



The Carousel Network

**Chronic Neuroimmune Disease  
Information and Support for Sonoma County**  
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## **The MMPI-2 Chronic Fatigue Syndrome Profile** Linda Miller Iger, Ph.D.

The Minnesota Multiphasic Personality Inventory is a standardized psychological test. People diagnosed with CFS present different profiles than do those diagnosed with hypochondria, depression, and dementia. This test can be a useful tool in documenting the disorder in the continued absence of definitive laboratory tests.

*The Carousel Network (TCN) offers information on the various diseases and disorders associated with chronic neuroimmune diseases, such as chronic fatigue syndrome, fibromyalgia, multiple chemical sensitivity, autoimmune thyroid disease, etc. The information is intended to help patients and caregivers make informed decisions about the patient's health, diagnostic testing, and treatment in conjunction with their health care practitioners. TCN does not diagnose patients nor recommend specific medical or palliative treatments.*

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**The MMPI-2 Chronic Fatigue Syndrome Profile**  
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As the number of chronic fatigue syndrome patients who need to establish their right to disability benefits at the state or federal level grows, the Minnesota Multiphasic Personality Inventory (MMPI) takes on even greater importance as an objective, empirically based assessment instrument able to identify chronic fatigue syndrome.

**The MMPI: A Widely Used Assessment Tool**

The original MMPI was developed by Hathaway and McKinley at the University of Minnesota in 1943. The MMPI is a highly reliable and valid empirically based assessment instrument that is frequently used to screen pathology and delineate between diagnostic categories. There have been more than 20,000 journal articles written about the MMPI. Historically, the MMPI, which has been translated into more than 30 languages and used in as many as 90 countries, has had myriad uses. The MMPI has been administered by employers to help select air traffic controllers, police officers, psychologists, psychiatrists, firefighters, pilots, and Fortune 500 executives. It is also used in most penal institutions for inmate testing and in most inpatient psychiatric hospitals to test patients.

The usefulness of the MMPI can be attributed to its validity scales. These validity scales indicate how open and honest the person was when he/she took the MMPI. Because of the validity scales and the MMPI's high level of reliability, the MMPI is and has been important in aiding diagnosis and assisting patients to establish eligibility for Social Security and state disability benefits.

The MMPI-2 was developed in 1989 and became widely distributed and accepted in 1991. With the advent of the major restructuring of the MMPI-2, Butcher, Dahlstrom, Graham, Tellegen & Kraemmer, its developers, promised that there would be no significant alterations in profile configuration between the original MMPI and the MMPI-2. According to Ben-Porath and Butcher, "the stability of the 13 basic scales was retained" in the MMPI-2. Specific profiles such as depression, malingering, hypochondriasis, and chronic fatigue syndrome have remained the same. Some changes, however, were made, including:

- 1) adding an additional question;
- 2) rewording items and removing outdated and sexist language;
- 3) lowering clinical significance from 70 to 65 (the most important of the changes). (Figure 1)

**The First Study of CFS Patients Using the MMPI**

In the original study I completed in 1987, 50 females and 10 males diagnosed with CFS were tested with the MMPI-1.\* The sample of chronic fatigue syndrome patients was divided into females and males consistent with the statistically interpretative profile for the normative sample. The mean and standard deviations were found for the three validity scales and 10 clinical scales. Raw scores were converted to T scores, which are based on a mean of 50 and a standard deviation of 10, and separate T score conversions were used for males and females. In the original MMPI, two standard deviations were considered clinically significant. For clinical purposes following standardized procedures, K corrections were made. The results of that study indicated that there was a unique profile for CFS. Because the chronic fatigue syndrome profile was unique, it was obvious that the MMPI could assist physicians, psychiatrists and psychologists in the diagnosis of the disease. A profile for female chronic fatigue syndrome patients was created. Clinical significance was achieved on six clinical scales: Scale 1 (Hypochondriasis), Scale 2 (Depression), Scale 3 (Hysteria), Scale 4 (Psychopathic Deviate), Scale 7 (Psychasthenia), and Scale 8 (Schizophrenia).

The mean for each of the clinical scales for female chronic fatigue syndrome patients was large, with very small standard deviations suggesting that a high percentage of the sample endorsed each of the clinical scales at about the same level. The chronic fatigue syndrome MMPI profile for females was then compared with established profiles for normals, hypochondriasis, malingering, and depression, and found to be different from each of those.

**A New Study**

In the current study, 53 chronic fatigue syndrome patients, 41 females (N=41) and 12 males (N=12), diagnosed with chronic fatigue syndrome were administered the MMPI-2. The ratio of women to men, 4:1, closely approximates the ratio found in the general population of chronic fatigue syndrome patients. Demographic data was gathered about the patients.

The mean education for females was 14.7 years with a standard deviation of 2.1. The mean education for males was 14 years with a standard deviation of 1.9. The mean age for female patients was 40.78 years with a standard deviation of 9.7. The mean age for males was 42.75 with a standard deviation of 19.5.

As in the original MMPI-1 study, the sample of chronic fatigue syndrome patients was divided into females and males consistent with statistical interpretative profiles for the normative sample. The mean and standard deviations were found for three validity and ten clinical scales. Raw scores were converted to T scores, separate T score conversions were used for males and females. T scores, again, are based on a mean of 50 and a standard deviation of 10. One and one-half standard deviations with the MMPI-2 are considered clinically significant. For clinical purposes, following standardized procedure, K corrections were made.

### **A New MMPI Profile for Female CFS Patients**

An MMPI-2 profile for female chronic fatigue syndrome patients was created. Clinical significance was achieved on the same six clinical scales as the original profile: Scale 1 (Hypochondriasis), 2 (Depression), 3 (Hysteria), 4 (Psychopathic Deviate), 7 (Psychasthenia) and 8 (Schizophrenia). The mean for each of the clinical scales for female patients is large with small standard deviations, again suggesting a large number of the sample endorsed each of the clinical scales at about the same level. (Figure 2) T test comparisons were made between the MMPI-2 chronic fatigue syndrome female patients and the MMPI-2 normative group. Significance was found on Scales F, K, 1, 2, 3, 4, 6, 7, 8, 9, 0. (Figure 3)

The chronic fatigue syndrome MMPI-2 profile for female patients was then compared with the MMPI-1 profile for female CFS patients. We found that the two profiles were almost identical. (Figure 4)

### **A New MMPI Profile for Male CFS Patients**

In the original MMPI study consistent with statistically interpretive profiles for the normative sample, a profile for male patients was also developed. Means and standard deviations for the three validity and 10 clinical scales were found. Clinical significance was achieved on the same six clinical scales as the profile for female CFS patients.

The mean for each of the clinical scales for male MMPI-1 CFS patients was large with very small standard deviations suggesting, again, that a high percentage of the sample endorsed each of the clinical scales at about the same level. The chronic fatigue syndrome MMPI profile for males was then compared to normals, hypochondriasis, malingering, and depression, and found to be unique and different from each of those.

Using the same procedure, an MMPI-2 profile for male CFS patients was created. Clinical significance was achieved on the following scales: 1 (Hypochondriasis), 2 (Depression), 3 (Hysteria), 7 (Psychasthenia) and 8 (Schizophrenia). The mean for each of the clinical scales for the male patients was large with small standard deviations, again suggesting a large number of the sample endorsed each of the clinical scales at about the same level. (Figure 5) T test comparisons were made between the MMPI-2 chronic fatigue syndrome male patient sample and the MMPI-2 normative group. They were found to be significantly different on Scales F, 1, 2, 3, 4, 6, 7, 8 and 0. (Figure 6) The chronic fatigue syndrome MMPI-2 profile for male patients was then compared with the chronic fatigue syndrome MMPI-1 profile for male patients. (Figure 7) In contrast to that for female CFS patients, the two profiles were found to be different. Clinical significance was no longer achieved on Scale 4 (Psychopathic Deviate). In 1991, Munley found, "the MMPI-2 clinical T scores for women appear to show more similarity to the original norms than do new MMPI-2 norms for men." In another study, Munley and Zarantonello (1990) found in comparing the MMPI-1 to the MMPI-2, "the male code type profiles show a more pronounced change in elevation than do the female profiles."

### **Analysis of the Female Chronic Fatigue Syndrome MMPI-2 Profile**

Given the configuration of the female CFS patient profile, a clinician might expect the following behaviors, issues, and concerns associated with these MMPI scores: the testing results indicate that the composite female patient approached the MMPI in an open manner while endorsing a high level of intrapersonal distress and/or unusual, deviant thoughts, with a possible plea for help. The patient is probably unable to handle confrontation at this time. The Goldberg Index is consistent with neurotic, but not psychotic, processes. The profile is probably an accurate and valid sample of behavior.

This profile is consistent with the profile of chronic illness found by Naliboff, Cohen, & Yellin, 1982. Testing results indicate a significant level of distress and concern about bodily processes and physical health. Patients with profiles like this are more often seen on medical, rather than psychiatric, services, although there is indication of a significant level of depression. The patient may see the

depression as secondary to her somatic complaints. Suicidal ideation must be ruled out.

The female patient may have deep concerns and even fearfulness about the possibility of a complete physiological breakdown. It is important to note that others with profiles similar to this do experience physiological breakdown in middle to late age as a result of continuous autonomic nervous system arousal, which may be the result of processing stress physiologically, rather than through the emotions. The patient probably is in a constant state of tension and anxiety.

The patient favors traditional female defenses of repression and denial. When these defenses fail, she probably feels overwhelmed. The emotional swing between denial and feeling overwhelmed may be disconcerting to the patient. Testing results indicate the use of obsessive-compulsive defenses which aid by restricting behaviors and utilizing repetitive problem-solving strategies even when they are no longer working.

As evidenced by the testing, the female patient is experiencing difficulty concentrating, memory loss, difficulty maintaining attention and may, at times, feel confused, with a possible blurring of reality and fantasy. Testing results indicate the patient may be withdrawing from others and restricting activities. The female patient appears to have traditional values with an emphasis on home and family, yet there is indication of unexpressed anger, chaotic interpersonal relationships, and impulsivity. There is strong indication of suspiciousness of the motives of others and difficulty with authority figures.

### **Comparison of the MMPI-2 Profiles for Male and Female CFS Patients**

Given the similarities in the configuration of the male and female chronic fatigue syndrome MMPI-2 profiles, we will focus on the differences between the male and female MMPI-2 profile. The male patient is probably experiencing more psychological distress about his health and his fears and concerns about a physiological breakdown are more magnified. Psychological conflicts often manifest in somatic symptoms. Depression is experienced at a lower level than the female chronic fatigue syndrome patient. The male patient probably expresses anger more directly and is less suspicious of the motives of others than the female CFS patient. The male patient appears more tense and locked in his behavior patterns. He may obsess and ruminate about his illness and loss of health. Memory and concentration and attentional losses are endorsed at a higher level, and he may feel he is losing touch with reality.

### **A Major Alteration**

The configuration created by scales 1, 2, and 3 (Figure 7) has been interpreted with the MMPI-1 as "a conversion V," meaning a conversion of psychological conflict into physical symptoms (Lashar 1974), or processing the emotions through the body. I pondered this to account for a disconcerting finding. I had two male MMPI-2 profiles scored back to MMPI-1 (Figures 8 & 9). It appears when the MMPI-2 profiles are scored back to the MMPI-1, the "conversion V" is flattened and/or disappears. Scale 4 also seems to have been altered by the changes made within the MMPI-2. It remains to be seen if subsequent research leads to the same interpretation for the changes in the male MMPI-2 profile.

In closing, I would like to note my appreciation to Scott Fleishman and Bob Iger for "crunching the numbers" and to Scott Fleishman for conducting the literature search.

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