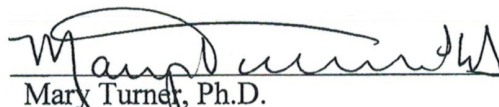# DEMORALIZATION AS A FACTOR
IN A VOCATIONAL REHABILITATION POPULATION
USING THE DEMORALIZATION SCALE (RCd) OF THE MMPI-2-RF

APPROVED BY SUPERVISORY COMMITTEE

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DEDICATION

I would like to thank the members of my Graduate Committee, my family, and wide circle of

friends and colleagues for their consistent and essential support and guidance.

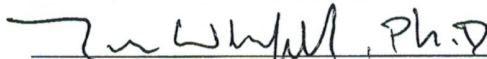DEMORALIZATION AS A FACTOR

IN A VOCATIONAL REHABILITATION POPULATION

USING THE DEMORALIZATION SCALE (RCd) OF THE MMPI-2-RF

by

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THESIS

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Abstract

BACKGROUND: Demoralization has come to be recognized as an essential element of psychological health. Its prevalence and role as a factor in discreet populations has been studied in a number of settings such as with medical and psychiatric populations though not in the field of Vocational Rehabilitation (VR). In most of this research, the Demoralization Scale (RCd) of the MMPI-2-RF was not used. This study looks at the prevalence of demoralization in a VR population using the RCd.

SUBJECTS: The subjects for this study ($N = 54$) were evaluated for vocational potential by the University Rehabilitation Services (URS) in the Department of Rehabilitation Counseling at the Southwestern School of Health Professions. They were referred by the Department of Assistive and Rehabilitative Services (DARS) of Texas except for one client who was self-referred.

METHOD: Basic demographic data (age, ethnicity, IQ, and gender), along with the scores of the MMPI-2-RF scales were gathered. Comparisons were made between the study population and normative populations for the prevalence and degree of demoralization. Further, two correlation analyses were run. The first was for intercorrelations between the RCd and the other Restructured Clinical Scales (RCS) of the MMPI-2-RF and the Clinical Scales (CS) of the MMPI-2. The second was for intercorrelations between the RCd and other, selected scales of the MMPI-2.

RESULTS: The prevalence of demoralization in the study population was higher than in the general population.   There were data to suggest that the degree of demoralization in the study population was greater than in the general population, though further research is needed to confirm this. The data on the intercorrelations between the RCd, the RCS, and the CS replicated

earlier research; variations are discussed.   Unexpected correlations between the RCd and

selected scales for the study population were noted and discussed.

DISCUSSION: The higher prevalence of demoralization in the study population than in the

normative population is of particular importance to VR. Research has shown that demoralization

is a key factor in psychological health and in VR. The degree of demoralization in the study

population is high and further research is needed to determine if there is a greater degree of

demoralization in VR populations as compared to the normative population. For correlations of

the RCd to other scales, there were several unexpected differences in the intercorrelations

between the RCd, the RCS, and the CS. These data suggest that the study population may have a

higher prevalence of somatic symptoms and antisocial traits, and a lower prevalence of cynicism.

The strong correlation between the RCd and the WRK scale suggests that demoralization may be

a key factor in VR. The absence of recent data on the prevalence of demoralization in the

general population diminished the generalizability of the findings. However, the results of this

study revealed gaps in the literature that provide direction for future investigations.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

BIF – Borderline Intellectual Functioning

CS – Clinical Scales of the MMPI-2

DARS – Department of Assistive and Rehabilitative Services

DO – Disorder

I-O–Industrial and Organizational

MMPI-2-RF–Minnesota Multiphasic Personality Inventory, Restructured

          Form

MMPI–Minnesota Multiphasic Personality Inventory

PTSD–Post Traumatic Stress Syndrome

SA–Substance Abuse

SBA – Substantially Below Average

SES – Socioeconomic Status

URS–University Rehabilitation Services

VR – Vocational Rehabilitation

WAIS-IV–Wechsler Adult Intelligence Scale–Fourth Edition

CHAPTER ONE

The purpose of the present study is to examine what role demoralization may play in VR. This will be done through comparison of the prevalence and degree of elevations on the Demoralization Scale (RCd) of the MMPI-2-RF and through the analysis of the intercorrelations between the RCd and the Restructured Clinical Scales (RCS), and the Clinical Scales (CS), and selected scales of the MMPI-2.

Demoralization and hope are theorized to be the antipodes of a continuum that is central to human motivation and is a primary outcome determinant in any environment (Frank, 1974). Little research to date has been done on demoralization and hope as factors in VR (Juntunen & Wettersten, 2006). It is the intent of the present effort to establish that, indeed, demoralization and hope, as measured by the RCd scale, are essential factors in the VR environment.

The sizable body of research on hope and demoralization as central factors in mental health has largely used measures constructed specifically for that task rather than utilize the MMPI-2 or the more recent Demoralization Scale (RCd) of the MMPI-2-RF. This paper examines the evolution of the concepts of hope and demoralization in relation to the development of personality testing as applied to the field of Rehabilitation Psychology with particular emphasis on the RCd scale.

The Minnesota Multiphasic Personality Inventory (MMPI) was first published in 1942 (Friedman, Lewak, & Nichols, 2001). The primary objective was to create a test that would allow for an efficient and reliable means of establishing relevant and useful psychodiagnostic labels (Graham, 1993). This was in direct response to the need for an objective measure of psychological and personality function. Most, if not all, of the psychological diagnostic tests at

the time relied on face-valid, self-report questions whose limitations were well known (Friedman et al., 2001).

By 1970, it became clear that the MMPI needed revision though it was not until 1982 that the task of revision was undertaken. The main areas of revision addressed the need for normative samples of greater diversity, modernization of the language, grammar and punctuation, and lastly to include the heretofore unaddressed issues of suicidality, alcoholism, and addiction (Graham, 1993). The MMPI-2 was published in 1989.

Tellegen, et al, (2003), in their study of the MMPI-2, found a factor common to the Clinical Scales (CS) (Welsh's "first factor"), that contributed to high intercorrelations between the scales. They also found that the empirical keying method used to produce the CS resulted in scale heterogeneity. This lowered the internal consistency as well as the convergent and discriminant validity thus making interpretation difficult. And lastly, they found the CS identified items that were idiosyncratic characteristics of the normative group, the criterion group, or both (Weed, 2006). This led to the development of the Restructured Clinical Scales (RCS). The "first factor" was identified as demoralization. Items that belonged to this factor were extracted from the CS and aggregated into the RCd scale.

Demoralization as an issue in its own right has had increasing presence in the literature (M. E. P. Seligman & Csikszentmihalyi, 2000). From the earliest references, it has been seen as an essential consideration in psychiatry: "Psychiatry approaches its problems by way of relevant extremes of behavior. Psychiatric consideration of morale thus begins with the study of demoralized people" (Sullivan, 1941). Jerome Frank suggests that the primary aim of all psychotherapy is the restoration of morale and that most, if not all, psychopathology arises from

a state of demoralization (Frank, 1974). Subsequently, demoralization has been studied in a

wide variety of settings. It has been recognized as a factor in medical settings as recognition has

grown of the essential role that psychological factors play in medicine (Hodges, Inch, & Silver,

2001). However, in other areas that would seem obvious to study the factor of demoralization, it

is conspicuously absent in the literature, most notably in the areas of rehabilitation and

vocational counseling (Juntunen & Wettersten, 2006).

   The purpose of this study is to review the cases of 54 clients who were evaluated for

vocational potential. Particular attention will be paid to the RCd scale and its correlations with

the other RCS, the CS, and selected scales of the MMPI-2.

CHAPTER TWO

Review of the Literature

Personality Testing before the MMPI

During the First World War, personality testing was undertaken to address the needs of large numbers of military personnel who, as the result of "shell shock," were no longer fit for service (Mott, 1917; Salmon, 1917). The number of American soldiers affected by shell shock was estimated to be 15,000 (Hale Jr, 1995). The US military commissioned Robert S. Woodworth to develop a test that could identify soldiers who might be susceptible to shell shock or who might otherwise be unfit for service. The test was named the Scale of Psychoneurotic Tendencies (PT). However, by the time the test was ready for use, WWI had ended (Woodworth, 1919).

Woodworth was not deterred. He saw that the PT had utility in the field of psychology and made the test available to other psychologists (Poffenberger, 1962; Woodworth, 1932). Realizing the test's potential for personnel management in industry, he developed the Woodworth Personal Data Sheet (WPDS) for industrial and organizational (I-O) applications. The WPDS is considered to be the foundation for all subsequent personality tests (Ferguson, 1952).

Once the WPDS was published and in clinical use, the door was opened for the creation of other tests. Most of these were unidimensional tests such as the X-O Tests for Investigating the Emotions (Pressey & Pressey, 1919), the Colgate Tests of Emotional Outlets (Laird, 1925), the Mental Hygiene Inventory (House, 1927), and the Personality Schedule (Thurstone & Thurstone, 1930). These tests were unidimensional in that, like the WPDS, they focused on a

single dimension of the personality, most commonly, maladjustment or neuroticism (these terms

were often used interchangeably at the time). Many of these tests that followed the publication

of the WPDS were not always of original construction but borrowed items and content from

other published tests, most often from the WPDS (Butcher, 2010).

The limitations of the unidimensional tests were becoming more apparent. By 1931, a

number of multidimensional tests had been created. Two of the most widely used and accepted

multidimensional tests were the Bernreuter Personality Inventory (BPI) (Bernreuter, 1931), and

the Humm-Wadsworth Temperament Scale (HWTS) (Humm & Wadsworth, 1934). These tests

expanded the base of personality evaluation from the single dimension of neuroticism or

maladjustment, to multiple personality traits (Goldberg, Schooler, & Mattsson, 1968).

The BPI initially assessed four domains: neurotic tendency, self-sufficiency, introversion-

extroversion, and dominance-submission. It was later expanded by the addition of two more

domains: self-consciousness and solitariness. It became the best known vocational test of its day

(Gibby & Zickar, 2008). The HWTS was constructed with seven dimensions: hysteroid, manic,

depressive, autistic, paranoid, epileptoid, and self-mastery. It also included a response bias scale

(Humm & Wadsworth, 1934).

By 1938, there were over 50 tests of psychological measurement and evaluation on the

market (Pallister, 1946). Most of these tests were used in industry though they were not created

for that purpose. It was not until Guy Wadsworth, Jr., then vice-president at the Southern

Counties Gas Company of California, hired Duncaster Humm to devise an instrument for

screening employees for temperament issues, that a measure was devised and marketed for the

work environment (Tiffin, 1942). Wadsworth, after seeing the effectiveness of the HWTS in his

own company, realized the financial potential of the test as an instrument of personnel

management (Gibby & Zickar, 2008). A full-time staff was created to actively promote the

HWTS to other companies. Humm and Wadsworth (1943) claimed "… a knowledge of

temperament will predict behavior, and often will forestall undesirable behavior through an

understanding of unfortunate tendencies" (Humm & Wadsworth Jr, 1943, p. 315). This led to

the widespread psychological evaluation of prospective and current employees for management

purposes (Gibby & Zickar, 2008). It was reported that by 1942, the HWTS had been

administered to over 2,000,000 workers in 225 industries ("Pegs that Fit," 1942).

Even with the increased sophistication and wide application of the early personality

inventories, the main objective remained the evaluation of adjustment in order to predict the

behavior of individuals in the workplace (Buchanan, 1994).

The MMPI and the MMPI-2: History and Development

By the early 1930's, there was a growing concern among professional clinicians about the

validity and reliability of personality tests (Landis & Katz, 1934; Landis, Zubin, & Katz, 1935;

Page, Landis, & Katz, 1934). Many clinicians, disillusioned with the unreliability of the

"objective" personality assessment tests of the day were attracted to projective tests such as the

Rorschach Inkblot Test (Rorschach, 1921) and the Thematic Apperception Test (TAT)

(Dahlstrom, 1992).

Like many of the other tests at the time, the assessment of adjustment and neuroticism

was part of the design for the MMPI. However, unlike the personality inventories at the time,

the MMPI was intended primarily for the identification of psychopathology. This was an

important development in personality inventory tests in that tests prior to the MMPI were

intended to identify individuals who, aside from adjustment difficulties, did not have significant

psychopathology (Gibby & Zickar, 2008). Though the primary use of the MMPI was for the

identification of psychopathology in outpatient and inpatient psychiatric and medical settings, it

has also been used in a wide range of applications that include marital counseling,

neuropsychological evaluations, and personal injury and disability evaluations (Butcher, 2006;

Graham, 2000).

Development of the MMPI started in the 1930's (Friedman et al., 2001) and the first

journal publication on the Multiphasic Schedule, as it was called then, appeared in 1940

(Hathaway & McKinley, 1943). The test itself was published in 1942 (Nichols & Kaufman,

2011) and clinical application and research was immediate. By the end of April 1943, 230

copies had been sold to correctional facilities, corporations, clinics, and universities.

Between 1974 and 1999, the MMPI was the most frequently cited assessment measure

when compared with the frequency of publication of other measures such as the Rorschach, the

16PF, the Millon Clinical Multiaxial Inventory (MCMI), and the Thematic Apperception Test

(TAT). With the exception of the Rorschach and the TAT, which are performance-based

measures, the other personality tests, including the MMPI, were self-report measures. The total

number of research publications that utilized the MMPI for that 20-year period was 4,339. This

compared with the Rorschach at 1,969 publications, the TAT at 998, and the 16PF at 847

(Butcher & Rouse, 1996). Others were cited less frequently. The MMPI/MMPI-2 has

maintained its popularity since that time and is recognized today as the most frequently used

personality inventory world wide (Greene, 2000).

In the first decade after it was published, many of the studies which used the MMPI focused on the detection and classification of psychopathology (Butcher, 2010) as was the primary intent of its design. However, research on personality types and personality factors in medical settings (Fava, Fabbri, Sirri, & Wise, 2007) also began to appear along with studies that applied the MMPI with positive results in areas well outside its intended use. This spurred considerable research activity in diverse populations, which confirmed a wider clinical utility. Table 1 contains a partial list of examples.

Many of the environments in which the MMPI was applied were outside the original normative group with which it was developed. This limitation of the original normative sample became apparent as the scope of research widened and additional scales were developed (Colligan & Offord, 1989). The MMPI came to be used extensively in legal settings to detect malingering in personal injury cases and in child custody hearings. In addition, it was also used with alcoholics and drug addicted patients, a wide variety of medical populations, criminals, and disability cases—populations all underrepresented in the original normative sample (Friedman et al., 2001). Further, ethnic diversity in the original sample was not representative of the general population. This ignored response differences based upon cultural and ethnic background (Lewis-Fernandez & Kleinman, 1994). This created, in effect, artificially small standard deviations on some scales, which tended to produce false positive scores (Dahlstrom & Tellegen, 1993). It soon became apparent that revision of the MMPI was necessary. However, as Butcher (200) comments, it was the popularity and utility of the MMPI that became the primary obstacle to its revision:

If a test is in wide use, there are likely to be more arguments against its revision and more

resistance to change even though everything else around it has changed, resulting in an

instrument that becomes even more out of date. Such was the case with the Minnesota

Multiphasic Personality Inventory… (p. 1)

Though researchers had been aware of the problem for some time, the first public

discussion of revision to the MMPI was in 1969 at the *5th MMPI Symposium on Recent

Developments in the Use of the MMPI.* However, it was another 20 years before the MMPI-2

was published—in 1989 (Butcher, 2005).

As part of the revision of the MMPI, effort was made to update and simplify the terms,.

There were four types of changes made: 1) elimination of sexist terminology, 2) update idioms

and word usage, 3) update the grammar, and 4) simplification of the test questions (Butcher et

al., 2001).

Two of the more important results of the revision of the MMPI were a new normative

sample and uniform T Scores. And additionally, since the MMPI-2 was devised so it could be

used for individuals 18 years of age and older, a separate test, the MMPI-A, was developed for

ages 12-18 years, though not published until 1992 (Friedman et al., 2001).

The MMPI-2-RF

Despite revisions to the MMPI-2, criticism of the validity of the CS continued. These

critiques maintained that the high intercorrelation between the CS diminished their ability to

provide a differential diagnosis of psychopathology. It was also maintained that many of the

"subtle" CS items (those that were less face valid) lacked sufficient validity. Similarly, many of

the critics argued that the empirical criteria used in the construction of the CS were correlated

with irrelevant or obscure psychological traits (Tellegen et al., 2003). Groth-Marnat comments

further:

> The MMPI clinical scale items were selected based on their ability to distinguish
>
> clinical groups from normals. They were not designed to differentiate various
>
> clinical groups from each other. The result has been that the MMPI/MMPI-2
>
> clinical scales are good at identifying that psychopathology is present but not
>
> what the psychopathology is. (p. 292)

Butcher goes on to say that a number of strategies were devised to compensate for this

limitation which included the reliance on code types and the development of the Harris-Lingoes

subscales, the Supplementary Scales, the Content Scales and the Critical Items. Researchers

found that this inability of the CS of the MMPI-2 to distinguish clearly between

psychopathologies was a result of high intercorrelations between the scales, conceptual overlap,

and heterogeneity (Simms et al., 2005). This, in effect, created significant covariance between

the scales.

Many researchers felt that an absence of theory to guide interpretation was also a serious

design flaw in the MMPI-2 (Sellbom & Ben-Porath, 2005). This resulted from the empirical

keying method used in the original construction of the MMPI, which was retained in the MMPI-

2. While this provided the benefit of many useful empirical correlates, it weakened construct

validity. And construct validity requires the support of an empirically supported theoretical framework (Cronbach & Meehl, 1955).

As early as 1956, intercorrelations were discovered on the MMPI CS using factorial analysis (Welsh, 1956). These intercorrelations fell into two syndromal categories. The "First Factor," was designated "Factor A" and the "Second Factor" was designated "Factor R." Welsh developed scales based on this factor analysis of the Clinical Scales and termed them Scale A and Scale R, respectively. Scale A related generally to anxiety, subjective distress, inefficiency, and dysphoria. Scale R related generally to repression, rationalization, lack of insight, and inhibition (Welsh, 1956). These issues related to and reduced the convergent and discriminant validity of the CS. However, isolation of these elements from the CS was not undertaken until 2003. Tellegen, et al., (2003) performed extensive analyses of the MMPI-2 CS and found a broadly distributed confounding factor of general maladjustment and subjective distress, which they termed demoralization. Elements of this confounding factor were extracted from the MMPI-2 CS. These new scales without the demoralization factor were introduced as the Restructured Clinical Scales (RCS). They are a set of 8 scales, one for each of the CS with the exception of CS5 and CS0. The elements of the demoralization construct that were isolated from the CS, were relegated to a single RCS, the Demoralization Scale (RCd). This brought the number of RCS to 9.

Demoralization

Discussion of the term *demoralization* begins with a discussion of the term *morale*. Napoleon's famous quote underlines the importance of morale: "The morale is to the physical as three is to one," (Berchem, 2002). And this was a reiteration of a statement that Napoleon had

made earlier while in exile in St. Helena: "Moral force, rather than numbers, decides

victory"(Chandler, 1966)[1].

    While a central topic in military affairs, the subject of morale came into greater

prominence in the United States during and after WWI, given that WWI was the first military

conflict of that magnitude the United States (and the world) had experienced. The general

sentiment on this topic was expressed eloquently by Hocking (1918):

> In no war, I judge, has the human quality counted for so much—the endurance,
>
> the initiative, the power of sacrifice, the loyalty, the ability to subordinate
>
> personal interest and pride, the power of taking the measure of the event, of
>
> discounting the unfavorable turn, of responding to frightfulness with redoubled
>
> resolution rather than with fear, of appreciating the real emergency and rising
>
> instantly to meet it. It is these qualities of mind and character, which in the
>
> ensemble go by the name of "morale"; and it is these qualities that hold the
>
> balance of power in war. (p. 8)

    In the late 19th Century and the early 20th Century, the fledgling field of Psychology was

gaining prominence. The first textbook on psychology was published in 1886 (Dewey, 1886),

the American Journal of Psychology was founded in 1887, William James published his

Principles of Psychology in 1890, the APA was founded in 1892, Freud's *Interpretation of*

---

[1] Note that the French word for morale is *moral.* To add to the difficulties of translation, the French word means both moral (as in morality) and morale. This being the case, this quote of Napoleon's could be translated: *The force of morale, rather than numbers, decides victory."*

Dreams was published in 1900, and the writings of Pavlov, Piaget, Jung, Adler, Vygotsky, and

others were soon to follow. These advances infused the generalized notion of psychological

function with scientific reasoning and research. As it related to the phenomenon of morale, this

era produced works such as *The management of men: a handbook on the systematic development*

of morale (Munson & Miller, 1921), *Morale: the mental hygiene of unemployment* (Pratt, 1933),

A scale for measuring individual and group morale (Whisler & Remmers, 1937), *Industrial*

morale (Slichter, 1920), *Industrial fatigue and group morale* (Park, 1934), and *The effectiveness*

of employee house organs in promoting company morale in the oil industry (Smith, 1932). The

concern for morale in the military was transferred and widely adopted by industry's interest in

personnel management.

There were a few early researchers who saw the importance of morale as a factor in

psychological health. One of the most prominent of these was Harry Stack Sullivan. In a paper

devoted to morale as an integral factor in psychological health, he used the terms *morale* and

demoralization as opposite ends of a psychological continuum (Sullivan, 1941). In this paper,

Sullivan places the topic of morale and demoralization firmly within the domain of psychiatry:

"Psychiatry approaches its problems by way of relevant extremes of behavior. Psychiatric

consideration of morale thus begins with the study of demoralized people and includes the

"destruction of faith in the meaning of life" (Sullivan, 1941, p. 277).

In 1940 the National Research Council held a conference, *Concerning psychological*

factors in morale. (National Research Council, 1940). The conference was called to address the

poor general morale of the country made all the more urgent by the possibility that the United

States might enter the war in Europe. The conference defined the term morale as follows:

The term <u>morale</u> refers to a condition of physical and emotional well-being in the

individual that make it possible for him to work and live hopefully and

effectively, feeling that he shares the basic purposes of the groups of which he is a

member; and that it makes it possible for him to perform his tasks with energy,

enthusiasm, and self-discipline, sustained by a conviction that, in spite of

obstacles and conflict, his personal and social ideals are worth pursuing (p. 11).

It is important to emphasize that Sullivan and the above report both conceptualized the

individual in the context of interaction with other human beings and thus placed the discussion of

morale in the realm of interpersonal relationship dynamics. Work and financial security, as well

as other social functions, were seen as essential factors in positive morale (National Research

Council, 1940; Sullivan, 1941).

The personality measures prior to WWI conceptualized morale as having the potential to

be positive or negative. That is to say, morale was seen as a continuum with positive morale at

one end and poor morale at the other. More recent literature on morale has cast the issue in a

generally negative aspect, referring to the issue only as demoralization (Clarke & Kissane, 2002).

The topic of morale as a continuum of positive and negative poles, faded away. It wasn't until

the field of humanistic psychology began to look at the issue in its positive aspect as hope that

morale was again conceptualized along a continuum (M. E. P. Seligman, 2002).

Interestingly, Sellbom and Ben-Porath (2005) found that the (RCd) of the MMPI-2-RF

reflects this continuum in that high scores on the RCd scale reflect high demoralization and low

scores on the scale are a valid indicator of a high degree of hope. This permits at least a conceptual equivalence between the literature on hope and the literature on the RCd scale. Even though the RCd implies that it measures demoralization, it also measures hope.

Hope and Work

That the RCd has been characterized primarily as a demoralization scale is likely due in part to the fact that its ability to function as a measure of hope has not yet been fully appreciated. While there are several hope scales in wide use today, they are unidimensional (Grissom, Lyons, & Lutz, 2002; Kissane et al., 2004; Link & Dohrenwend, 1980). Their findings, thus, are isolated from the broader context of the subject's personality. This eliminates from consideration many of the factors which have a direct bearing on the measurement of demoralization (Sandanger, Nygard, & Sorensen, 2002). This is of particular importance in VR since factors such as SES, criminality, and ethnicity, and their personality patterns, are particularly relevant to the process of VR (Butterworth, Fairweather, Anstey, & Windsor, 2006; Lewis-Fernandez & Kleinman, 1994) yet, are not reported by unidimensional tests. The continuum of hope and demoralization, then, is reported in isolation from their relevant personality factors. Menninger, Mayman, and Pruyser (1963) comment on the inaccuracy of this view:

It would be most unscientific indeed to ignore—or continue to ignore—

those potentially positive factors in the balance determining the health-illness

process, which represent intangible and invisible forces. The power of suggestion

is only a reflection of the deep influences of faith, of love, and of hope— these

three, and if the greatest of these is love, the least credited is hope. (p. 397)

As noted above, morale and hope have been long-standing topics in the military and in

industry. For industry, morale was studied for the purposes of the prediction of behavior in the

selection and management of workers (Gibby & Zickar, 2008). However, the literature on

morale, hope, and demoralization are nearly absent from the field of VR (Snyder et al., 2000).

The field of positive psychology has made substantial contributions to the psychology of

motivation and hope, which are considered to be core principles of positive psychology.

However, little of that has been applied to vocational psychology (Snyder et al., 2000).

Both vocational psychology and the field of positive psychology examine abilities that

are derived from human strengths (Savickas, 2003). The core elements of vocational psychology

(Juntunen & Wettersten, 2006) match well with the core elements, as noted above, of positive

psychology (M. E. P. Seligman & Csikszentmihalyi, 2000). Some of the key factors in

vocational psychology are optimism, self-efficacy, and self-determination. Similarly, the core

elements of positive psychology are subjective wellbeing, optimism, and a high level of personal

skill (M. E. P. Seligman & Csikszentmihalyi, 2000). And as part of the discussion of hope,

optimism, and self-efficacy, personality testing has come to be viewed as essential to

understanding the conceptual overlap between the fields of vocational psychology and I-O

Psychology (Tokar, Fischer, & Mezydlo Subich, 1998; Hough, 2001). These realizations have

contributed to the growth of the literature on the mutually beneficial relationship between

vocational psychology and positive psychology (O'Brien, 2003; Robitschek, 2003). The

restoration of hope is now considered by some as an indicator of progress in treatment (Vissers et

al., 2010).

The research on demoralization that followed in the wake of the revision of the MMPI-2

required a definition of the term. Groundwork for this process had been begun by a number of

authors, most notably, Jerome Frank. Frank proposed that demoralization was a fundamental

lack of self-efficacy and further, was the foundation for all psychiatric symptoms (Frank, 1974).

Research indicated that individuals who scored high on the RCd scale believed that "they

expect to fail or believe they have failed, in various aspects of their lives (Tellegen et al., 2003,

p. 54). At greater levels of elevation (RCd T score $\geq$ 75) individuals may be experiencing

significant emotional discomfort and a sense of helplessness, and report feeling overwhelmed

and incapable of coping with their current circumstances" (Graham, 2006), p. 54). Kissane, et

al. (2004) found through factor analysis of the RCd scale that five general dimensions emerged:

loss of meaning, dysphoria, disheartenment, helplessness, and a sense of failure (Kissane et al.,

2004). In the literature, demoralization has received the general description of existential or

subjective distress, and subjective incompetence (de Figueiredo, 1993; J. Murphy, 1986).

Research on hope, optimism, and self-efficacy, suggests that optimism is more a

subjective state that reflects a general, positive outlook as opposed to hope theory which suggests

that hope has components of external activity (Bryant & Cvengros, 2004; Snyder et al., 2000;

Snyder, Irving, & Anderson, 1991). Snyder proposed that three distinct and essential

components define the presence of hope: 1) a goal (or *anchor points*), 2) a conceptualization of

how to attain the goals (or *pathways*), and 3) the will or the willingness to achieve those goals (or

agency) (Snyder et al., 2000). This definition is easily transferred into the process of VR or

vocational development.

It has been recognized for some time that there is a direct correlation between disability

and psychological distress (Craig & Van Natta, 1983). It has also been established that there is a

direct correlation between employment, psychological distress, socioeconomic status (SES) and

demoralization (Tweed, Shern, & Ciarlo, 1988) and that such traits as vocational self-efficacy

and vocational decision-making skills are critical to the process of vocational satisfaction as well

as general life satisfaction (Robitschek, 2003).

The literature on the relationship of hope to vocational success is sparse (Juntunen &

Wettersten, 2006). Jackson and Neville (1998) in their investigation of the relationship between

hope and vocation suggest that hope, the antithesis of demoralization, is a key factor in

vocational development and success (Jackson & Neville, 1998).

In response to the scarcity of research on demoralization and hope in the field of VR, this

study will look at the prevalence of demoralization in a VR population, the degree of those

elevations, and the correlations of the RCd to other scales of the MMPI-2 and the MMPI-2-RF.

Hypotheses

1. The frequency of clients in the sample who have clinically significant elevations on RCd
   is greater than expected by chance.

2. The mean RCd elevation in the sample is higher than average.

3. There are statistically significant relationships between the RCd and other scales.

CHAPTER THREE

Method

Subjects

The subjects for this study were evaluated for vocational potential by the University Rehabilitation Services (URS) in the Rehabilitation Counseling Program at UT Southwestern School of Health Professions. They were referred to the URS by the Department of Assistive and Rehabilitative Services (DARS) of Texas with the exception one client who was self-referred.

As part of the comprehensive evaluation, each client was administered the MMPI-2 which included the Restructured Form (the Restructured Clinical Scales-RCS). Scores from all scales were recorded as were basic demographic data: age, ethnicity, gender, and IQ. Diagnoses on AXIS I and AXIS II, if any, were also recorded.

To identify and eliminate invalid test profiles, the following exclusionary criteria were employed for the MMPI-2 scores: Cannot Say > 30, VRIN *T scores* > 80, TRIN *raw scores* < 5 and > 13, LK and T *T scores* > 80 and F *Raw scores* > 30 (Butcher, Graham, & Ben-Porath, 1995; Rouse et al., 2008). This yielded a selection of 54 valid profiles.

Ages of the subjects ranged from 18 to 74 years with the median age $M = 41.50$ ($SD = 12.83$). Nearly a third of the group were ages 40 to 49, (27.78% of the subjects). The majority of the subjects (87.4%) were between the ages of 30 to 59. Subjects were 59.26% male, 40.74% female and 61.11% African American, 29.63% Caucasian and 9.26% Hispanic. Socioeconomic status (SES) data for the subjects was unavailable.

Measured IQ for the subjects in this study ranged from 66 to 118. The Borderline Intellectual Functioning (BIF) criterion for the Diagnostic and Statistical Manual of Mental Disorders-IV (DSM-IV) is different from that of the Wechsler Adult Intelligence Scale-IV (WAIS-IV). The DSM-IV BIF criterion was used for the current study and the WAIS-IV BIF criterion was reported for reference (see Table 2).

For measured IQ, the largest group placed in the Average range (42.49%) and 61.11% were in the Low Average or Average range (see Table 2). Nearly a third of the subjects were in the Borderline Intellectual Function range (29.62%). The median score was $M = 89.00$ ($SD = 12.21$).

Diagnostic categories were also recorded. Similar diagnoses were organized into more general categories. For example, the diagnoses of 296.52 Bipolar I Disorder, Most Recent Episode, Depressed, Moderate and 296.80 Bipolar Disorder NOS would be counted under the Bipolar Disorder category. Similarly, substance use disorders were counted under the Substance Disorder category whether or not the diagnosis was for Substance Abuse or Substance Dependence. If a subject received more than one substance use disorder diagnosis, this was counted as a single Substance Disorder diagnosis. Depressive and Dysthymic disorders were listed together under Depressive Disorders.

There was a wide range of specific diagnoses and many of the subjects were assigned more than one diagnosis. Nearly half, 42.59%, received one diagnosis, 27.78% received two diagnoses, 18.52% received three diagnoses, and 11.11% received no diagnosis. Nearly half of the subjects (46.30%) received more than one diagnosis.

The two most common diagnostic categories were the Depressive and Substance

Disorder categories. They were each represented in 33.33% of the sampling or, together, were

represented in 66.66% of the total population (see Table 3)[2]. Bipolar and Borderline Intellectual

Functioning (BIF) diagnoses were each present in 22.22% of the population. There were no

significant correlations between the diagnoses and elevations on the RCd. Due to the small

sample size, these findings should be considered suggestive and not conclusive.

Measures

Comparisons were made between the prevalence of demoralization in the general

population and elevations on the RCd for the study population. Comparisons were also made

between the study sample and a normative sample for elevations on the RCd that would indicate

the degree of demoralization.

A correlation matrix was constructed to compare the intercorrelations between the RCd

and the MMPI-2-RF Restructured Clinical Scales (RCS) and the MMPI-2 Clinical Scales, with

the exception of Scales 5 and 0 (see Tables 4 and 5). These data were compared with the results

of a correlation study of those scales in a normative population.

And, lastly, a correlation matrix was used to determine if there were significant

correlations between the RCd and other, selected scales of the MMPI-2 and the RCS. Three

criteria were used to select the scales for this correlation. First, scales were selected based on

previous studies that established strong correlations with the RCd. Clinical Scales 2 and 7, and

Scale A (Welsh's A), were included based on this criteria. Second, the Content and

Supplementary scales were reviewed and selected for content that related to the RCd. This led to

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[2] Note that the figures for the prevalence of diagnostic categories do not add up to 100% since nearly half of the
subjects were counted in more than one diagnostic category.

the selection of Content Scales ANX, OBS, WRK, and TRT. Supplementary Scales Es and Do

were selected for their inverse relationship with the RCd construct. Lastly, component scales for

the Clinical (Harris-Lingoes) and Content scales were reviewed for similarity of content to the

RCd. This led to the selection of D1, D2, D3, D4, D5 (subscales for CS2), Pd5, Sc2, SC4,

DEP1, DEP3, TRT1 and TRT2. Table 6 contains a list of the selected scales and their

descriptors (Greene, 2000) which can be compared with the descriptors for the RCd (see Table

8).

Procedure

Subjects were selected from clients of the URS who were evaluated for vocational potential.

Charts were reviewed for evaluations dating from 2003 (the year the MMPI-2-RF was published)

to April 24th, 2012. Of the clients who were administered the MMPI-2-RF, the exclusionary

criteria were applied which left a viable sample of 54 cases who were tested between July 6th,

2006 and April 27th, 2012.

CHAPTER FOUR

Results

A review of the literature for the prevalence of demoralization in the general population was unfruitful. The few studies that addressed this topic referred to 1980 data (de Figueiredo & Frank, 1982; J. M. Murphy et al., 2000). These figures from 1980 placed the prevalence of demoralization in the US at 25%. As problematic as this estimate was, it was taken into comparison to the study population prevalence of 31.48%. Further analysis was done using the equivalence of scores on the RCd to percentile rankings in the study population and in a normative group (Graham, 2006).

The distribution of the scores on the RCd for the study sample were 68.52% Normal ($T \leq$ 64) and 31.48% elevated ($T = \geq 65$). Elevated scores were further broken down into moderately elevated 12.96% ($T = \geq 65$ and ≤ 74) and high 18.52% ($T \geq 75$). The mean was $M = 57.57$ ($SD = 14.47$).

A further review of the literature was undertaken to find data on the degree of demoralization in a normative sample. These data were not available. The measures of demoralization that were used were applied to demographic subgroups and not to normative populations (Sansone & Sansone, 2010; Vissers et al., 2010). A number of independently developed measures were used and each applied different constructs (Vissers et al., 2010). None of the measures provided data as to the degree of demoralization. None of the studies reviewed used the RCd as their measure.

A correlation matrix was constructed for the intercorrelations between the RCd, the RCS and the CS. This was done to compare the correlations between these scales for the study

population and those scales in the normative population (Tellegen et al., 2003; Wallace &

Liljequist, 2005).

Many of the correlations between the RCd and the RCS and CS in the study population

were similar to the correlations for these scales in the normative sample (see Figure 2).

Correlations were stronger in the study sample for scales RC1 and RC4. Correlations with the

RCd in the study population were moderately stronger for scales RC7, RC8, RC9, RC9,

CS1(Hs), CS3(Hy), CS6 (Pa), CS8(Sc) and CS9(Ma). For scales RC1, CS2(D), CS4(Pd), and

CS7(Pt), the strength of the correlations in the study population over the normative sample were

similar. For three scales (RC2, RC3, and RC6) the intercorrelations with the RCd were stronger

in the normative sample (see Table 7).

A correlation matrix was constructed to analyze the intercorrelations between the RCd

and selected scales. Three criteria were used to select the scales for this correlation. Table 7

contains a list of the selected scales and their descriptors (Greene, 2000) and Table 8 is a succinct

outline of the content for the RCd (Ben-Porath, 2012, p.289).

The intercorrelations between the RCd and selected scales were strong ($r \geq 0.8$) for A,

WRK, ANX, Sc4, D1, D5, OBS, TRT, TRT1, D4, Pd5, DEP1 and 7(Pt) (see Table 6). Scales D

and DEP3 were correlated at $r > .7$; SC2 and D3 showed correlations at $r > .6$ and TRT2 (r

=5.26) and D2 (r - .37). Do (r = -.666) and Es (r = -.601) were negatively correlated to the

RCd, as expected (see Table 10).

CHAPTER FIVE

Discussion

To address the first hypothesis, studies on the prevalence of demoralization were reviewed. However, these studies were primarily limited to discreet populations. For example, demoralization has been studied as a factor in a wide range of medical settings (Clarke, Kissane, Trauer, & Smith, 2005; Mangelli et al., 2005), psychiatric care (de Figueiredo, 2007), patients with HIV (Treisman, Angelino, & Hutton, 2001) and in relation to suicidality (Butterworth et al., 2006). In addition, the most recent statistics available for the prevalence of demoralization in the general population were published in 1980 (Link & Dohrenwend, 1980). While the literature on demoralization makes a compelling case for the prevalence of demoralization, the absence of recent epidemiological data for the general population enlarges the margin of error across the board. Further, Link and Dohrenwend (1980) found that the prevalence of demoralization varied with several demographic groups. He found that women scored about 10 percentage points higher for demoralization than males and that demoralization rates varied inversely with SES. These highly qualified findings were that the rate of demoralization in the general population was approximately 25%. These figures, though persuasive, were considered unreliable due to the caveats of the authors (Link & Dohrenwend, 1980).

Part of the revision of the MMPI included the conversion of raw scores to T scores. In the MMPI, raw scores were converted to linear T scores. This produced different percentile rankings for the same T scores in different scales. To address this, for the MMPI-2, raw scores were converted to uniform T scores so that the T scores on any scale had the same percentile values (Butcher et al., 2001; Graham, 2006; Tellegen & Ben-Porath, 1992).

The cutoff for high scores on the MMPI-2 and MMPI-2-RF is $T \geq 65$. This is in the

92nd percentile and represented in 8% of the population. The prevalence of scores on the RCd

scale ($T \geq 65$) in the study population was 31.48%. This, in addressing Hypothesis 1, indicates

that the prevalence of demoralization is higher in the study population than in the general

population .

To address the second hypothesis, studies on the prevalence of demoralization were

reviewed for degrees of demoralization. Several obstacles were encountered. There were three

measures in the literature that were the most widely used: the Psychiatric Epidemiological

Research Interview-Demoralization (PERI-D) developed by Dohrenwend and colleagues (1980),

the Demoralization Scale (DS) developed by Kissane and colleagues (2004), and the Subjective

Well-Being Scale (SWS), from Grissom and colleagues (2002). In studies that utilized these

three measures, the degree of demoralization was not reported. For a full discussion of the

advantages and limitations of the PERI-D, the DS, and the SWS, see Vissers (2010). There were

no data on the degree of elevation on the RCd scale or degree of demoralization in the studies

reviewed.

Further, research on the distinction between depression and demoralization as discreet

constructs began some time ago (de Figueiredo, 1993) yet has only relatively recently been

generally accepted (Jacobsen et al., 2010). Thus, findings of earlier research on demoralization

is confounded by overlapping constructs between depression and demoralization. In addition,

few of the studies on the prevalence of demoralization reviewed for this study utilized the

MMPI-2, or the MMPI-2-RF. Instead, the research used unidimensional measures designed

specifically to detect the presence of demoralization. Correlations of these measures with the

RCd were not available and their findings could not be equated with findings which utilized the

RCd. However, referring to the uniform T score to percentile equivalent for the MMPI-2-RF,

elevations on the RCd scale of the study population were reviewed for their percentile

equivalents in the general population (see Table 10) to address Hypothesis 2 (Butcher et al.,

2001). The elevations on the RCd in the study population were greater than in the normative

population, as noted above. In addition, the elevations in the higher ranges of RCd scores were

greater than in the normative population. Though not conclusive, this suggests that the elevations

of the RCd in the study population were higher than in the general population; further research is

needed for confirmation.

In addressing the third hypothesis, analyses of the intercorrelations of the RCd with the

RCS, CS and selected scales yielded considerable data (see Table 9). As expected from prior

studies, the RCd was strongly correlated with the CS2 and CS7 ($r = .776$ and $r = .818$,

respectively). The correlations of the RCS and CS were significant at the 0.01 level with the

exception of RC3, which was weakly correlated with the RCd ($r = .15$).

There were differences between the study data and the normative data for the correlations

between the RCd and RC1 and RC2. The intercorrelations were higher for the study population

than for the normative group. The higher correlation on RC1 for the study might be indicative of

a greater prevalence of medical illness and/or other somatic concerns. Information on medical

diagnoses was not available in the study population. The higher correlation of the RCd with

RC4 might be indicative of a higher prevalence of criminal history and a higher prevalence of

Substance Abuse (SA). Available data on criminality in the study populations was inconsistent

and therefore not included in this study. In regard to substance use disorders, studies have shown

that in this population, the MMPI-2 scales that reflect the presence of SA disorders (the AAS,

ACK, APS, MAC-R, and the PRO) can be accompanied by an elevation on the RC4 (Graham,

2006; Graham & Strenger, 1988).

    The study population had an SA prevalence of 20.22%. The national average for

substance dependence in the US is about 12% for alcohol and 2-3% for illicit drugs for a

combined prevalence of 14-15% (Merikangas & McClair, 2012; RTI-International, 2011). This

could account for the higher correlation of the RCd with RC4 in the study population. Further

research is needed to determine if this finding is representative of the VR population at large.

    There was an unexpected difference in the correlation between the RCd and RC3 when

compared to the normative population. The correlation between the RCd and the RC3 in the

normative population was $r = 0.45$ and $r = 0.150$ in the study population. The core construct of

the RC3 is the degree of trust in others. High scorers on this scale are reported to regard others

as untrustworthy, uncaring, and self-serving. A brief discussion of this is below.

Intercorrelations between the rest of the scales for the study population are close to those of the

normative sample (see Fig. 1).

    The strongest correlation between the RCd and the selected scales was with the A Scale

(see Table 10). This was expected based on previous studies (Rouse et al., 2008). The next

strongest correlation for the RCd was with the WRK (Work Interference) scale ($r = .932$), which

has substantial implications for VR (Friedman et al., 2001). High scores on this scale indicate

the presence of pessimistic and self-defeating responses to life and to work (Friedman et al.,

2001; Graham, 2006). High scorers can feel hopeless and may exhibit symptoms of depression

which may include low energy levels and an inability to concentrate. Research has shown that

subjects with high scores on the WRK scale are more likely to have difficulty finding and

maintaining employment. Not surprisingly, there was also a strong correlation between the

WRK and A scales (Friedman et al., 2001). In this study, the correlation between the WRK and

the A scales was $r = .926$.

The ANX Scale was more strongly correlated with the RCd ($r = .894$) than with CS7(Pt)

($r = .818$) or RC2 ($r = .598$). Even though the general design of the ANX scale is to assess levels

of anxiety, the high correlation with the RCd in the study population may be due to the presence

of elements in this scale of hopelessness, dread, feelings of being overwhelmed by daily life, and

feelings of depression (Friedman et al., 2001; Graham, 2006). This conceptual similarity could

be due to the presence of the demoralization construct in the ANX Scale.

The correlation between the RCd and CS2(D) for the study population was close to the

normative sample ($r = .776$ and $r = .74$, respectively). However, the Harris-Lingoes component

scales, D1, D2, D3, D4, and D5 varied in their correlation to the RCd. For three of the

component scales, the correlations were higher than for the parent scale: D1 ($r = .881$), D5

($r = .877$), and D4 ($r = .831$). From the descriptors for these component scales (Graham, 2006),

there is a theme to scales D1, D4 and D5 which is less prevalent in scales D2 and D3, namely,

feelings that life is no longer worthwhile and feelings of inferiority and uselessness. Since these

are also elements of the RCd, elevations on these scales would be expected. The correlation with

scale D3, though lower than for D1, D4, and D5, was still strong ($r = .776$). Interestingly, the

correlation with scale D2 was low ($r = .37$). Descriptors unique to scale D2 include passivity

due to the over control of anger and hostility. This would imply that there is less of this

constraint in the study population. However, the implications of this finding is speculative.

The OBS (Obsessiveness) Scale was correlated with the RCd at $r = .848$. This would be expected based on research that shows a strong correlation between the RCd and some aspects of anxiety (Wallace & Liljequist, 2005). The descriptors for the OBS scale, in addition to descriptors related to anxiety and anxiety disorders, include hopelessness and symptoms of depression (Graham, 2006).

Correlations with the TRT ($r = .838$) scale and its subscales relate to the likelihood of a subject to be receptive in a therapeutic setting and adherent to a course of treatment. The correlation with the RCd was nearly the same for TRT and TRT1 ($r = .834$). Their constructs overlap regarding the expectation of negative outcomes, that life's problems cannot be solved, and hopelessness. However, the construct for TRT2 ($r = .526$) emphasizes someone's guardedness and their inability or unwillingness to reveal personal information (Friedman et al., 2001; Graham, 2006). This is not part of the RCd construct and a weaker correlation would be expected.

The Pd5 Scale (the Harris-Lingoes subscale for CS4), was selected based on the conceptual overlap with the RCd. The construct for the Pd5 includes diminished interest in daily life and a general feeling of discontentment (Graham, 2006). The correlation of the Pd5 to the RCd was $r = .83$. Since the Pd5 also includes brooding and remorse, these elements may extend to the RCd and is a topic for further research.

The strong correlation of scale Sc2 with the RCd was expected given the conceptual overlap. High scorers on the Sc2 report they felt life was not worth living. Even though the Sc2 is a subscale of CS8, which was constructed to assess symptoms of schizophrenic states, the Sc2 is weighted more toward a withdrawal from the self and the world (D. Nichols & Greene, 1995).

A negative correlation with the RCd was expected from two of the selected scales: The Do (Dominance) and Es (Ego Strength). This was based upon the inverse relationship of their constructs with the constructs of the RCd. High scorers on the Do scale tend toward self-confidence, self-efficacy, and the tendency to feel secure and have fewer symptoms of anxiety, depression or somatic complaints (Graham, 2006). The correlation with the RCd was $r = -.666$. Similarly, high scorers on the Es scale tend toward fewer and less severe psychological symptoms. High scores on the Es scale suggest mental and emotional stability and resilience. Correlation of the Es with the RCd was $r = -.601$. Correlations for both the Do and Es scales and the RCd were significant at the .01 level.

From the correlation figures cited above as compared with the normative data, the VR population of this study had a greater prevalence of SA and a stronger correlation with somatic complaints and antisocial tendencies. A higher prevalence of demoralization (RCd $T \geq 65$) was observed when compared to a normative population. Further studies are needed to examine these findings with larger populations.

It is advised by the architects of the RCS to begin interpretation of the RCS with the RCd (Tellegen et al., 2003). Analysis of the intercorrelations between the RCd and the other scales of the MMPI-2 and the remaining 84 MMPI-2-RF scales not included in this study would provide greater definition of the RCd and indicate utility in other areas not generally included in the RCd domain. This would include relationships with health care professionals, amenability to psychological care, vocational potential, the presence of SA, and suicidality, to name a few.

Limitations of the Study

The current study looks at 54 subjects in a VR setting. The findings of this study may not represent the true demographic of the VR population given the size of the sampling. This is a limit to the generalizability of the findings. However as a pilot study, these findings suggest the need for further research.

The normative data used for comparison to the study data was in the form of intercorrelations between the RCd and the RCS and CS (except Scales 5 and 0). This prevented direct comparison of the prevalence of elevations on the RCd between the two populations as well as the degree of elevation. However, T scores for the RCS and CS were reported for their percentile equivalence (see Table 10). This allowed some comparison of the prevalence of elevation between the two populations and some inferences about the degree of elevation though further research is needed to confirm these findings.

Implications for Further Research

Given the dearth of research in the field of VR, many of the findings of this study, however limited, point the way for continued effort.

The lower correlation of the RC3 scale with the RCd in the study was unexpected. This difference may suggest that the prevalence of cynicism in the VR population is less than that in a normative population. Cynicism as a vocational factor has been studied among the employed and among a variety of vocations relative to vocational burnout (Maslach, 2003; Simpson, 2009). However, a brief review of the literature revealed no studies that evaluated cynicism or trust as factors in the process of VR. Given the absence of data on this, an explanation of what could account for these differences is purely speculative. This reflects a gap in the VR literature.

The correlation of the RCd with scale D2 was low though correlation with the parent

scale, CS2(D), was high. Scale D2 indicates passivity from over control of anger and hostility

and has a low correlation with the RCd. This may indicate a difference in the study group when

compared to the normative group. A determination of its significance could be made with future

studies on the prevalence of aggression and hostility in VR populations and by correlation

studies for the RCd that include scales ANG, AGGR, O-H and their subscales. This could

provide important data on personality dynamics in a VR population.

Of the 112 scales of the MMPI-2 and MMPI-2-RF, this study looks at the the

intercorrelations between 28 of them. Of these 28 scales, 19 have been studied previously for

their intercorrelation with the RCd (the other RCS and the CS). There are, then, 84 scales that

have not been studied in relation to the RCd and their intercorrelations with each other.

Unexpected correlations, such as with subscales D2 and Pd5, might be found in other subscales

as well. Similarly, the unexpected correlation of the RCd with the CS3(Hy) might be explained

by examining the correlations with the CS3(Hy) subscales H1, H2, H3, H4, and H5. Research

on the intercorrelations between the RCd and the 84 scales and subscales not reviewed in this

study might provide additional useful data.

The strong correlation between the RCd and the WRK scale ($r = .932$) underscores the

value the RCd has in a VR setting. While the WRK scores alone would be helpful in VR

assessment, a comparison with the RCd would likely bring greater definition as to the client's

personality. If hopelessness and lack of self-efficacy, as suggested above, are key components of

the RCd scale, then the correlation with the WRK scale would indicate a similar construct. This

emphasizes and extends the current research and suggests that hope is an essential element, not

only of psychological health (Frank, 1974), but of vocational success and satisfaction (Juntunen & Wettersten, 2006).

Studies on correlations between the RCd and VR outcomes would provide data that addresses a gap in the literature (Juntunen & Wettersten, 2006). It could also provide data for evaluation and subsequent refinement of VR processes. Some of the findings of this study are statistically significant and relevant to issues in VR. Findings from outcomes studies could provide useful data regarding the relevance this study's findings to VR.

Many of the studies on demoralization and hope use measures other than the MMPI-2 and the MMPI-2-RF. Future studies on the convergent validity of these measures, which include the MMPI-2 and the MMPI-2-RF, would make it possible to equate the findings of existing and future research in VR and other areas. This would be especially useful in developing a discourse with Positive Psychology.

As a hope scale, the RCd has the advantage over unidimensional measures of demoralization and hope in that the RCd is embedded in a rich field of personality data. This could provide greater depth, breadth, and definition to the measurement of hope. If used as a hope scale, the RCd could contribute to the further refinement of the hope/demoralization construct and its relationship to other aspects of the human personality.

It seems that this study has found at least as much research missing as it has found present. This underscores the need stated by other authors for further research in other areas such as VR (Juntunen & Wettersten, 2006), the epidemiology of demoralization (de Figueiredo, 2005), the epidemiology of hope (M. Seligman, 2012), and the role of demoralization in medical settings (Vissers et al., 2010), to name a few. Without these data, the role that demographic

factors play in the presence and degree of demoralization and hope in any population is confounded (J. Murphy, 1986).

As de Figueiredo (1983) and Murphy (1986) point out, one of the main obstacles in epidemiological studies on demoralization (and other psychological and affective states) has been the lack of a clear construct for the trait to be studied. Since both demoralization and hope have come to be better defined, this paves the way for epidemiological studies on the prevalence of demoralization and hope in the general population and, to some degree it has (Cockram, Doros, & De Figueiredo, 2009; Vissers et al., 2010). The study of demoralization and hope in demographic subgroups, VR clients being among them, would provide data on the role demoralization and hope play in their dynamics. This would also identify demographic factors that affect the measurement of the prevalence of demoralization in the general population (Dohrenwend, Dohrenwend, et al., 1980; Dohrenwend, Shrout, Egri, & Mendelsohn, 1980).

Since the RCd is equally a measure of hope and of demoralization (Sellbom & Ben-Porath, 2005) it could be thought of, if you will, as an upside down hope scale. With the advent of the MMPI-2-RF and in particular the RCd, and the rise of Positive Psychology, the RCd, along with the MMPI-2 and the MPI-2-RF, could become effective instruments in the effort toward a greater understanding of perhaps the most important of human traits: hope (Frank, 1974).

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Table 1

Early Research Using the MMPI

Article Title	Authors
Occupational differences in the Minnesota Multiphasic Personality Inventory	Verniaud, 1946
Changes in personality appraisal associated with a restricted intake of B vitamins and protein	Henderson, et al., 1947
Personality characteristics of selected disability groups	Wiener, 1952
MMPI personality patterns for various occupations	Daniels & Hunter, 1949
Constipation and adjustment among illiterate males	Altus, 1950
MMPI performance and insulin shock therapy	Carp, 1950
The psychometric localization of brain lesions: The differential effect of frontal and parietal lesions on MMPI profiles	Andersen & Hancik, 1950
Studies of social intolerance: II. A personality scale for anti-Semitism	Gough, 1951
MMPI profiles in multiple sclerosis	Canter, 1951
Some psychological aspects of dermatosis	Narcisco, 1952
An experimental investigation of the hypnotic dream	Sweetland & quay, 1952

Table 2

IQ Score Distribution in Study Population

	SBA	BIF	Low Average	Average	High Average
WAIS-IV	≤ 70	70-79	80-89	90-109	110-119
	1.85%	18.25%	29.63%	42.59%	7.41%
DSM-IV		71-84			
		29.63%			

SBA = Substantially Below Average
BIF = Borderline Intellectual Functioning

Table 3

Percentage of Diagnostic Categories in Study Population

Diagnosis	n	Percentage
Substance Disorders	18	33.33
Depressive Disorders	18	33.33
Bipolar Disorders	12	22.22
BIF	12	22.22
Cognitive Disorders	8	14.81
No Dx	6	11.11
Learning Disorders	4	7.41
Schizophrenic Disorders	4	7.41
PTSD	3	5.56
Anxiety Disorders	2	3.70
Pain Disorders	2	3.70

Table 4

Intercorrelations of the MMPI-2 Original Clinical Scales and Restructured Clinical Scales in a Vocational Rehabilitation Population

	RCd	RC1	RC2	RC3	RC4	RC6	RC7	RC8	RC9	1 (Hs)	2 (D)	3 (Hy)	4 (Pd)	6 (Pa)	7 (Pt)	8 (Sc)	9 (Ma)
RCd	1	.737**	.598**	0.15	.600**	.384**	.874**	.544**	.516**	.502**	.776**	.423**	.552**	.684**	.818**	.802**	.340*
RC1	.737**	1	.474**	0.19	.509**	.377**	.679**	.570**	.368**	.831**	.666**	.637**	.440**	.559**	.749**	.791**	.278*
RC2	.598**	.474**	1	0.09	0.15	0.25	.453**	0.21	0.09	.451**	.802**	.372**	.546**	.498**	.650**	.636**	-0.07
RC3	0.15	0.19	0.09	1	.313*	.387**	0.26	.281*	.353**	0.03	0.07	-.298*	0.10	-0.06	-0.05	0.06	0.15
RC4	.600**	.509**	0.15	.313*	1	.476**	.683**	.546**	.537**	0.24	.351**	0.14	.539**	.530**	.474**	.533**	.351**
RC6	.384**	.377**	0.25	.387**	.476**	1	.537**	.573**	.511**	0.26	0.26	0.26	.507**	.616**	.423**	.564**	.490**
RC7	.874**	.679**	.453**	0.26	.683**	.537**	1	.623**	.603**	.385**	.580**	.581**	.435**	.670**	.745**	.764**	.473**
RC8	.544**	.570**	0.21	.281*	.546**	.573**	.623**	1	.436**	.368**	.311*	0.25	.500**	.448**	.565**	.654**	.495**
RC9	.516**	.368**	0.09	.353**	.537**	.511**	.603**	.436**	1	0.14	0.21	0.00	0.21	.469**	.386**	.414**	.661**
1 (Hs)	.502**	.831**	.451**	0.03	0.24	0.26	.385**	.368**	0.14	1	.619**	.767**	.434**	.449**	.677**	.668**	0.08
2 (D)	.776**	.666**	.802**	0.07	.351**	0.26	.580**	.311*	0.21	.619**	1	.581**	.608**	.603**	.817**	.759**	0.00
3 (Hy)	.423**	.637**	.372**	-.298*	0.14	0.26	.581**	0.25	0.00	.767**	.581**	1	.284*	.434**	.611**	.546**	0.03
4 (Pd)	.552**	.440**	.546**	0.10	.539**	.507**	.435**	.500**	0.21	.434**	.608**	.284*	1	.630**	.628**	.712**	0.16
6 (Pa)	.684**	.559**	.498**	-0.06	.530**	.616**	.670**	.448**	.469**	.449**	.603**	.434**	.630**	1	.742**	.755**	.418**
7 (Pt)	.818**	.749**	.650**	-0.05	.474**	.423**	.745**	.565**	.386**	.677**	.817**	.611**	.628**	.742**	1	.925**	.318*
8 (Sc)	.802**	.791**	.636**	0.06	.533**	.564**	.764**	.654**	.414**	.668**	.759**	.546**	.712**	.755**	.925**	1	.391**
9 (Ma)	.340*	.278*	-0.07	0.15	.351**	.490**	.473**	.495**	.661**	0.08	0.00	0.03	0.16	.418**	.318*	.391**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5

Intercorrelations of the RCd Scale with Selected Scales of the MMPI-2 in a Vocational Rehabilitation Population

	dem	D	Pt	D1	D2	D3	D4	D5	Pd5	Sc2	Sc4	ANX	OBS	WRK	TRT	DEP1	DEP3	TRT1	TRT2	A	Es	Do
dem	1	.776**	.818**	.881**	.370**	.640**	.831**	.877**	.830**	.667**	.887**	.894**	.848**	.932**	.838**	.829**	.767**	.834**	.526**	.941**	-.601**	-.666**
D	.776**	1	.817**	.927**	.721**	.706**	.886**	.726**	.666**	.582**	.799**	.700**	.608**	.737**	.650**	.754**	.501**	.631**	.443**	.727**	-.518**	-.495**
Pt	.818**	.817**	1	.855**	.546**	.642**	.830**	.763**	.748**	.669**	.857**	.755**	.736**	.762**	.667**	.764**	.561**	.664**	.502**	.824**	-.601**	-.562**
D1	.881**	.927**	.855**	1	.611**	.629**	.932**	.851**	.774**	.684**	.886**	.800**	.735**	.850**	.730**	.834**	.671**	.736**	.445**	.832**	-.554**	-.587**
D2	.370**	.721**	.546**	.611**	1	.363**	.572**	.325*	.434**	.456**	.484**	.296*	.194	.303*	.311*	.491**	.266	.222	.367**	.325*	-.231	-.189
D3	.640**	.706**	.642**	.629**	.363**	1	.582**	.581**	.541**	.462**	.655**	.595**	.604**	.576**	.580**	.602**	.384**	.562**	.385**	.646**	-.466**	-.434**
D4	.831**	.886**	.830**	.932**	.572**	.582**	1	.799**	.732**	.611**	.847**	.786**	.718**	.842**	.721**	.825**	.590**	.701**	.471**	.800**	-.533**	-.495**
D5	.877**	.726**	.763**	.851**	.325*	.581**	.799**	1	.744**	.608**	.810**	.803**	.802**	.859**	.727**	.761**	.730**	.751**	.484**	.881**	-.553**	-.622**
Pd5	.830**	.666**	.748**	.774**	.434**	.541**	.732**	.744**	1	.601**	.741**	.735**	.787**	.787**	.734**	.740**	.832**	.684**	.496**	.842**	-.496**	-.636**
Sc2	.667**	.582**	.669**	.684**	.456**	.462**	.611**	.608**	.601**	1	.826**	.567**	.546**	.616**	.567**	.814**	.599**	.558**	.304*	.598**	-.422**	-.403**
Sc4	.887**	.799**	.857**	.886**	.484**	.655**	.847**	.810**	.741**	.826**	1	.832**	.762**	.852**	.756**	.886**	.686**	.739**	.493**	.859**	-.599**	-.568**
ANX	.894**	.700**	.755**	.800**	.296*	.595**	.786**	.803**	.735**	.567**	.832**	1	.822**	.883**	.748**	.737**	.662**	.722**	.515**	.896**	-.594**	-.651**
OBS	.848**	.608**	.736**	.735**	.194	.604**	.718**	.802**	.787**	.546**	.762**	.822**	1	.888**	.808**	.703**	.744**	.803**	.524**	.903**	-.590**	-.623**
WRK	.932**	.737**	.762**	.850**	.303*	.576**	.842**	.859**	.787**	.616**	.852**	.883**	.888**	1	.881**	.837**	.759**	.835**	.591**	.926**	-.615**	-.652**
TRT	.838**	.650**	.667**	.730**	.311*	.580**	.721**	.727**	.734**	.567**	.756**	.748**	.808**	.881**	1	.792**	.745**	.901**	.767**	.856**	-.488**	-.598**
DEP1	.829**	.754**	.764**	.834**	.491**	.602**	.825**	.761**	.740**	.814**	.886**	.737**	.703**	.837**	.792**	1	.658**	.753**	.521**	.796**	-.490**	-.526**
DEP3	.767**	.501**	.561**	.671**	.266	.384**	.590**	.730**	.832**	.599**	.686**	.662**	.744**	.759**	.745**	.658**	1	.698**	.500**	.784**	-.436**	-.656**
TRT1	.834**	.631**	.664**	.736**	.222	.562**	.701**	.751**	.684**	.558**	.739**	.722**	.803**	.835**	.901**	.753**	.698**	1	.573**	.812**	-.529**	-.573**
TRT2	.526**	.443**	.502**	.445**	.367**	.385**	.471**	.484**	.496**	.304*	.493**	.515**	.524**	.591**	.767**	.521**	.500**	.573**	1	.630**	-.333*	-.442**
A	.941**	.727**	.824**	.832**	.325*	.646**	.800**	.881**	.842**	.598**	.859**	.896**	.903**	.926**	.856**	.796**	.784**	.812**	.630**	1	-.604**	-.665**
Es	-.601**	-.518**	-.601**	-.554**	-.231	-.466**	-.533**	-.553**	-.496**	-.422**	-.599**	-.594**	-.590**	-.615**	-.488**	-.490**	-.436**	-.529**	-.333*	-.604**	1	.551**
Do	-.666**	-.495**	-.562**	-.587**	-.189	-.434**	-.495**	-.622**	-.636**	-.403**	-.568**	-.651**	-.623**	-.652**	-.598**	-.526**	-.656**	-.573**	-.442**	-.665**	.551**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 6

List of Selected Scales and their Selection Rationales

Scale	Rationale
Clinical Scales	
CS 2(D)	Literature: High correlation with the RCd
CS 7(Pt)	Literature: High correlation with the RCd
Harris-Lingoes	
Subjective Depression (D1)	Subscale of CS 2
Psychomotor Retardation (D2)	Subscale of CS 2
Physical Malfunctioning (D3)	Subscale of CS 2
Mental Dullness (D4)	Subscale of CS 2
Brooding (D5)	Subscale of CS 2
Self-Alienation (Pd5)	Uncomfortable, unhappy, uninterested in daily life; regret, guilt, remorse
Emotional Alienation (Sc2)	Feelings of depression, despair; apathy
Lack of Ego Mastery, Conative (SC4)	Depression, despair, withdraw into fantasy, given up hope of things getting better
Content Scales	
ANX	Pessimism, hopelessness
OBS	Low self-confidence; hopeless
WRK	Feel like a failure; hopeless; low energy levels; overwhelmed
TRT	Feel they are unable to make significant changes in their lives; hopeless
Content Component Scales	
Lack of Drive (DEP1)	Life is meaningless; given up on change for the better
Self-Depreciation (DEP3)	Feeling inadequate and guilty about past behaviors
Low Motivation (TRT1)	Helplessness and pessimism about solving one's problems
Inability to Disclose (TRT2)	Inability or unwillingness to disclose personal information
Supplementary Scales	
A	This is the original Welsh A, "first factor" scale; High A scale indicates there is enough discomfort to be motivated toward change in psychotherapy (Duckworth and Duckworth, 1975) [from Greene, 2000]
ES	Ego strength (inverse correlation expected)
Do	Dominance (inverse correlation expected)

Table 7

Intercorrelations Between the RCd and the RCS

	RC1	RC2	RC3	RC4	RC6	RC7	RC8	RC9
Study	0.737	0.598	0.150	0.600	0.384	0.874	0.544	0.516
Normative	0.52	0.70	0.45	0.35	0.47	0.74	0.44	0.36

Intercorrelations Between the RCd and the CS

	1 (Hs)	2 (D)	3 (Hy)	4 (Pd)	6 (Pa)	7 (Pt)	8 (Sc)	9 (Ma)
Study	0.502	0.776	0.423	0.552	0.684	0.818	0.802	0.340
Normative	0.35	0.74	0.30	0.50	0.58	0.76	0.69	0.18

Table 8

Reported Symptoms for the RCd at Three Score Levels	
T score < 39	Above average life satisfaction and level of morale
T score 65-79	Feelings of sadness; state of unhappiness; dissatisfaction with life and current circumstances
T score ≥ 80	Emotional turmoil; overwhelmed; extreme unhappiness and sadness; extreme dissatisfaction with life and current circumstances

Table 9

Intercorrelations of the RCd with Selected Scales of the MMPI-2

A	WRK	ANX	Sc4	D1	D5	OBS
0.941	0.932	0.894	0.887	0.881	0.877	0.848

TRT	TRT1	D4	Pd5	DEP1	CS7(Pt)	CS2 (D)
0.838	0.834	0.831	0.83	0.829	0.818	0.776

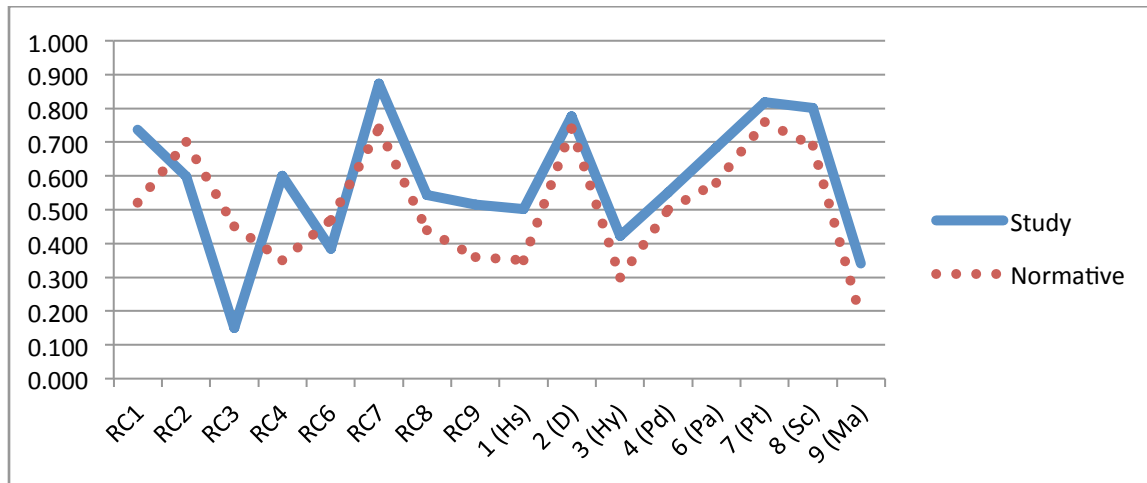| DEP3	Sc2	D3	TRT2	D2	Do	Es
0.767	0.667	0.64	0.526	0.37	-0.666	-0.601

Table 10

Elevation Comparisons: Study vs. Normative Group

Uniform T Score	% of Study Population	% of Normative Group
65	31	8
70	30	4
75	19	2
80	9	> 1

Figure 1

RCd Intercorrelations: Study Population v. Normative Population

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EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Nova Scotia College of Art and Design	B.F.A.	1976	Photography
The University of Texas Southwestern Graduate School of Allied Health	M.R.C.	2012	Rehabilitation Counseling Psychology

Positions and Employment
2001-2003   Vice President, CPAServe, Inc., Dallas, Texas
2003-2007   Independent Business Consultant. Dallas, Texas
2007-2010   General Manager, Phoenix Labor Services, Dallas, Texas
2008-2010   CD Technician, Burning Tree Recovery Ranch, Kaufmann, Texas
2012   Unit Clerk, CD Technician, Homeward Bound, Dallas, Texas

Clinical Experience
2011   Co-facilitator of a Personal and Social Adjustment Group (PSA), University Rehabilitation Services, Dallas, Texas
2011   Intern at Homeward Bound, Inc, Dallas, Texas

Professional Memberships
2012   Dallas Psychological Association
2012   The Collaborative Law Institute of Texas
2012   The American Group Psychotherapy Association