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Literature review: Diagnostic utility of the million clinical multi-axial inventories in various settings : the detection and effect of faking good ; research project : the impact of faking-good on the MCMI-III : Implications for child custody evaluations

Paul Lenny
Edith Cowan University

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Literature Review: Diagnostic Utility of the Millon Clinical Multiaxial Inventories in Various Settings: The Detection and Effect of Faking Good

Research Project: The Impact of Faking-Good on the MCMI-III:
Implications for Child Custody Evaluations

by **Paul Lenny**

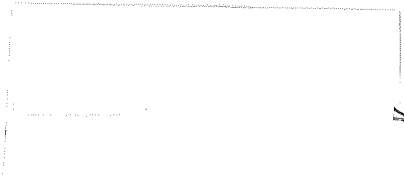
A report submitted in partial fulfilment of the requirements for the award of Bachelor of Arts (Psychology) Honours, Faculty of Community Studies, Educations and Social Sciences, Edith Cowan University

October, 2005

I declare that this written assignment is my own work and does not include:

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Declaration

I certify that this literature review and research project does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma or any institution of higher education and that, to the best of my knowledge and belief, it does not contain material previously published or written by another person except where due reference is made in the text

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Date

12-02-2006

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Diagnostic Utility of the Millon Clinical Multiaxial Inventories in Various Settings: The
Detection and Effect of Faking Good

Paul Lenny

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Abstract

Research surrounding the ability of the Millon Clinical Multiaxial Inventory (MCMI; Millon, 1977, 1987, 1994) to detect faking good was reviewed; along with the effect faking has on diagnostic accuracy. Limited research indicates moderate success of the MCMI validity indices (VI) at detecting faking good. Suggested improvements include developing a fake-good profile combining the personality scales and VI and developing new base rate adjustments with populations likely to fake good. Faking good reduces the overall diagnostic accuracy of the test but determining local base rates of faking to produce optimal cut-offs for the VI would improve diagnostic utility. Future research and development is crucial for psychologists using the MCMI with populations highly motivated to fake good.

Keywords: MCMI, Millon, fake good, impression-management

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Supervisor: Dr Greg Dear

Submitted: 31st October 2005

Diagnostic Utility of the Millon Clinical Multiaxial Inventories in a Variety of Settings:
The Detection and Effect of Faking Good

The Millon Clinical Multiaxial Inventory (MCMI; Millon, 1977; 1987; 1994) stands out from other clinical personality tests due to its rapid adoption and acceptance in a number of settings, predominantly in clinical and forensic contexts (Hagan & Castagna, 2001; Piotrowski, 1997; Quinnell & Bow, 2001; Strack, 1999; Watkins, Campbell, Nieberding, & Hallmark, 1995). The MCMI was developed as a self-report test to assess individuals in clinical settings for emotional, behavioral, or interpersonal problems (Millon, Millon, & Davis, 2005). In particular, it was designed to screen for personality disorders. The test contains several validity indicators due to the likelihood of an individual attempting to distort his or her responses in order to impart a particular impression, such as endeavoring to present oneself in the best possible light or to fake-good. This review of the literature was undertaken to ascertain current knowledge of the ability of the MCMI to detect faking good and the effect of faking good on diagnostic accuracy.

Development of the MCMI

The MCMI was developed using a three-stage validation process that included theory-based, internal-structural and external criterion measures (Jankowski, 2002). A large pool of items was examined with items being preserved or eliminated based on their perceived ability in accurately reflecting the salient features of a variety of clinical categories (McMahon, 1993). Three versions of the MCMI have been released (Millon, 1977, 1987, 1994) with the latest version containing 175 items and 28 scales. The test was modified in response to cross-validation and cross-generalization studies (Millon, Davis, & Millon, 1997) and to form a stronger relationship with Millon's developing theory and Axis I and Axis II syndromes of the *Diagnostic and Statistical Manual of*

Mental Disorders-IV (DSM-IV; American Psychiatric Association, 1994; Millon et al., 1997).

The 28 scales of the MCMI-III are divided into five sections and produce a profile able to gauge an individual's level of pathology ranging from transient to pervasive and severe personality characteristics. The sections and their comprised scales are: Clinical Personality Patterns (Schizoid-1, Avoidant-2A, Depressive-2B, Dependent-3, Histrionic-4, Narcissistic-5, Antisocial-6A, Aggressive/Sadistic-6B, Compulsive-7, Passive-Aggressive-8A, Self-Defeating-8B); Severe Personality Pathology (Schizotypal-S, Borderline-C, Paranoid-P); Clinical Syndromes (Anxiety-A, Somatoform-H, Bipolar/Manic-N, Dysthymia-D, Alcohol Dependence-B, Drug Dependence-T, Post-Traumatic Stress Disorder-R); Severe Syndromes (Thought Disorder-SS, Major Depression-CC, Delusional Disorder-PP); and the modifying indices (Disclosure-X, Desirability-Y, Debasement-Z, Validity-V).

Optimal cut-off scores to determine the presence or absence of these personality traits or styles were established by standardizing the test with clinical subjects (Groth-Marnat, 2003). One distinctive feature of the MCMI is that the cut-off scores relate to Base Rate (BR) scores when establishing the presence or absence of a specific characteristic. BR scores involve the transformation of raw scores to ensure that the percentages of people who score above the scale cut-off represent the actual prevalence of a particular scale-related characteristic in a designated population (McMahon, 1993). To ensure comprehensive representation of patient characteristics, the BR scores were developed and adjusted from patients from a wide variety of settings, including general and psychiatric hospitals, inpatient and outpatient centers, private practices, counseling centers, alcohol and drug treatment centers and family service agencies, although specific numbers are not supplied in the manual (Holliman & Guthrie, 1989).

Each item is assigned a weight, with prototypic responses receiving two points and all other items one point. A BR score of 75-84 indicates the probable presence of a specific personality characteristic or some of its symptoms, whereas a score of 85 or higher on a scale signifies the most prominent syndrome with particular characteristics of the disorder definitely present (Gibertini, Brandenburg, & Retzlaff, 1986; Groth-Marnat, 2003). Millon believed that BR scores were more appropriate than standard scores or *T* scores in clinical settings, as disorders are not normally distributed nor of equal prevalence in patient populations. Further, that anchoring cut-offs based on actual prevalence rates is more accurate when attempting to determine if an individual belongs to a particular group (Millon et al., 1997).

In order to identify problematic response styles, the MCMI contains four modifying indices. The Validity index consists of three items unlikely to be endorsed by the normal population and is used to determine if the respondent was careless, confused, failed to comprehend the items or answered in a deviant manner, such as random responding (Choca, 2004). Despite Millon et al. (1997) indicating that the Validity index was highly sensitive to random responding, other research has shown mixed results with studies indicating that the instrument is unable to consistently and accurately detect random responding (Bagby, Rogers, & Gillis, 1991a; Charter & Lopez, 2002; Retzlaff, Sheehan, & Fiel, 1991a). However, increasing the number of validity items on the index, or declaring the test invalid if only one item is endorsed as true, should increase the effectiveness of the index.

The Disclosure index, which is the result of the compilation of raw scores from the Clinical Personality Patterns, generates a score that is used to ascertain whether a respondent had a propensity to be either secretive or overly self-revealing. The Desirability scale measures the degree to which a respondent tried to present him or herself in the best possible light or to fake good. Conversely, the Debasement scale

measures the tendency for the examinee to devalue him or herself or appear psychologically or emotionally distressed (Jankowski, 2002; Millon et al., 1997). As the Validity index is not used in the detection of intentional faking (Daubert & Metzler, 2000), the term modifying indices will henceforth refer only to the Disclosure, Desirability and Debasement scales. The modifying indices were constructed by asking students to take the test while trying to respond in a specified manner, for example, "try to put your best foot forward and appear psychologically healthy" for developing the Desirability index (Millon & Davis, 1996).

Within the standard scoring procedure (Millon et al., 1997), adjustments to the BR scores are made in several situations where there is a strong response style. If the raw Disclosure score is low (<61), indicating the individual is secretive, scales 1 through PP are increased, whereas if the score is high (>123), indicating the client was overly self-revealing, scales 1 through PP are decreased. If a respondent takes the test while in an acute or intense emotional state, the Anxiety/Depression adjustment specifies scales 2A, 2B, 8B, S and C may be reduced. Recently hospitalized patients may minimize or play down their emotional distress and therefore the Inpatient adjustment is used to increase the scores on the SS, CC and PP scales. Lastly, the denial/complaint adjustment attempts to control for the tendency of people with Narcissistic, Histrionic or Compulsiveness personality styles to under-report symptoms and distress. If a person's score on any of the three scales is the highest among scales 1 through 8B, the BR score for that scale is increased by 8 points (Millon et al., 1997).

Diagnostic Utility of the MCMI in Various Settings

Studies have shown that the MCMI is increasingly becoming one of the most widely used personality assessment instruments, particularly in clinical and forensic settings (Ackerman & Ackerman, 1997; Hagan & Castagna, 2001; Martin, Allan, & Allan, 2001; Piotrowski, 1997; Quinnell & Bow, 2001; Watkins et al., 1995). As the

MCMI has inspired over 600 published articles since its release, it is beyond the scope of this review to cover all of the areas in which it has been employed. Therefore, I have only examined the main areas in which the MCMI has been used and its diagnostic accuracy in those areas.

Prior to examining the specific settings in which the MCMI has been employed, it is important to investigate the diagnostic accuracy of the self-report measure. The diagnostic utility is often determined by an examination of the relationship of the test with other personality measures. A second method involves calculating diagnostic validity statistics (DVS), such as, sensitivity (SE), specificity (SP), positive predictive power (PPP), negative predictive power (NPP), and overall diagnostic power (ODP; Hsu, 2002). Sensitivity refers to a true positive rate of identification, that is, the ability of the test to correctly classify subjects as having a disorder when the disorder is present. Specificity is defined as the ability of the test to correctly classify the client as not having a disorder when the disorder is absent. It is important to note that to calculate specificity and sensitivity the prevalence of the disorder for that population must be known (Retzlaff, 1996). Therefore, failure to acknowledge variations in the prevalence rate might reduce the merit of these statistics when compared to different populations. PPP is defined as the probability that the disorder is present given that the test result was positive, whereas, NPP is the probability that a client does not have the disorder given that the test results were negative. Lastly, the ODP is the overall proportion of correct classifications. PPP is considered the most clinically relevant statistic as it presents the actual likelihood a disorder is present given the current symptoms (Retzlaff, 1996)

A number of methodological issues in the original MCMI manual, for example, the DVS and lack of clinician familiarity with patients (Retzlaff, 1996), required Millon to conduct fresh research and report new DVS that were greatly improved overall

(Millon et al., 1997). The SE mean of all 24 scales was .275 in 1994 and .670 in 1997 and the SP increased from .860 to .968 (Hsu, 2002). PPP and NPP also increased from .223 to .640 and .887 to .964 for the latter. This apparent vast improvement illustrates the potential issues with using diagnostic validity statistics to rate the overall diagnostic utility of a test in a variety of settings.

In the case of the Millon et al. (1997) study, a lack of control for criterion contamination, confirmatory bias and availability heuristics were given as justification for the impressive new diagnostic accuracy of the MCMI-III (Hsu, 2002). Further, it illustrates the need to be aware of context specificity of DVS, as the PPP is affected by base rates for the population being studied (Gibertini et al., 1986). A high PPP does not automatically equate to high diagnostic validity if the base rate prevalence is high, likewise, low PPP does not indicate poor diagnostic validity if the base rate is proportionately low for the specific sample (Gibertini et al., 1986). For example, a high SE and SP at 95%, NPP at 99% and ODP at 95% may still have good diagnostic validity with the PPP at 2% if the prevalence rate is only .1% (Gibertini et al., 1986). Some of the scales of the MCMI in the Millon (1994) study had the highest PPP, yet performed no better than chance in diagnosing a disorder (Hsu, 2002). These factors must be kept in mind when psychologists refer to the literature to make a decision regarding whether a test is a valid diagnostic tool in a specific setting.

Further research looking at the DVS of the MCMI has shown mixed results. Guthrie and Mobley (1994) examined the diagnostic efficiency of the MCMI-II and revealed that the SE ranged from 0.0 for the Histrionic scale up to 1.0 for the Passive-Aggressive, Self-Defeating, Schizoid and Antisocial scales. Further, SP, NPP and ODP were high across all the scales, yet the PPP was relatively poor ($\leq .5$) for most of the scales and false positives were common (Guthrie & Mobley, 1994). However, by comparing the individual scale DVS to the prevalence rates, a PPP below .5 may not

necessarily indicate poor predictive performance. For example, the Antisocial scale had a SE of 1.00, SP of .90, NPP of 1.00, PPP of .29 and ODP of .91. If psychologists were to focus on the PPP, which is deemed to be the most useful diagnostic statistic (Retzlaff, 1996), they might conclude that the Antisocial scale is ineffective. However, as the prevalence rate for that disorder in the specific sample was only .13, it can be seen that the scale is better than chance at correctly classifying patients with the disorder. The authors conclude that DVS alone might not be the most suitable measure of an instrument's diagnostic efficiency (Guthrie & Mobley, 1994). Although the MCMI had a high rate of false positives, this may not rule out its usefulness, for example, as a screening tool, where generating a positive diagnosis can indicate the need for further assessment (Guthrie & Mobley, 1994).

Compared to other clinical measures of personality disorders, the MCMI displays relatively good concurrent and discriminant validity (Hicklin & Widiger, 2000; Lindsay & Widiger, 1995; McCann, 1991; Millon et al., 1997; Smith, Carroll, & Fuller, 1988; Wooley, 2003). However, the MCMI appears to be more effective at identifying or describing personality styles than correctly classifying psychotic disorders, such as schizophrenia, when compared to other instruments (Bonato, Cyr, Kalpin, Prendergast, & Sanhueza, 1988; Ganellen, 1996; Inch & Crossley, 1993; Patrick, 1988; Sexton, McIlwraith, Barnes, & Dunn, 1987). When compared to measures used to assess non-clinical populations, results indicate significant overlap between the scales of both tests (Craig & Olson, 1992; Holliman & Guthrie, 1989; Sinha & Watson, 1999). Despite good correlations with non-clinical assessments, the MCMI does appear to over-pathologize some personality disorders with some samples. For example, non-depressed students showed elevations on the Narcissistic, Histrionic and Compulsiveness scales compared to depressed students (Holliman & Guthrie, 1989) and the scores on the MCMI classified 92% of students as displaying functional distress compared to 42% on

the CPI, with functional distress defined as any BR score greater than 75 (Holliman & Guthrie, 1989). Though the MCMI correlates well with non-clinical measures and appears to correspond to the same personality characteristics, it may over diagnose certain personality disorders within this population.

The findings may be explained by the BR cut-offs prescribed by Millon that are based on prevalence rates of the disorders in the normative sample of the MCMI. As previously indicated, low prevalence rates of a disorder in a population, such as, severe personality syndromes, are more difficult to diagnose than more pervasive disorders. As the MCMI cut-offs are anchored to the prevalence rates of the normative sample, any deviation outside that population may lead to an increase in false positives on some scales, as demonstrated in previous studies (Cantrell & Dana, 1987; Ganellen, 1996). However, an increase in false positives might be less of a risk than an increase in false negatives in certain settings. For example, a false negative might lead to the release of an incarcerated felon before they are rehabilitated (Niolon, 2003).

Clinical Settings

Results regarding the diagnostic utility of the MCMI have been mixed, nevertheless, it continues to be used in a number of settings to identify patients with or without a variety of disorders, including post-traumatic stress disorder, substance-use problems, depression and schizophrenia. Much of the research examining substance-use has focused on the MCMI's ability to accurately discriminate between individuals who use different drugs, reveal certain personality characteristics, or to discover various clusters within the same cohort of drug users (Craig & Bivens, 2000; Haller & Miles, 2004; Teplin, O'Connell, Daiter, & Varenbut, 2004). Further research has demonstrated the MCMI is able to differentiate personality styles of people in treatment for alcohol dependence (Bishop, 1993; Corbisiero & Reznikoff, 1991; Donat, Walters, & Hume, 1991; Mayer & Scott, 1988), recreational or poly-substance drug abusers in long-term

inpatient clinics (Fals-Stewart, 1992), hospitalized elderly chronic benzodiazepine-users (Petrovic et al., 2002), veterans in treatment for domestic violence (Rothschild, Dimson, Storaasli, & Clapp, 1997), female hospital outpatients with eating disorders (Espelage, Mazzeo, Sherman, & Thompson, 2002), and suicidal psychiatric patients (Ellis, Rudd, Rajab, & Wehrly, 1996). These findings point to an important clinical use, that is, even though patients might have a similar diagnosis, they may present differing risk factors or coping mechanisms. Ellis et al. (1996) assert that tailoring treatment to the specific personality style, as depicted by the MCMI, may increase the efficacy of the treatment.

Some studies that have focused on mental health disorders have revealed that schizophrenic patients score higher on the Paranoid Disorder, Psychotic Thinking and Psychotic Delusion scales (Silverstein & McDonald, 1988). However, additional research has indicated that the MCMI is relatively insensitive in accurately detecting schizophrenia (Bonato et al., 1988; Patrick, 1988; Sexton et al., 1987), although this could be due to schizophrenic patients being unwilling to report their symptoms. Therefore, it has been suggested that self-report instruments such as the MCMI are not appropriate to use with this population (Jackson, Greenblatt, Davis, Murphy, & Trimakas, 1991).

The use of the MCMI in diagnosing major depression has shown mixed results. Freeman, Kablinger, Rolland, and Brannon (1999) identified and accurately differentiated personality patterns of people with major depression compared to those with generalized anxiety disorder. The aptly named Psychotic Depression scale consistently demonstrated low sensitivity at measuring major depression (Choca, Bresolin, Okonek, & Ostrow, 1988; Goldberg, Shaw, & Segal, 1987; Wetzler, Kahn, Strauman, & Dubro, 1989; Wetzler & Marlowe, 1993), however, the less likely Dysthymia scale has been shown to be relatively effective at diagnosing the disorder (Choca et al., 1988; Goldberg et al., 1987; Wetzler et al., 1989). The MCMI's ability to

detect depression is enhanced when a particular personality profile is present, that is, elevations on the BR scores on the Anxiety and Dysthymia scales, coupled with an increase on the BR scores of the Passive-Aggressive, Borderline and Dependent personality scales (Joffe & Regan, 1988; McCann & Sues, 1988; Wetzler et al., 1989).

As with schizophrenics, people with mania have a tendency to present themselves in a socially desirable manner during assessment (Wetzler & Marlowe, 1993), particularly during a manic phase (Vincent et al., 1983) and this may account for the poor detection rate of the Hypomania scale. Given that positive response distortion appears to impact upon the clinical scales, an increase in accurate diagnosis may be achieved by examining profiles that show significant elevations on the Paranoid, Psychotic Delusion, Hypomania, Drug Abuse and Narcissistic scales (Wetzler & Marlowe, 1993).

One review of all versions of the MCMI was conducted to examine male spousal abusers and although no single personality profile was detected, elevations on the Antisocial, Aggressive-Sadistic and occasionally Narcissistic scales have been repeatedly found and these elevations might be useful for psychologists attempting to determine the risk of domestic violence (Craig, 2003). Post Traumatic Stress Disorder (PTSD) has been extensively researched with all versions of the MCMI, with a number of personality profiles emerging. Much of the previous research was conducted with male war veterans (Craig & Olson, 1997), although there have been some studies with women being treated for severe trauma (Allen, Coyne, & Huntoon, 1998; Allen, Huntoon, & Evans, 1999). While a number of profiles have been discovered, elevations on the Depressive, Self-Defeating, Borderline and Dependent scales (Allen et al., 1998; Allen et al., 1999) are prominent, although some research has found Passive-Aggressive and Avoidant or Schizoid and Antisocial styles (Craig & Olson, 1997).

Other studies have shown that there is a propensity towards certain defense mechanisms or maladaptive coping strategies based upon an individual's personality style or disorder (Vollrath, Alnæs, & Torgersen, 2003; Berman & McCann, 1995). Scores on the MCMI have also been used to reveal the correlation between personality characteristics and maternal antenatal attachment style (Pollock & Percy, 1999) with the study indicating that women scoring high on the Borderline scale may be more prone to violence towards close associates and therefore, accurate detection of borderline traits is essential. McCann, Flynn and Gersh (1992) demonstrated that the Borderline scale was able to diagnose borderline personality disorder relatively proficiently using the standard BR cut-offs. However, the researchers revealed that the efficiency of the MCMI in diagnosing borderline personality disorder could be significantly improved by identifying an individual based upon the endorsement of seven or more prototypic items used in the composition of the Borderline scale (McCann et al., 1992).

In summary, research with the MCMI has looked at a number of areas with varying degrees of success. Overall, the MCMI appears to be more sensitive at detecting affective disorders, rather than schizophrenic disorders (Sexton et al., 1987) and more effective at describing personality styles rather than diagnosing clinical disorders (Bonato et al., 1988; Patrick, 1988). Furthermore, the MCMI appears to be susceptible to various groups', such as schizophrenics, manics and substance users, attempts to present him or herself in a more favorable light and thereby minimizing their actual pathology (Craig, Kuncel, & Olson, 1994; Wetzler & Marlowe, 1993). Interpretation of multiple scales might increase diagnostic accuracy in these circumstances.

Research and Non-Clinical Settings

The MCMI is used in a number of settings outside of pure clinical or psychiatric contexts. Research has demonstrated that scores on the MCMI-II can be used to predict judgmental tendencies in relation to first impression interactions, and found different

patterns for men and women (King & Pate, 2003). Craig and Olson (1995) claimed the MCMI would be useful in formulating specific therapeutic goals for people seeking marital therapy. The MCMI can differentiate sexually transmitted disease repeaters from people without sexually transmitted diseases (Bjekic, Tosevski, Vlajinac, & Marinkovic, 2002) and was helpful in detecting personality disorders in patients with Temporo-mandibular Joint Pain Dysfunction Syndrome compared to the general population (Baggi, Rubino, Zanna, & Martignoni, 1995). The MCMI has shown moderate success at predicting the surgical outcome for patients receiving lumbar laminectomy (Uomoto, Turner, & Herron, 1988) and has been used to demonstrate that depression, represented by elevations on the Dysthymia scale, although prevalent in mild head injury, does not inevitably lead to deficits in various cognitive performance tasks (Ruttan & Heinrichs, 2003). The MCMI has revealed personality traits of patients undergoing a breast biopsy (Malec, Wolberg, Romsaas, Trump, & Tanner, 1988), however, the finding was clouded by the distress and anxiety of the patients, which indicates the susceptibility of the MCMI to the circumstances and environment in which the test takes place.

The MCMI has been employed with non-clinical and non-psychiatric patients. For example, adult children of parents who were severely dependent on alcohol tended to have higher scores on a number of the MCMI scales compared to adults with parents who were not alcohol dependent (Scharff, Broida, Conway & Yue, 2004). The MCMI has revealed that adult attachment in incest survivors is related to distress and personality disorders (Alexander et al., 1998). Cluster analysis of individuals self-identified as co-dependent, revealed that they tended to exhibit avoidant and self-defeating coping styles, yet were still able to function adequately (Loughead, Spurlock, & Ting, 1998). Despite Millon et al. (1997) advising against using the MCMI with non-clinical samples, some research has indicated that the psychometric properties of the test

make it acceptable for such samples (Retzlaff, Lorr, Hyer, & Ofman, 1991b). University students have been used to examine the efficacy of the MCMI, with claims that personality characteristics tend to be stable over time (Lenzenweger, 1999), however, the MCMI-III has been shown to produce different personality profiles between cultures, for example, American and Korean students, leading the authors to suggest caution when interpreting results within Korean and other cultures (Gunsalus & Kelly, 2001).

Forensic Settings

Though Millon et al. (1997) judged the MCMI applicable in forensic settings, controversy has surrounded its applicability and legal standing (Dyer & McCann, 2000; Rogers, Salekin, & Sewell, 1999; Rogers, Salekin, & Sewell, 2000). Nonetheless, it has fast become one of the most widely used tests in this setting. The MCMI-III has been deemed to be acceptable for use in forensic evaluations by a survey of experts, specifically to evaluate a person's mental state at the time of an offence or to assess the level of malingering (Lally, 2003). The MCMI-II and MCMI-III have been used to assess litigants' claims of emotional injury, with as much as 39% of American Psychological Association members involved in emotional injury cases, responding that they used the test frequently due to its norms, acceptance within the field and validity scales (Boccaccini & Brodsky, 1999). However, research is scant surrounding how positive impression management or faking-good affects the validity scales with this special population.

Of the extant research, the MCMI has been used in criminal cases to screen sexual offenders (Chantry & Craig, 1994), domestic violence offenders (Hamberger & Hastings, 1986), and to derive personality profiles of incarcerated female substance abusers (Grabarek, Bourke, & Van Hasselt, 2002) and male batterers (Gondolf, 1999). Further, the MCMI has been used to predict institutional misconduct of incarcerated

felons (Kellin, Dozois, & McKenzie, 1998) and to assess sexual abuse allegations in child custody evaluations (Bow, Quinnell, Zaroff, & Assemany, 2002). The MCMI has been used occasionally in other forensic applications, such as, personal injury claims, disability determination, parental fitness assessments and evaluation of law enforcement candidates (McCann & Dyer, 1996). The MCMI is showing increasing use in child custody evaluations where it ranks among the most frequently used personality measurement instruments in a custody assessment (Ackerman & Ackerman, 1997; Hagan & Castagna, 2001; Quinnell & Bow, 2001). Despite indications that the MCMI is widely used in a number of forensic applications, there is a dearth of research that specifically looks at how effective the test is in this particular setting.

One study employing the MCMI-III, found that child custody examinees displayed elevations on the Desirability, Histrionic, Narcissistic and Compulsiveness scales with all other scales extremely low (McCann et al., 2001). This personality profile might indicate child custody examinees attempting to present themselves in a favorable or socially desirable manner (Lampel, 1999) and may not denote psychopathology (Halon, 2001). Conversely, studies using the MCMI with forensic samples required to appear psychologically disturbed, produce extremely low scores on the Histrionic, Narcissistic and Compulsiveness scales combined with high scores on all other scales (McNeil & Meyer, 1990; Thomas-Peter, Jones, Campbell, & Oliver, 2000).

Research has demonstrated that in certain psychological assessment situations, individuals are highly motivated to appear socially acceptable, well adjusted or may attempt to mask psychological and drug-use problems, for example, in child custody and other forensic evaluations (Bagby et al., 1999; Bathurst et al., 1997; Gallagher, Ben-Porath, & Briggs, 1997). As the MCMI is extensively and increasingly employed in these settings (Ackerman & Ackerman, 1997; Hagan & Castagna, 2001; Lally, 2003;

Quinnell & Bow, 2001), it is essential that the validity measures of the test are able to effectively and consistently detect individuals who attempt to fake-good.

The Detection and Impact of Faking Good

As previously discussed, the MCMI is used in a variety of settings where respondents are highly motivated to fake good, that is, to minimize any emotional or psychological disturbance and appear morally virtuous and healthy. The modifying indices (Desirability, Disclosure and Debasement) are used to identify individuals who attempt to distort their responses, however, they have been the least researched and least validated of the MCMI scales (Craig, 1999). This should be of concern to psychologists who are required to make critical decisions based upon the results of a personality test, where an individual has a lot to gain by appearing healthy, for example, receiving custody of a child or being released from prison (McCann et al., 2001; Posey & Hess, 1984).

There is a noticeable absence of detailed information regarding the development and construction of the modifying indices (Miller, Goldberg, & Streiner, 1993), although Millon asserts they were constructed rationally and validated empirically (Millon et al., 1997). Of the limited research available, the modifying indices of the MCMI-II have been compared to the validity indices of the Sixteen Personality Factors Inventory (16PF; Grossman & Craig, 1995). Results indicated significant positive correlations of the Disclosure and Debasement scales of the MCMI with the Fake-bad scale and negative correlations with the Fake-good scales of the 16PF, whereas, the Desirability scale of the MCMI was positively correlated with the 16PF Fake-good scale (Grossman & Craig, 1995).

Furthermore, the modifiers have shown modest concurrent validity with the equivalent scales of the MMPI, with the Desirability scale of the MCMI-II representing denial of psychopathology combined with aspects of extroversion (Blais, Benedict, &

Norman, 1995; Morgan, Schoenberg, Dorr, & Burke, 2002). In addition, Morgan et al., (2002) contend that the cut-off score on the Disclosure scale of the MCMI-III is set too high when used to determine invalidity due to over-report with psychiatric populations. Other studies examining the modifying indices, item weighting and automatic adjustments, which are used to increase sensitivity and specificity (Millon, 1987), have found them ineffective when attempting to counterbalance deviant or distorted response styles of psychiatric patients (Miller et al., 1993; Streiner, Goldberg, & Miller, 1993).

Although sparse, research regarding faking good on the MCMI has primarily focused on whether the modifying indices are able to accurately detect respondents required to fake good compared to other groups such as those answering honestly. In one study, Bagby, Gillis, Toner, and Goldberg (1991b) used scores on the MCMI-II modifier indices to classify university students as belonging to either the fake-good group or the students answering honestly group. Discriminant function analysis correctly classified 72% of those in the fake-good group compared to those answering honestly (Bagby et al., 1991b). The findings demonstrated that a low score on Disclosure and a high score on Desirability scales might indicate a fake-good profile (Millon et al., 1997). Results by Bagby et al. (1991b) were promising, though the researchers did not examine or report the personality scales, which, as indicated by Millon et al. (1997), might aid in identifying a fake-good profile.

The study by Retzlaff et al. (1991a) allows for closer examination of how the personality scales are affected by faking good as well as the modifying indices. In the study, 50 students were assigned to either an honest responding group, a group required to imagine they were applying for a military promotion and make the best possible impression (administrative fake-good) or a group required to take the test and imagine they were in a psychiatric hospital and wished to be released (clinical fake-good; Retzlaff et al., 1991a). As expected, high scores for the fake-good groups were found on

Desirability, neutral on Disclosure and low on Debasement. Although, only 52% of the fake-good group were deemed to be overly desirable (BR>85), a higher percentage of fake-good participants could have been identified if a BR cut-off of >75 was used (Millon et al., 1997), given that the mean BR score on the Desirability scale was 82 for both fake-good groups and only 62 for the honest group.

It is particularly noteworthy that the administrative fake-good group displayed a Compulsive and Narcissistic profile, whereas, the clinical fake-good group exhibited elevations on the Dependent, Narcissistic and Compulsiveness scales (Retzlaff et al., 1991a). Other studies have observed that in situations where the individual is motivated to appear in a positive light, artificial elevations on the Dependent, Histrionic, Narcissistic or Compulsiveness scales, combined with low scores on the severe personality scales, may be evident in people attempting to fake good (McCann et al., 2001; Millon et al., 1997). Elevations on these scales would be expected due to their positive association with normal, well-adjusted personality characteristics, but can differ between genders (Craig, 1999; Craig & Olson, 2001; Craig & Weinberg, 1993; Holliman & Guthrie, 1989; Lindsay, 1996). These findings might indicate that personality profiles of people faking good will differ depending on the motivation and context in which the test is undertaken.

Difficulty arises when psychologists are required to determine whether elevations on the Dependent, Histrionic, Narcissistic or Compulsive scales do indicate the presence of the personality style or whether the individual is attempting to fake good (Craig et al., 1994). For example, in one study by Fals-Stewart (1995), substance users responding honestly on the MCMI-II scored higher and in the clinical range (>75) on the Histrionic and Narcissistic scales than the honest forensic group and substance users answering in a defensive manner. This finding is surprising given that previous research

has indicated fake-good groups had a tendency to show artificial elevations on Narcissistic and Histrionic scales (Millon et al., 1997; Retzlaff et al., 1991a).

The result may be clarified by examining the instructions given to the defensive group. Although the groups were supplied with a scenario to replicate real life situations where people have been shown to respond defensively (McCann et al., 2001), they were specifically instructed to deny current or past substance use problems rather than to simply fake good (Fals-Stewart, 1995). A re-examination of the scores indicates a significant difference on the pertinent scales, with the defensive group generating BR scores of 42 and 48, compared to the honest group scores of 89 and 76 on the Alcohol and Drug Dependence scales respectively. One implication of this outcome might be the development of a MCMI faking profile for specific populations and settings, instead of sole reliance on the modifying indices to detect all types of faking. Although a person may be able to fake his or her responses to avoid detection on one scale, it is more difficult to fake a whole profile (Connolly, 2003).

Research has demonstrated higher accurate classification rates for respondents who fake bad compared to those who fake good (Berry, Baer, & Harris, 1991; Shores & Carstairs, 1998; Van Gorp & Meyer, 1986), yet few studies have focused on how to improve correct identification of individuals who fake good. Daubert and Metzler (2000) conducted research with 160 psychiatric outpatients in order to assess the modifying indices of the MCMI-III and to present alternatives to improve overall classification rates. Although there was moderate support for the effectiveness of the Desirability scale in correctly classifying participants in the fake-good group, it was revealed that all three indices could be considered bi-directional, despite the test manual indicating only the Disclosure scale had interpretable low scores (Daubert & Metzler, 2000; Schoenberg, Dorr, & Morgan, 2003). The study revealed that very low scores on the Debasement scale were more effective than high scores on the Desirability scale in

identifying those in the fake-good group (Daubert & Metzler, 2000). Daubert and Metzler explained that deviating from the prescribed cut-offs and developing optimal cut-offs can significantly increase the classification accuracy of the modifying indices of the MCMI-III. Regrettably, the study did not report the BR scores on the personality scales, which might be useful for deriving typologies for specific populations (Craig, 1995). However, Daubert and Metzler are the only researchers to report the impact of faking on the diagnostic validity statistics of the MCMI. The results illustrated that although a lower prevalence of faking in a population tends to increase the overall diagnostic power, this is due to the increase in NPP, with significant reductions in PPP and a subsequent increase in false positives (Daubert & Metzler, 2000).

Millon et al. (1997) assert that the majority of people undertaking the MCMI do so in an honest and open fashion, as such, the prevalence of faking in the normative sample would be low. Research has consistently demonstrated that in certain settings, for example, forensic applications, individuals are highly motivated to present themselves in a positive light (Bagby et al., 1999; Bathurst et al., 1997; Gallagher et al., 1997; McCann et al., 2001; McCann & Dyer, 1996). The combination of Millon and colleague's (1997) assumption with Daubert and Metzler's (2000) finding, indicates the possible effect faking will have on research examining the diagnostic utility of the MCMI in detecting fake-good profiles. If the prevalence of faking in a sample differs to the normative sample of the MCMI, the PPP is reduced and the standard cut-offs may not be as effective at correctly identifying respondents who are faking. Daubert and Metzler recommend the development of optimal cut-offs for the modifying indices based on the specific rate of faking in a given population.

Discussion

The purpose of this paper was to review the extant literature in order to ascertain the ability of the MCMI to detect faking good, and to examine what effect faking good

has on diagnostic accuracy. The most significant finding is that few studies directly examined the validity of the modifying indices and their general ability to detect faking good. Further, there is a lack of research investigating the impact of faking on the diagnostic utility of the MCMI. The majority of the studies concerning the MCMI primarily illustrate its wide acceptance and use in a number of settings. The test is frequently used in situations where the respondents are highly motivated to present a favorable image, such as in forensic applications. The limited number of studies relevant to faking good allows some tentative conclusions to be drawn, while the vast gaps in the literature present researchers with a number of important areas to conduct future research.

The MCMI modifying indices tend to show moderate success at detecting groups of people who fake good (Bagby et al., 1991b; Daubert & Metzler, (2000); Retzlaff et al., 1991a). However, the research has primarily been with student or psychiatric samples that were supplied with specific instructions to fake good or present themselves in the best possible light. When more realistic scenarios are used, such as, denying substance use, the modifying indices were not as effective in detecting the fake-good group (Fals-Stewart, 1995). Some studies have reported BR scores of the personality scales and the modifying indices (Retzlaff et al., 1991a) and when examined in conjunction with studies where people are likely to fake good (e.g., child custody evaluations; Bagby et al., 1999), patterns have emerged. High scores on the Desirability, Dependent, Narcissistic and Compulsiveness scales, with low scores on the Debasement and all other personality scales, might indicate a fake-good profile (McCann et al., 2001). This pattern is not necessarily indicative of a comprehensive fake-good profile, and may change depending on the context in which the test is undertaken (Fals-Stewart, 1995). Future studies should report the BR scores from the modifying indices and all

other personality scales to aid in the development of typologies for specific populations (Craig, 1995) and to allow for examination of the effects of faking (Craig, 2003).

If the Histrionic, Narcissistic or Compulsiveness scales are the highest among the Clinical Personality Patterns, the denial/complaint adjustment of the MCMI automatically increases the BR score of the highest scale (Millon et al., 1997). In situations where people are likely to fake good, such as, child custody evaluations or other forensic applications, these scales have been shown to be artificially elevated and may indicate a socially desirable response style and not psychopathology (McCann et al., 2001). Researchers or psychologists might need to develop new BR adjustments for this population or be acutely aware of the effect of the adjustment when interpreting the profile in this setting.

When the prevalence of faking in a population is different from the normative sample of the test being used, caution must be used when assessing the diagnostic validity statistics of the test. If the level of faking in the population is higher than the normative sample of the test, the positive predictive power will be increased but the negative predictive power and overall diagnostic power will be decreased (Daubert & Metzler, 2000). All self-report measures have an inherent level of error, however, in terms of DVS, an increase in false positives reduces definitive diagnoses while reducing the number of false negatives. In addition, false positives do not rule out the tests usefulness where generating a positive diagnosis will indicate the need for further assessment (Guthrie & Mobley, 1994). This can be seen as especially important in forensic applications; for example, where a psychologist uses the test as part of an evaluation to determine if an inmate should be released. A false negative may be much more costly than a false positive (Niolon, 2003). Psychologists should determine local faking prevalence rates in order to assign optimal cut-offs to the modifying indices to

guarantee maximum diagnostic accuracy in populations that are highly motivated to fake good (Daubert & Metzler, 2000).

There are three main suggestions that follow from the findings that could aid psychologists in improving the identification of a fake-good profile and maintain the diagnostic accuracy with populations motivated to fake good. First, one should calculate local base rates of faking in order to assign optimal cut-offs to the modifying indices. Second, develop fake-good profiles using the modifying indices combined with the personality scales in populations that are highly motivated to fake good. Third, develop new BR adjustments in populations that are highly motivated to fake good.

Research is scarce but moderate success of the modifying indices to detect faking good has been reported (Bagby et al., 1991b; Retzlaff et al., 1991a). Faking good has a significant impact on the MCMI but there is a paucity of research examining exactly what effect faking has on the diagnostic validity of the test. The MCMI is extensively used in situations where there is a high motivation for people to fake good, such as in forensic settings, and further research and development is urgently needed.

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Running head: FAKING GOOD ON THE MCMI-III

The Impact of Faking-Good on the MCMI-III: Implications for Child Custody

Evaluations

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Abstract

Individuals administered the Millon Clinical Multiaxial Inventory-III (MCMI-III) while undergoing a custody evaluation tend to display elevations on scales Y (Desirability), 4 (Histrionic), 5 (Narcissistic) and 7 (Compulsive). This study examined how faking-good impacts on scale scores. Participants (n=138) were instructed to look like a good parent (fake-good) or answer honestly. The fake-good group obtained clinical elevations on Y, 4, 5, and 7 and low scores on other scales, which is strikingly similar to custody litigants, suggesting a fake-good profile. Analysis revealed elevations (≥ 75) on scales Y and 7 might be useful to identify faking over scale Y alone. Further structural issues with the MCMI-III make this profile difficult to interpret. Future research should develop methods for clarifying the ambiguous profile observed in custody evaluations.

Keywords: MCMI, Millon, fake good, custody evaluation

Author: Paul Lenny

Supervisor: Dr Greg Dear

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The Impact of Faking-Good on the MCMI-III: Implications for Child Custody
Evaluations

It would be logical to assume that individuals undergoing a child custody evaluation are likely to present themselves as competent, responsible and well adjusted, while minimizing any psychological problems, given that access to their children is at stake. Research examining this assumption, referred to as faking-good (Bagby & Marshall, 2004), has primarily been conducted using the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Bagby & Marshall, 2004; Bagby, Nicholson, Buis, Radovanovic, & Fidler, 1999; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989). In one study by Bathurst, Gottfried, and Gottfried (1997), normative data was collected from 508 child custody litigants, with results revealing that there was a tendency to underreport psychological symptoms and to present themselves in the best possible light. The researchers suggested that due to the effect on the test scores due to defensive responding, interpretation of MMPI-2 results in a custody evaluation must be made with caution.

Like the MMPI-2, the Millon Clinical Multiaxial Inventory (MCMI; Millon, Davis, & Millon, 1997) is extensively employed in custody evaluations (Ackerman & Ackerman, 1997; Bow, Quinnell, Zaroff, & Assemany, 2002; Hagan & Castagna, 2001; Quinnell & Bow, 2001). Although earlier versions of the MCMI were not recommended to be used outside of psychiatric or clinical settings, the latest test manual (MCMI-III; Millon et al., 1997) specifically indicates that it is appropriate to use in psychodiagnostic evaluations and that a custody evaluation has reached "such a degree of interpersonal difficulty that the evaluation becomes a clinical matter" (p. 144). Although widely used in custody evaluations, there is a scarcity of research examining its use in this setting.

Research with the MCMI has primarily focused on whether the validity or modifying indexes, are able to accurately detect respondents required to fake-good compared to other groups such as those answering honestly. In one study, Bagby, Gillis, Toner, & Goldberg (1991) used scores on the MCMI-II (Millon, 1987) modifying indexes to classify either university students as belonging to the fake-good group or the group of students answering honestly. Discriminant function analysis correctly classified 72% of those in the fake-good group compared to those answering honestly (Bagby et al., 1991). The findings demonstrated that a low score on the disclosure index (scale X) and a high score on the desirability index (scale Y) might indicate a fake-good profile (Millon et al., 1997). Results by Bagby et al. (1991) were promising, though the researchers did not examine or report the personality scales that might aid in identifying a fake-good profile.

A study by Retzlaff, Sheehan, and Fiel (1991) using the MCMI-II allows for closer examination of how the modifying indexes and the personality scales are affected by faking good. In the study 50 students were assigned to either an honest responding group, a group required to imagine they were applying for a military promotion and so make the best possible impression (administrative fake-good), or a group required to take the test and imagine they were in a psychiatric hospital and wished to be released (clinical fake-good; Retzlaff et al., 1991). As expected, high scores for the fake-good groups were found on the desirability scale and non-clinical elevations on the disclosure scale. Although, only 52% of the fake-good group were deemed to be overly desirable with a base rate (BR) score of >85 (Retzlaff et al., 1991), a higher percentage of fake-good participants could have been identified if a BR cut-off of >75 was used (as prescribed in the test manual), given that the mean BR score on the desirability scale was 82 for both fake-good groups and only 62 for the honest group.

It is particularly noteworthy that the administrative fake-good group displayed a compulsive (scale 7) and narcissistic (scale 5) profile, whereas, the clinical fake-good group exhibited elevations on the dependent (scale 3), narcissistic and compulsive scales (Retzlaff et al, 1991). Other studies have observed that in situations where an individual is motivated to appear in a positive light, elevations on the dependent, histrionic (scale 4), narcissistic or compulsive scales, combined with low scores on the Severe Personality Pathology scales, may be evident (McCann et al., 2001; Millon et al., 1997). These findings might indicate that personality profiles of people faking- good will differ depending on the motivation and context in which the test is undertaken. Problems interpreting the MCMI scores occur when clinicians are required to determine whether elevations on these scales indicate the presence of the personality style or whether the individual is attempting to fake-good (Craig, Kuncel & Olson, 1994). For example, Fals-Stewart (1995) revealed that substance-users responding honestly on the MCMI-II scored higher and in the clinical range (≥ 75) on the histrionic and narcissistic scales, compared to substance-users required to answer in a defensive manner.

There are only a handful of studies that directly examine the use of the MCMI-III in a custody evaluation (Lampel, 1999; McCann et al., 2001) despite this population being highly motivated to present themselves in the best possible light. The small number of studies, in combination with other anecdotal evidence provided by the Chair of the West Australian branch of the Australian Psychological Society College for Forensic Psychologists (Dr. G. Dear, personal communication, March 24, 2005), points to a particular pattern of scores featuring predominantly in this setting. Litigants completing the MCMI-III as part of a custody evaluation, tend to obtain a profile that is distinguished by elevations on the desirability, histrionic, narcissistic and compulsive scales, with all other personality scales and validity indices very low.

McCann et al. (2001) conducted a study to provide normative data on the MCMI-III among 259 child custody examinees. The profile for this sample was defined by a clinical elevation ($BR \geq 75$) on the desirability scale ($M = 75.56$, $SD = 13.06$), low disclosure ($M = 31.64$, $SD = 16.10$), subclinical elevations on the histrionic ($M = 69.75$, $SD = 18.16$), narcissistic ($M = 65.22$, $SD = 13.28$) and compulsive scales ($M = 68.37$, $SD = 15.70$) and very low scores on all other scales. McCann et al. provide a number of suggestions to explain their findings; firstly, due to the high score on scale Y, the profile was indicative of a socially desirable response set and not suggestive of pathology. Secondly, elevations on scales 4, 5, and 7 are not unexpected with a socially desirable response set, given that the scales are positively correlated with normal and healthy personality features (Craig & Olson, 1992; Craig & Weinberg, 1993; Holliman & Guthrie, 1989) and negatively associated with psychopathology (McNeil & Meyer, 1990; Thomas-Peter, Jones, Campbell, & Oliver, 2000). Finally, seemingly well-adjusted individuals, such as college students, when asked to respond honestly to the items on the MCMI, tend to produce elevations on scales 4, 5, and 7 (Halon, 2001; Retzlaff et al., 1991).

In an earlier study with 50 divorcing couples, Lampel (1999) hypothesized those custody litigants who were court ordered to undergo psychological evaluation, would be defensive and show elevated BR scores, particularly on the compulsive, dependent, histrionic, antisocial and passive-aggressive scales. Results indicated that the parents were deemed to be defensive as scale Y was elevated ($M = 77.6$, $SD = 13.3$). Although no other BR scores were reported, Lampel noted that elevations on the dependent, antisocial and passive-aggressive scales were uncommon, however, compulsive histrionic and narcissistic traits were frequently observed. Lampel raised similar issues as McCann et al. (2001) and suggested that litigants might feel that promoting themselves as "popular, sociable, and gregarious is both advantageous in custody

conflicts as well as socially acceptable” (p. 29). Conversely, Lampel speculates that the characteristics inherent in histrionic, narcissistic and compulsive individuals might increase the likelihood of a person terminating a relationship and litigate over custody, thereby explaining the high frequency of litigants with elevations on scales 4, 5, and 7.

A number of questions and concerns have been raised surrounding the particular MCMI profile frequently obtained by individuals undergoing a child custody evaluation. However, there is a shortage of empirical research conducted in an attempt to answer these questions. Therefore, the purpose of this study was to examine how trying to look like a good parent impacts the scale scores of the MCMI-III and the implications for child custody evaluations. Based on the limited research available, it is hypothesized that:

- 1) The desirability scale will be significantly higher in the fake-good group compared to the control group.
- 2) The disclosure scale will be significantly lower in the fake-good group compared to the control group
- 3) The narcissistic scale will be significantly higher in the fake-good group compared to the control group.
- 4) The histrionic scale will be significantly higher in the fake-good group compared to the control group.
- 5) The compulsive scale will be significantly higher in the fake-good group compared to the control group.
- 6) The control group will have a greater number of clinical elevations in scales other than desirability, narcissistic, histrionic and compulsive than will the fake-good group.

- 7) The addition of the compulsive, narcissistic or histrionic scales, will significantly improve a prediction model of group membership (fake-good or control) over and above the desirability scale.

Method

Participants

Two samples were used in the study: a parent sample and a student sample. Recruiting for the parent sample began by snowballing from first-year university students enrolled in an introductory psychology unit at Edith Cowan University. Information letters asking for volunteers were supplied to two childcare centers located on the campus grounds and two local schools. A total of 60 parents (39 females, 21 males) participated in the study. Parents had a mean age of 43.8 years ($SD = 10.51$) and were predominantly white. Of the 33 parents who were not born in Australia, the mean number of years living in Australia was 19.8 years ($SD = 11.19$) with a range of 2 to 42 years. Of the 60 parents, 41 were currently married, 3 were living in a de facto relationship, 1 was in a relationship but living separately and 15 were not currently in a relationship. 24 parents had previously been married or in a de facto relationship and 15 had previously been involved in a Family Court proceeding with 9 in the fake-good group and 6 in the control group.

Participants in the student sample consisted of 78 (63 females, 15 males) third year psychology students also from Edith Cowan University. Students had a mean age of 24.2 years ($SD = 5.68$), were predominantly white and born in Australia (79.5%). Of the 16 students not born in Australia, the mean number of years living in Australia was 13.6 years ($SD = 8.7$) with a range of 1 to 32 years. An additional question was added to the student sample demographic questionnaire asking if the participants were a parent, guardian or step-parent. Of the 78 students, 11 reported that they were parents. The sample consisted of 9 students who were currently married, 12 living in a de facto

relationship, 26 in a relationship but living separately and 31 not currently in a relationship. Only 15 students had previously been married or in a de facto relationship and eight students had previously been involved in a Family Court proceeding, with four in each group.

Materials

The MCMI-III (Millon et al., 1997) is primarily used to screen for personality disorders and is composed of 175 items to which the respondent can answer “true” or “false” and usually takes between 20-30 minutes to complete. The items are organized in 28 scales, of which 11 measure Clinical Personality Patterns, 3 Severe Personality Pathology scales, 7 Clinical Syndromes, 3 Severe Syndromes and 4 validity scales or modifying indexes. The parents (sample 1) were administered the test on a laptop computer and after completion, the test was scored using the National Computer System’s (NCS) Microtest Q software (2003) that converted raw scores to base rate scores. The students (sample 2) completed the pen-and-paper version of the test, which is identical to the computer version, after which their answers were manually entered in to a computer by the researcher for similar scoring to the parent group using the NCS software. The BR scores were the basis for the data analysis, as this is reflective of the scores used in child custody evaluations. According to the test manual, a BR score of 75 or greater is considered a clinically significant elevation and indicates the presence of a trait, whereas, a score of 85 or greater indicates the presence of a disorder, on the personality pattern being measured (Millon et al., 1997).

Procedure

Ethical approval was granted prior to beginning the study. After reading the information letter and providing informed consent, participants in the parent group were randomly assigned to either the control group or experimental group. The control or honest group ($n = 30$) received instructions that the researcher was interested in how an

everyday Australian parent answers the test items. They were instructed to answer the test as honestly as possible, that their answers would be kept in strict confidence and that no identifiable information would be linked to their responses (see Appendix). The experimental or fake-good group ($n = 30$) was informed that the MCMI-III is sometimes used in Australia as part of a Family Court assessment¹. They were instructed to imagine that, as a parent, they were going through a Family Court evaluation and how they respond to the test items will help determine with whom their child or children will reside. They were asked to answer the test in such a way to make themselves look like a really good parent (see Appendix). After asking if the participants understood the instructions and allowing time for questions, participants in the parent sample were individually administered the test.

The students were administered the test in a group format, with 45 receiving the written fake-good instructions (fake-good group) and 33 (honest group) receiving the same instructions as the honest group in the parent sample. Students were instructed to complete the test individually and not to discuss the test with other students. They were supplied with an information sheet that discussed the rationale for the test. Students were informed that participating in the test was voluntary, and by completing the test they were giving informed consent. Further, if they did not wish to participate, they could leave the page blank, without any penalties. Only one student chose not to participate by leaving their answer sheet blank. As the researcher was unaware which students were parents, the fake-good group had the additional line included in their instructions to “imagine that you are a parent, if you are not already one.” To avoid students becoming aware of the different instructional sets, they were unable to ask the researcher any questions.

Results

Results from both samples revealed that none of the participants obtained extreme scores on the disclosure scale (raw score below 34 or above 178), four students scored 1 on the validity scale with the remainder scoring 0, and no participant omitted 12 or more items, therefore all the test results were considered valid. To test hypotheses one-to-five, one-tailed independent-sample *t*-tests were conducted between groups on scales X, Y, 4, 5, and 7. As each *t*-test is testing an independent directional hypothesis, the risk of capitalizing on chance to find a significant difference is low, therefore, a Bonferoni adjustment was not necessary. All five hypotheses were supported for both samples, whereby participants in the fake-good groups obtained significantly higher scores on scales Y, 4, 5, and 7 and lower scores on scale X, compared to the honest groups (see Table 1). Further exploratory two-tailed *t*-tests were conducted on the remaining scales to identify any differences between the groups. The honest groups scored significantly higher than the fake-good groups on almost all other scales and these differences were further explored when testing hypothesis six.

Hypothesis six, that the honest group would have a greater number of clinical elevations on the personality scales other than scales 4, 5, and 7, compared to the fake-good group, was tested using a Mann-Whitney U test. Hypothesis six was supported for both the parent and student samples ($p < 0.05$) with a *Z*-score of -3.95 and -4.58 for the parent and student samples respectively. The mean rank for the parent sample was 38.07 for the honest group and 22.93 for the fake-good group. The mean rank for the student sample was 51.68 for the honest group and 30.57 for the fake-good group. Hypothesis six was further supported using combined samples ($p < .05$), with a *Z*-score of -5.98 and a mean rank of 88.90 and 53.21 for the honest group and fake-good group respectively.

Hypothesis seven was tested using a hierarchical logistic regression to explore whether the addition of scales 4, 5 or 7 in a second step, would significantly improve a

prediction model of group membership (fake-good or honest) over and above scale Y entered in the first step of the regression analysis. A two-way (Sample x Group) analysis of variance (ANOVA) was conducted and showed that there was no difference between the parent sample and the student sample, and there were no significant interactions, therefore the data were combined ($n = 138$). As the primary function of scale X is to detect extreme response styles and adjust the final BR scores, it does not operate in a similar fashion to the other scales (i.e., clinical cut-off ≥ 75) and therefore, it was not included in the regression analysis.

The data were recoded to represent either a clinical (≥ 75) or non-clinical (≤ 74) elevation as outlined in the test manual (Millon et al., 1997). Clinically elevated scores on the Y scale were entered in the first step. Clinically elevated scores on scales 4, 5, and 7 were entered in the second step using a forward conditional method to explore which, if any, of those scales would significantly improve the model produced in the first step. The only scale to enter in the second step was scale 7. This indicates that, with the current data, the best prediction of group membership was achieved by a combination of Y scores and scale-7 scores. To test the model, a crosstabs was conducted on the total sample and revealed that the combination of scales Y and 7 identified 54 out of 75 (72%) of individuals in the fake-good group, and 59 out of 63 (94%) of the honest group.

Discussion

The purpose of this paper was to examine the impact of trying to look like a good parent on the scale scores of the MCMI-III. Based on previous research and anecdotal evidence, a number of hypotheses were proposed. Hypotheses one-to-five were supported, whereby, the desirability (Y), histrionic (4), narcissistic (5) and compulsive (7) scales were significantly higher, and the disclosure scale (X) significantly lower, in both the parent and student sample experimental groups (fake-

good) compared to the control groups that were instructed to answer honestly (see Table 1). Hypothesis six was supported, as there were significantly more clinical elevations on the personality scales, other than scales 4, 5, and 7, in the control groups compared to the experimental groups in both samples. Hypothesis seven examined whether the addition of scales 4, 5, or 7 in the second step of a logistic regression, would significantly improve the prediction model of group membership (fake-good or honest), over and above scale Y entered in the first step. This hypothesis was supported as the addition of scale 7 significantly improved the prediction model. Scales 4 and 5 did not significantly improve the model over and above the combination of scales Y and 7.

To illustrate the impact of the instructional set (look like a good parent versus answer honestly) on the MCMI-III scale scores, the two sample groups were combined, and the mean BR scores for the experimental group and the control group were graphically represented in Figure 1.

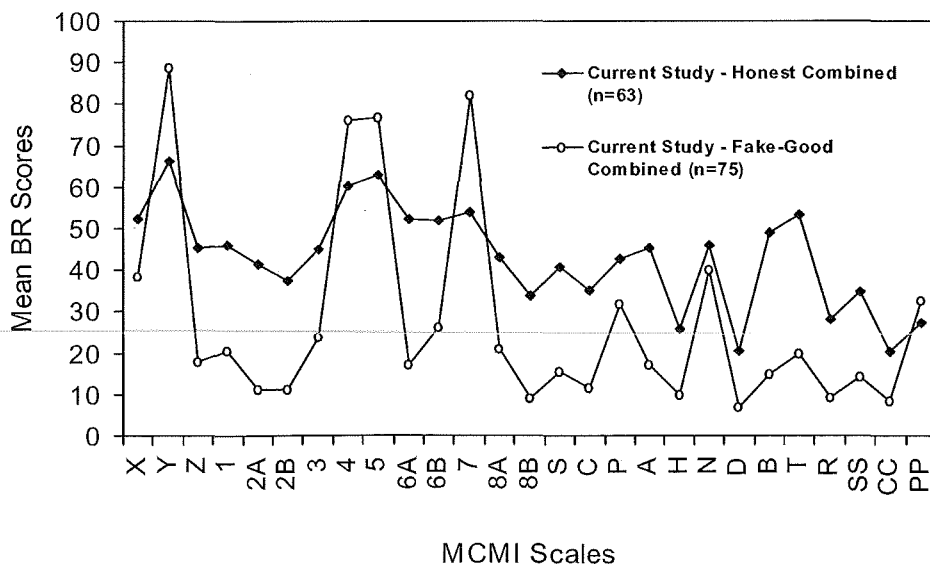


Figure 1. Mean base rate (BR) scores on the MCMI-III for the current studies combined fake-good groups and honest groups

The experimental or fake-good group profile, is defined by clinical elevations (>75) on scales Y, 4, 5, and 7 and a low score on scale X, while the control or honest group did not exhibit any clinical elevations (see Table 2). However, it is interesting to note that scales Y, 4, 5, and 7 are also the highest scales in the honest group. Although no clinical elevations in the honest group were evident, this is due to averaging the scores, as there were 183 clinical elevations on various scales for individual participants in the combined honest group.

In addition to artificial elevations on scales Y, 4, 5, and 7, very low BR scores on all other scales (see Table 2) further characterize the fake-good profile. The average mean BR score on the remaining 21 personality scales for the fake-good group was 17.76. These personality scale scores are considered low when compared to the mean BR score of 35 for non-clinical populations or a BR of 60 that is presented as the median score for the normative sample of the MCMI-III (Millon et al., 1997). The average mean BR score for the other 21 personality scales in the honest group was 39.01. The profile obtained by the fake-good group in this study, that is, elevations on scales Y, 4, 5, and 7 with very low scores on all other scales, has been observed in research involving litigants undergoing a child custody evaluation (McCann et al., 2001). Results from this study suggest participants instructed to look like good parents may obtain a specific profile. When this profile is contrasted to the scores from a sample of litigants who completed the MCMI-III as part of a custody evaluation, the similarity is evident (see Figure 2).

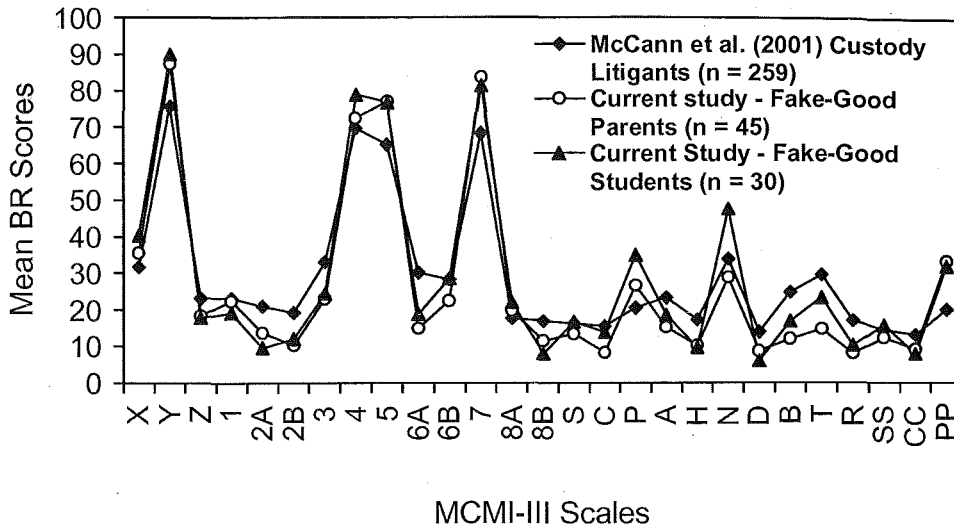


Figure 2. Mean base rate (BR) scores on the MCMI-III for the current studies fake-good groups compared to actual custody litigants

The striking similarity between the MCMI-III profile of custody litigants and the participants instructed to look like a very good parent raises a number of serious concerns. The findings from this study may lead to an initial inference that custody litigants are likely to be answering the MCMI-III in such a way as to look like good parents. If litigants obtain this distinctive profile, that is, elevations on scales Y, 4, 5, and 7 and low scores on other scales, it might suggest that custody litigants are attempting to minimize any emotional or psychological problems, while maximizing the features they believe will make them appear as an ideal parent. However, what if the litigants do possess a number of the histrionic, narcissistic or compulsive characteristics that leads to elevations on these three scales? Lampel (1999) proposed that individuals who possess the negative aspects of these traits might be more likely to end relationships and litigate over custody of a child. Therefore, clinicians employing the MCMI in custody evaluations are in the unenviable position of having to determine

whether the obtained profile, is indicative of a socially desirable response set or whether the litigant possesses a combination of histrionic, narcissistic and compulsive traits.

The difficult task for the clinician to distinguish genuine elevations on scales 4, 5, and 7 from artificial elevations due to faking-good, is compounded by the item-structure and the broad constructs that the test is attempting to measure. Millon et al. (1997) explains that elevations on scales 4, 5, and 7 are not necessarily a sign of personality pathology, due to the finding that moderate elevations might indicate healthy levels of self-confidence, sociability and adaptive traits (Craig & Olson, 2001; Craig & Weinberg, 1993; Holliman & Guthrie, 1989). However, Millon et al. (1997) explicate that the higher the BR score, the more likely it is due to personality pathology, and not healthy personality characteristics.

To help determine if the elevations are due to pathology, Millon et al. (1997) recommends the clinician also examine the three Severe Personality Pathology scales. The scales, schizotypal-S, borderline-C, and paranoid-P, represent extreme dysfunction of the Clinical Personality Patterns, and therefore, if scales 4, 5, or 7 are elevated in combination with elevations on scales S, C, or P, the elevations are likely to be due to pathology and not healthy personality functioning (Millon et al., 1997). How then, should a clinician interpret a very high score on scales 4, 5, or 7, but no significant elevations on scales S, C, or P? In the current study, 61 of the 75 participants in the fake-good group obtained at least one clinical elevation (≥ 85) on scales 4, 5, or 7, and 37 of those obtained a high BR score of 95 or greater on at least one of the three scales. However, only two people in this group had a clinical elevation on the Severe Personality Pathology scales, with mean BR scores of 16.05 (S), 7.22 (C), and 30.43 (P). According to Millon et al., a high BR score on scales 4, 5, or 7 is related to an increased likelihood of personality pathology, particularly if scales S, C, or P are elevated. However, results from the present study suggest that if a person is trying to

look like a good parent, they may obtain a very high BR score on scales 4, 5, or 7, and very low scores on scales S, C, and P, making accurate interpretation difficult when based on the suggestions in the test manual.

If a Y, 4, 5, 7 profile was not already difficult to interpret, the item-structure of the MCMI-III ensures it becomes more complex. As Millon et al. (1997) attempted to develop a brief instrument to measure a large number of constructs, the test is comprised of a relatively small number of items that are shared between the scales. Scales 4, 5, and 7 do not share a large number of items, however, four of the items that are shared and keyed true can greatly influence the final BR scores on those scales (Halon, 2001). Furthermore, a large proportion of the other items on the three scales are keyed false. Relatively healthy functioning individuals tend to endorse the items on these scales in the keyed direction, therefore, endorsing the four shared items bumps up the BR scores on scales 4, 5, 7, and Y. Additionally, endorsing the large number of false-keyed items will further increase the BR scores on those three scales, while simultaneously lowering the scale X (disclosure) score (Halon, 2001). A low score on scale X leads to an automatic upward adjustment of all the scales, except for the modifying indexes. In addition, if either scales 4, 5, or 7 is the highest of the Clinical Personality Patterns, that scale receives a further upward adjustment of eight BR points to counteract the characteristics of those traits, such as, defensive responding (Millon et al., 1997). Given well-adjusted, self-confident individuals and people trying to look like good parents tend to obtain a low score on scale X, combined with elevations on scales Y, 4, 5, and 7, which are then further increased by the MCMI-III adjustments, caution is needed when interpreting this ambiguous profile (Halon, 2001).

In exploring the hypothesis that the addition of scales 4, 5, or 7 might improve a prediction model over and above scale Y alone, a possible solution has emerged to help distinguish whether an individual is faking-good or answering honestly. Although all

three scales tended to be elevated in the fake-good group, only scale 7 significantly improved the prediction model of group membership, that is, fake-good or honest group. The model was tested on the current sample and results revealed that using the clinical cutoff prescribed by the MCMI-III test manual (≥ 75), the combination of scales Y and 7 was able to successfully identify 54 out of 75 (72%) of individuals in the fake-good group, and 59 out of 63 (94%) of the honest group. Although four people were identified as being in the fake-good group when they belonged to the honest group, this is likely to be due to inherent limitations with this type of research, whereby, the four people, while instructed to answer honestly, may have misunderstood the instructions and knowingly or unknowingly answered in a socially desirable manner. The results indicate that if an individual does not have a clinical elevation (≥ 75) on scales Y and 7, they are most likely responding in an honest manner, whereas, if they obtain a clinical elevation on scales Y and 7, it is likely to indicate a fake-good profile. Although the proposed model appears promising, it is important to note that the sample used to obtain the model was small. Given the four variables used in the logistic regression, a minimum of 200 participants is appropriate. Furthermore, testing the model on the original sample that was used to develop it is not recommended and should be replicated with a much larger sample size.

The prediction model placed a number of participants who were in the fake-good group in to the honest group, however, it successfully identified almost the entire group required to answer honestly. This may be of particular importance when using the MCMI-III as a screening instrument in a custody evaluation, as it is important to identify all individuals with a personality problem that may affect their parenting ability. If a litigant obtains clinical elevations on scales Y and 7, it will signify a need for the clinician to interpret the profile with caution and may require further testing or the collection of corroborating information. One means of addressing this problem,

which has shown some success with the MMPI, is to retest a respondent previously identified as answering defensively, and provide them with specific instructions to answer more openly (Butcher, Morfitt, Rouse, & Holden, 1997). However, the MCMI-III has not been standardized with such a modified instructional set.

Although a number of important implications have emerged from this study for clinicians using the MCMI-III in a child custody evaluation, they must be considered with some caution. The samples used were not necessarily representative of actual custody litigants and the student sample was group tested, had unequal numbers in the groups and was predominantly comprised of non-parents. However, analyses revealed the two fake-good samples were not significantly different, and this can be observed by examining the graph in Figure 2. The similarity raises the question whether the resemblance is due to the non-parents ability to construct a schema of what an ideal parent should look like or are both groups merely answering the items in such a way to look like a good person? To help answer this question, researchers may wish to test participants with different instructional sets (e.g., try to look like a good person, try to look like a good parent, try to look like a good son or daughter) and to compare the effect on the scale scores. A qualitative analysis would reveal why people chose their particular response in relation to the instructions they were supplied.

The findings from this study necessitate replication with more stringent methodology and should use a true representative sample of custody litigants and larger sample sizes. Despite the small sample size, all differences and profiles observed were strong, however, they should be replicated with the above-mentioned modifications, particularly using two larger samples to develop and test the prediction model. Furthermore, although this study used the clinical cut-offs prescribed in the test manual, deviating from the original BR cut-offs and developing optimal cut-offs, particularly with populations highly motivated to respond in a defensive manner as proposed by

Daubert and Metzler (2000), may significantly increase the classification accuracy of the modifying indices of the MCMI-III.

Conclusion

The findings from this study reveal that when individuals are administered the MCMI-III with instructions to look like good parents, a particular profile emerges. A low score on scale X, clinical elevations on scales Y, 4, 5, and 7, and very low scores on all other personality scales defined the profile. This pattern is strikingly similar to that of litigants undergoing a child custody evaluation, and is suggestive of a fake-good profile rather than a high prevalence of the disorders in this population. However, a number of other confounds increase the ambiguity of the profile, making elevations on scales 4, 5, and 7, extremely difficult to interpret. Clinical elevations (≥ 75) on both scales Y and 7 might be a superior indicator of faking-good than scale Y alone. Replication of this study is necessary due to its small sample size, and further research should continue to examine the use of the MCMI-III in child custody evaluations in order to aid clinicians in correctly interpreting the obtained profile.

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Appendix

Instructions for Parents Required to Answer Honestly

Thank you for participating in this study. What we will be doing today is a brief personality test called the MCMI-III, which is made up of 175 true or false questions. It should take no more than 20-30 minutes. This test was actually designed using American people and what we would like to find out today is if it is relevant for Australian people, particularly parents.

What I'd like you to do today is to answer these questions as honestly as possible. I am interested in how normal, everyday Australian parents answer these questions.

Please try to respond to each item as honestly as possible. No one will be able to identify you from your test, since no name will be placed on your test booklet and all the scores will be grouped together. Therefore, I will be unable to provide you with any individual feedback. A copy of the finished study can be made available if you request it.

Please feel free to ask me any questions now before we begin.

Thank you.

Instructions for Parents Required to Fake-Good

Thank you for participating in this study. What we will be doing today is a brief personality test called the MCMI-III, which is made up of 175 true or false questions. It should take no more than 20-30 minutes. This test was developed in the United States and we would like to find out if it is relevant for Australian people. This test is sometimes used in Australia as part of Family Court assessments.

What I'd like you to do is to imagine that you, as a parent, are required to take this test as part of a Family Court evaluation. How you respond to these questions will help determine with whom your children will reside (with you or with your ex-spouse). I'd like you to answer all the questions on the test in such a way as to make yourself look like a really good parent. Normally you would answer completely honestly, but for today, I'd like you to try to make the test results indicate that you are a good parent. In some cases, this may mean you will be answering questions as truthful when in fact that may be false, and other questions where you may answer false but are in fact true. Don't worry about this. All you have to remember is that you are trying to answer the questions so that you appear to be a really good parent.

No one will be able to identify you from your test, since no name will be placed on your test booklet and all the scores will be grouped together. Therefore, I will be unable to provide you with any individual feedback. A copy of the finished study can be made available if you request it.

Please feel free to ask me any questions now before we begin.

Thank you.

Author Note

Correspondence concerning this article should be addressed to Paul Lenny, c/o School of Psychology, Edith Cowan University, Joondalup Drive, Joondalup, Western Australia. Electronic mail may be sent to psychstudent@arach.net.au

Footnotes

¹A Family Court assessment is the Australian term equivalent to a child custody evaluation.

Table 1

Mean Base Rate Scores, Standard Deviations and t Values for MCMI-III Scales of Parent and Student Samples

Scales	Parents					Students				
	Honest (n = 30)	SD	Fake Good (n = 30)	SD	t	Honest (n = 33)	SD	Fake Good (n = 45)	SD	t
X	50.53	13.15	35.40	13.32	4.42*	53.85	10.61	40.27	10.65	5.57*
Y	65.87	12.72	87.17	9.67	-7.29*	66.48	20.23	89.91	6.36	-6.42*
Z	45.77	17.22	18.33	20.86	5.55*	44.82	19.76	17.76	21.95	5.69*
1	46.50	24.26	22.40	21.23	4.09*	45.55	23.36	19.09	18.82	5.53*
2A	45.30	30.37	13.77	19.66	4.77*	37.64	29.19	9.58	12.18	5.19*
2B	43.03	29.98	10.33	17.39	5.16*	32.42	32.51	12.07	17.39	3.27*
3	46.47	25.74	23.07	18.37	4.05*	43.55	29.13	24.44	18.89	3.29*
4	56.90	22.26	72.37	13.10	-3.27*	63.55	24.87	78.89	12.71	-3.24*
5	60.07	16.99	77.10	13.18	-4.33*	65.30	24.09	76.82	14.44	-2.44*
6A	45.60	19.04	14.90	15.71	6.81*	58.52	22.20	18.82	22.71	7.69*
6B	46.03	20.34	22.57	19.04	4.61*	57.30	16.03	28.71	24.26	5.88*
7	55.03	15.34	83.67	13.43	-7.68*	53.18	16.11	81.36	14.35	-8.13*
8A	42.80	23.34	19.70	20.52	4.07*	43.15	18.13	22.04	22.08	4.49*
8B	34.73	28.27	11.50	19.49	3.70*	32.79	30.44	8.04	16.54	4.23*
S	44.20	24.43	13.40	18.38	5.51*	37.61	29.09	16.76	22.96	3.41*
C	36.03	24.23	8.30	11.43	5.66*	34.21	22.21	13.87	21.96	4.02*
P	42.23	27.31	26.67	27.47	2.20*	42.88	25.80	34.91	24.44	1.38
A	50.03	30.43	15.20	20.53	5.19*	40.88	30.69	18.47	26.25	3.46*
H	26.03	25.51	10.20	17.44	2.80*	25.61	26.00	9.60	19.15	2.99*
N	42.83	26.22	28.87	24.26	2.14*	49.09	24.41	47.62	20.10	0.29
D	22.00	24.84	8.67	14.67	2.53*	18.88	27.10	5.93	12.68	2.54*
B	44.30	21.95	11.90	17.87	6.26*	53.03	21.04	16.91	25.14	6.70*
T	45.53	25.33	14.63	18.88	5.35*	60.36	15.93	23.18	26.99	7.60*
R	31.87	24.78	8.07	13.85	4.59*	25.03	23.78	10.24	20.60	2.93*
S	36.93	22.84	12.27	14.82	4.96*	32.88	21.84	15.64	21.74	3.45*
CC	19.83	23.43	9.17	15.46	2.08*	20.82	22.86	7.87	15.34	2.82*
PP	27.33	29.67	33.10	27.28	-0.78	26.79	26.22	31.89	24.97	-0.87

Note. Millon Clinical Multiaxial Inventory (MCMI-III) scales: Disclosure-X, Desirability-Y, Debasement-Z, Schizoid-1, Avoidant-2A, Depressive-2B, Dependent-3, Histrionic-4, Narcissistic-5, Antisocial-6A, Sadistic-6B, Compulsive-7, Negativistic-8A, Self-Defeating-8B, Schizotypal-S, Borderline-C, Paranoid-P, Anxiety-A, Somatoform-H, Bipolar: Manic-N, Dysthymia-D, Alcohol Dependence-B, Drug Dependence-T, Posttraumatic Stress-R, Thought Disorder-SS, Major Depression-CC, Delusional Disorder-PP

* $p < .05$

Table 2

Mean MCMI-III BR Scores of Combined Parent and Student Sample

Scales	Honest (<i>n</i> = 63)	<i>SD</i>	Fake Good (<i>n</i> = 75)	<i>SD</i>
X	52.27	11.91	38.32	11.94
Y	66.19	16.94	88.81	7.91
Z	45.27	18.45	17.99	21.38
1	46.00	23.60	20.41	19.75
2A	41.29	29.77	11.25	15.62
2B	37.48	31.54	11.37	17.29
3	44.94	27.38	23.89	18.57
4	60.38	23.71	76.28	13.18
5	62.81	21.01	76.93	13.86
6A	52.37	21.59	17.25	20.18
6B	51.94	18.93	26.25	22.38
7	54.06	15.65	82.28	13.94
8A	42.98	20.60	21.11	21.36
8B	33.71	29.20	9.43	17.73
S	40.75	26.96	15.41	21.18
C	35.08	23.03	11.64	18.59
P	42.57	26.32	31.61	25.84
A	45.24	30.67	17.16	24.03
H	25.81	25.56	9.84	18.37
N	46.11	25.28	40.12	23.59
D	20.37	25.89	7.03	13.48
B	48.87	21.75	14.91	22.52
T	53.30	22.07	19.76	24.30
R	28.29	24.31	9.37	18.13
S	34.81	22.23	14.29	19.23
CC	20.35	22.95	8.39	15.30
PP	27.05	27.69	32.37	25.74

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Bjork, R. A. (1989). Retrieval inhibition as an adaptive mechanism in human memory. In H. L. L. Roediger III & F. I. M. Craik (Eds.), *Varieties of memory & consciousness* (pp. 309–330). Hillsdale, NJ: Erlbaum.

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Appendices to Thesis
Appendix A

Demographic Questionnaire

The following questions are important for the study and I would very much appreciate it if you could answer all of them. Please note that your answers will be kept in strict confidence and your name will not be linked to your responses

Please circle the most appropriate response or fill in the answers as required.

Sex: Male Female

Age: _____

Race/Ethnicity: _____

Were you born in Australia? YES / NO
- If no, how many years have you lived in Australia? _____

Current Relationship Status: Currently Married
 Currently in a de facto relationship
 In relationship but not living at same address
 No current relationship

Previous Relationships:
Have you ever been in a marital or de facto relationship prior to any current relationship? YES / NO

Additional question included for student sample only: Are you a parent/step-parent/guardian etc? YES / NO

Highest Education Level Achieved: _____

Annual combined income for you and your partner (if applic.):
\$0 – \$15,000
\$15,001 – \$30,000
\$30,001 – \$45,000
\$45,001 – \$60,000
\$60,001 – \$75,000
\$75,001 – \$90,000
\$90,001 +

Current Paid Employment: Unemployed
 Casual
 Part-time (less than 30 hours per week)
 Full-time (30 or more hours per week)

Have you ever been involved in Family Court proceedings (e.g., dissolution of marriage or engaged in dispute over property or children's issues)? YES / NO

Appendix B

Information Sheet for Parent Sample

How do Australian Parents Answer on the MCMI-III?

Are you a parent? Do you know any parents? Even if you are not a parent yourself, please take a few copies of this form and hand them to parents who may be able to volunteer a small amount of their time. Thank you!

Potential Participant,

The Millon Clinical Multiaxial Inventory-III (MCMI-III) is a widely used simple personality test used for brief screening in a number of situations. The test was designed using American people and I am interested to see if it is relevant for Australians and in particular, I would like to see how Australian parents respond to test items. There is currently no research examining its use with Australian parents.

The research in which you will participate will require you to fill out a number of true/false questions on a laptop computer. Do not worry if you have never used a computer before, as simple instructions will be given to you. Your participation in this research will be required for only one session and will take approximately 20-30 minutes. As your time is valuable, the session can be scheduled at a time and place that suits you, for example, at Edith Cowan University, a local library, or some other place that is convenient to you.

Please be assured that any information you provide will be held in strict confidence by the researcher. No one will be able to identify you from your test, since no name will be placed on your test booklet. All data will be reported in group form only. At the conclusion of the study, a report of the results will be available upon request. Your participation in this research is voluntary, you are free to withdraw at any time without penalty, and any data you have contributed will be removed.

Please contact **Paul Lenny** (Researcher) on **0413 156 907** (email: myemail@arach.net.au) or **Dr Greg Dear** (Supervisor) on **6304 5052** (email: g.dear@ecu.edu.au) as soon as possible (**by May 31st**) if you are able to participate or if you require any further information. Should you wish to contact an independent person you may call Professor Alison Garton from the School of Psychology on 6304 5110.

This research project is being undertaken as part of the requirements of an Honours degree at Edith Cowan University and has been approved by the Faculty of Community Services, Education and Social Sciences Ethics Sub Committee. Although no risk is associated with this study, should any concerns arise about how you are feeling, you might wish to contact help services, such as Lifeline on 13 11 14 or Family Helpline on 9223 1100. Please keep a copy of this letter for your records.

Thank you!

Paul Lenny
Student Researcher

Appendix C

Informed Consent for Parent Sample

How do Australian Parents Answer on the MCMI-III?

I (the participant) have read the information letter above and any questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time. I agree that research data gathered for the study may be published, provided I am not identifiable.

Participant

Date

Researcher

Date

Supervisor

Date

Appendix D

Information Sheet for Student Sample

How do Australians Answer on the MCMI-III?

Potential Participant,

My name is Paul Lenny and I am a student at Edith Cowan University. I am conducting research regarding the Millon Clinical Multiaxial Inventory-III (MCMI-III), which is a widely used simple personality test used for brief screening in a number of situations. The test was designed using American people and I am interested to see if it is relevant for Australian people. It is currently being used in Australia in areas such as counselling clients, job applicants and court reports, yet there has been no research on how Australians score on the various scales on the test. It is important to know whether the average Australian is different to the average American, which we think might be the case.

The research in which you will participate will require you to fill out a number of true/false questions. Your participation in this research will be required for only one session and will take approximately 30 minutes.

Please be assured that any information you provide will be held in strict confidence by the researcher. No one will be able to identify you from your test, since no name will be placed on your answer sheet. All data is completely anonymous and will be reported in group form only. At the conclusion of the study, a report of the results will be available upon request. Your participation in this research is voluntary, you are free to withdraw at any time during the test without penalty, and any data you have contributed will be removed.

I am also particularly interested in how Australian parents answer this test. If you know any parents that may be willing to participate, I am prepared to arrange a time and place suitable to them and they can complete the test on a laptop computer. Please ask them to contact me, **Paul Lenny** (Student Researcher) on **0413 156 907** (email: myemail@arach.net.au) **as soon as possible** if they are able to participate or if they require any further information. You may also contact my supervisor Dr Greg Dear (Supervisor) on 6304 5052 (email: g.dear@ecu.edu.au). Should you wish to contact an independent person you may call Professor Alison Garton from the School of Psychology on 6304 5110.

This research project is being undertaken as part of the requirements of an Honours degree at Edith Cowan University and has been approved by the Faculty of Community Services, Education and Social Sciences Ethics Sub Committee. Although no risk is associated with this study, should any concerns arise about how you are feeling, you might wish to contact help services, such as Lifeline on 13 11 14 or Family Helpline on 9223 1100. Please keep a copy of this letter for your records.

Thank you!

Paul Lenny
Student Researcher