----------------Agree----------Strongly
Disagree                      Sure                       Agree
3. I ask for help when I am not feeling well.

Strongly---Disagree--------Not--------Agree----------Strongly
Disagree                Sure                Agree

4. I take risks to move forward with my recovery.

Strongly---Disagree--------Not--------Agree----------Strongly
Disagree                Sure                Agree

5. I believe in myself.

Strongly---Disagree--------Not--------Agree----------Strongly
Disagree                Sure                Agree

6. I have control over my mental health problems.

Strongly---Disagree--------Not--------Agree----------Strongly
Disagree                Sure                Agree

7. I am in control of my life.

Strongly---Disagree--------Not--------Agree----------Strongly
Disagree                Sure                Agree

8. I socialize and make friends.

Strongly---Disagree--------Not--------Agree----------Strongly
Disagree                Sure                Agree

9. Every day is a new opportunity for learning.

Strongly---Disagree--------Not--------Agree----------Strongly
Disagree                Sure                Agree
10. I still grow and change in positive ways despite my mental health problems.

Strongly--------Disagree--------------Not---------------Agree------------Strongly
Disagree Sure Agree

11. Even though I may still have problems, I value myself as a person of worth.

Strongly--------Disagree--------------Not---------------Agree------------Strongly
Disagree Sure Agree

12. I understand myself and have a good sense of who I am.

Strongly--------Disagree--------------Not---------------Agree------------Strongly
Disagree Sure Agree

13. I eat nutritious meals everyday.

Strongly--------Disagree--------------Not---------------Agree------------Strongly
Disagree Sure Agree

14. I go out and participate in enjoyable activities every week.

Strongly--------Disagree--------------Not---------------Agree------------Strongly
Disagree Sure Agree

15. I make the effort to get to know other people.

Strongly--------Disagree--------------Not---------------Agree------------Strongly
Disagree Sure Agree

16. I am comfortable with my use of prescribed medications.

Strongly--------Disagree--------------Not---------------Agree------------Strongly
Disagree Sure Agree
17. I feel good about myself.

Strongly--------Disagree------------Not----------------Agree----------Strongly
Disagree Sure Agree

18. The way I think about things helps me to achieve my goals.

Strongly--------Disagree------------Not----------------Agree----------Strongly
Disagree Sure Agree

19. My life is pretty normal.

Strongly--------Disagree------------Not----------------Agree----------Strongly
Disagree Sure Agree

20. I feel at peace with myself.

Strongly--------Disagree------------Not----------------Agree----------Strongly
Disagree Sure Agree

21. I maintain a positive attitude for weeks at a time.

Strongly--------Disagree------------Not----------------Agree----------Strongly
Disagree Sure Agree

22. My quality of life will get better in the future.

Strongly--------Disagree------------Not----------------Agree----------Strongly
Disagree Sure Agree

23. Every day that I get up, I do something productive.

Strongly--------Disagree------------Not----------------Agree----------Strongly
Disagree Sure Agree

24. I am making progress towards my goals.

Strongly--------Disagree------------Not----------------Agree----------Strongly
Disagree Sure Agree
25. When I am feeling low, my religious faith or spirituality helps me feel better.

Strongly--------Disagree-------------Not-------------------Agree----------Strongly
Disagree Sure Agree

26. My religious faith or spirituality supports my recovery.

Strongly--------Disagree-------------Not-------------------Agree----------Strongly
Disagree Sure Agree

27. I advocate for the rights of myself and others with mental health problems.

Strongly--------Disagree-------------Not-------------------Agree----------Strongly
Disagree Sure Agree

28. I engage in work or other activities that enrich myself and the world around me.

Strongly--------Disagree-------------Not-------------------Agree----------Strongly
Disagree Sure Agree

29. I cope effectively with stigma associated with having a mental health problem.

Strongly--------Disagree-------------Not-------------------Agree----------Strongly
Disagree Sure Agree

30. I have enough money to spend on extra things or activities that enrich my life.

Strongly--------Disagree-------------Not-------------------Agree----------Strongly
Disagree Sure Agree

Client’s Name: ________________________ Date: _______________

Thank you for completing this measure.

The MHRM© was developed with the help of mental health consumers by researchers at the
University of Toledo, Department of Psychology. This research was supported through a grant from the Ohio Department of Mental Health, Office of Program Evaluation and Research. For further information, please contact Wesley A. Bullock, Ph.D. at (419) 530-2721 or email: wesley.bullock@utoledo.edu.
Appendix B

Demographic Form

Date of birth: ____/____/_________  Gender:  Male □  Female □

1. Highest level of education completed:
   □ □ Kindergarten through 11th grade
   □ □ High school diploma or GED
   □ □ Trade or tech school
   □ □ Some college
   □ □ 2 year college/Associate degree
   □ □ 4 year college/Undergraduate degree
   □ □ Graduate degree

2. Ethnicity (check all that apply):
   □ □ White/Caucasian    □ □ Hispanic/Latino
   □ □ Native American/Pacific Islander  □ □ Asian
   □ □ Black/African American  □ □ Other

3. What is your current marital or relationship status?
   □ □ Never married        □ □ Divorced
   □ □ Married           □ □ Widowed
   □ □ Separated        □ □ Living
   together/cohabitating

4. What is your current living situation?
   □ □ Your own home or apartment    □ □ Homeless
   □ □ A friend or relative’s home    □ □ Nursing or rest home
   □ □ Supervised group living or apartment hospital
   □ □ Group home  □ □ Other

5. What is your current employment status?
   □ □ Employed full time  □ □ Homemaker
☐ □ Employed part time    ☐ □ Retired
☐ □ Unemployed           ☐ □ Disabled
☐ □ Student              ☐ □ Inmate of institution

6. Have you ever been diagnosed with a mental health diagnosis?
   If so, which one(s)? ________________________________
Appendix C

Instructions

Everyone experiences negative events in life. The difference is in how we react to the experiences and how we recover from them. Think about a time when you have had something bad happen in your life. This event can range from something like failing a test to having a relative who died. Remember how the event affected your daily life, and how it caused you to feel. Did you have any change in mood related to this event (i.e. anger, sadness, grief)? Did you have any lifestyle changes? Did you have to seek professional help? The following questions are about your recovery from that negative situation, and the way your life and mood were changed. Answer them to the best of your ability, again focusing on how you felt after the negative experience occurred.
Appendix D: T-Score Conversions

T-Score Values for Subscales

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*M* 76.46  
*SD* 14.85
Appendix E

Mental Health Recovery Measure

Young & Bullock (2003)

Clinical Interpretive Report

by Megan N. Bodine, M.A. and Jeremy D. Bodine, BSME

Client Information

Name:

Client ID:

Age:

Gender: Female

Education:

Marital Status:

Test Date: 01-11-2013

The interpretive information contained in this report should be viewed as only one source of hypothesis about the individual being evaluated. No decisions should be based solely on the information contained in this report. This material should be integrated with all other sources of information in reaching a professional decision about this individual.

The MHRM© copyright 2013 was developed with the help of mental health consumers by researchers at the University of Toledo, Department of Psychology. This research was supported through a grant from the Ohio Department of Mental Health, Office of Program Evaluation and Research. For further information, please contact Wesley A. Bullock, Ph.D. at (419) 530-2721 or email: wesley.bullock@utoledo.edu.
Appendix F

Full Scale Profile
Appendix G

Sub-Domain Interpretations

Overcoming Stuckness
You are at the beginning of your recovery journey, which may be the hardest to overcome. Acknowledging and accepting that you have mental illness is a crucial piece to this part of your journey. You may feel like you aren't ready to change, or you may feel ready and either physically, emotionally, or otherwise not be able to change.

Some ideas to help you include:
• Finding someone who has experienced a similar recovery journey and use them as inspiration and a mentor for your journey.
• Connect or reconnect with your own sense of spirituality. Many others find this to be useful in finding a source of hope that things can get better.
• It is important that you somehow believe that change and progress is possible for you, and you need to have the desire to work toward that change.

Self-Empowerment
You may not yet feel that you are in control of your own life, and you may be struggling with how to have more independence and take on more responsibility in your recovery journey. You may not have yet been able to shed the feeling that you are a victim, or you may not believe in yourself yet.

Some ideas to help you include:
• Research your mental illness. Read books, pamphlets, articles, and talk to other consumers and staff about it. Find out ways you can contribute to your treatment plan and what strategies might help you.
• Give your input and work together with your staff and family/caregivers to develop a treatment plan.
• Take responsibility for your actions and learn from your mistakes how to do things differently.
• Try new things like attending a new program at your agency or spending time getting to know a new friend, even if you feel like it might be risky

• Stop drinking alcohol, using drugs, and drinking too much caffeine. Begin to take better care of yourself.
• Don't be afraid to work hard and to believe in yourself.

Learning and Self-Redefinition
You may not have yet been able to figure out who you are yet. You may be missing parts of your old self and life, and not yet able to incorporate them into your new self.
and life as it is now. You may be confused as to how your illness fits in with your sense of self and the world, and you may not know how to be yourself yet.

Some ideas to help you include:
• Spend time exploring both your inner and outer world. This means spending quiet time with yourself thinking about what you like about yourself as a person, both now and before your mental illness symptoms were so distressing. Take time to also find out what you like to do and what things in the world interest you. What old and new hobbies do you like to participate in? What do you need to be happy?
• Learn to think about your illness as being separate from yourself. You are a person with an illness...you are not the illness itself. Think of it like this: If a person has diabetes, they have to deal with a life-long condition. Although they may have to cope with symptoms and manage their diet, exercise, and medication a certain way to maintain stability, they are free to live the rest of their lives any way they choose. So are you.
• Try not to be too focused on how life used to be. You are living a new life now, with a new purpose, and your goals for life will change and be different from before.

**Basic Functioning**

You are still struggling with getting your basic needs met, and still seem to depend on others for help. While you are making progress on how you are feeling about your new self and your new life, you may have not been able to figure out where to start to change.

Some ideas to help you include:
• Maintain a proper sleeping and eating routine. These two basic needs will make you feel better, and also is an easy way for you to take responsibility and be independent.
• Start some type of exercise, which may help with your morale as well as your physical health.
• Monitor your symptoms and how they respond to your medication. Keep track and discuss with your doctor, so you can have input.
• Take pride in your living space. Clean it and decorate it so that it feels like a comforting space for you.
• Try to be more active in life. Participate in more activities at the agency, at church, or with friends. Get involved and develop a different set of purpose for yourself.
• Connect with people and spend time socializing with people. Find people that have similar recovery journey experiences.

**Overall Well-Being**

Though you are making progress, you may not feel consistently good about yourself. Your motivation may be suffering if you haven't fully developed a positive sense of self. You may have times when you feel at peace with yourself and your life, but you aren't able to maintain that sense of peace yet.
Some things to help you include:
• Find something to do that makes you feel good about yourself. Increasing your positive self-image is important and will help your motivation.
• Strive for serenity and peacefulness. This may come to you when you begin to feel stable and "normal."
• Recognize when you are not using helpful thinking patterns, and learn to change them. Increase positive attitudes and reduce negative self-talk.

New Potentials
You may still be working on more basic goals now, such as increasing positive self-esteem, managing your treatment, or working on becoming more socially involved. This means that you may not have thought about what is next or how to achieve these higher-level goals.

Some things that may help you include:
• Complete more of your baseline goals to feel more confident and ready for the next step.
• Take on a new role or challenge yourself in a different way.
• Dig deeper into the meaning of your life and what you want out of it.
• If you haven't already, consider your spirituality and how to deepen your connection.
• Spend some time mentoring someone who is experiencing a similar situation as you, and help them on their path.
• Look for new opportunities to try new things.
• Look into some kind of vocational work with the potential for personal enjoyment and earning income.
• Examine closely how your symptoms have decreased or improved, and recognize the change in your life due to that.

Spirituality
You have not yet made a spiritual connection with something that inspires you. Talk to others about their spirituality, and explore different faiths to try and figure out what inspires you and helps you make meaning out of your life. Spirituality is important because it gives people hope and the idea that progress, and recovery, is possible.

Advocacy/Quality of Life
You have not yet made the transition into becoming a role model of recovery. At some point you will feel more confident and comfortable with your journey, and being able to share that with someone and help them progress along their own path. Keep using your experience to help others and expand your feelings of progress, independence, and wellness.