Fall 2016

Psychometric Functioning of The MMPI-A Restructured Form VRIN-R, TRIN-R, CRIN, and Cannot Say Scales with Varying Degrees of Randomness, Acquiescence, Counter-Acquiescence, and Omitted Items

Amy C. Pitta
Old Dominion University

PSYCHOMETRIC FUNCTIONING OF THE MMPI-A RESTRUCTURED FORM VRIN-R, TRIN-R, CRIN, AND CANNOT SAY SCALES WITH VARYING DEGREES OF RANDOMNESS, ACQUIESCENCE, COUNTER-ACQUIESCENCE, AND OMITTED ITEMS

by

Amy C. Pitta
B.A. 2001, University of Southern California
M.A. 2011, Norfolk State University

A Dissertation Submitted to the Faculties of The College of William and Mary, Eastern Virginia Medical School, Norfolk State University, and Old Dominion University in Partial Fulfillment of the Requirements for the Degree of

DOCTOR OF PSYCHOLOGY

CLINICAL PSYCHOLOGY

VIRGINIA CONSORTIUM PROGRAM IN CLINICAL PSYCHOLOGY
October 2016

Approved by:

Richard Handel (Director)
Eastern Virginia Medical School

Robert Archer (Member)
Eastern Virginia Medical School

John D. Ball (Member)
Eastern Virginia Medical School

Desideria Hacker (Member)
Norfolk State University

Michael Stutts (Member)
Eastern Virginia Medical School

ABSTRACT

PSYCHOMETRIC FUNCTIONING OF THE MMPI-A RESTRUCTURED FORM VRIN-R, TRIN-R, CRIN, AND CANNOT SAY SCALES WITH VARYING DEGREES OF RANDOMNESS, ACQUIESCENCE, COUNTER-ACQUIESCENCE, AND OMITTED ITEMS

Amy C. Pitta
Virginia Consortium in Clinical Psychology, 2016
Director: Dr. Richard Handel

The MMPI-A-RF (Archer, Handel, Ben-Porath & Tellegen, 2016) is a new measure of adolescent personality and psychopathology derived from the MMPI-A (Butcher, Williams, Graham, Archer, Tellegen, Ben-Porath & Kaemmer, 1992) item pool. Similar to the MMPI-A, the MMPI-A-RF includes indexes designed to assess non-content-based responding and omitted items. Building on Handel, Ben-Porath, Tellegen & Archer's study (2010) on adults, the current study utilized computer simulation of random, acquiescent, counteracquiescent, and omitted responses to examine how adolescent validity scale and RC scale scores are affected by increasing degrees of non-content-based responding. Further, RC scale validity coefficients were examined to see how increasing degrees of non-content-based responding attenuates these relationships. Lastly, this study examines the moderating effects of VRIN-r and TRIN-r on the relationship between RC scale and extra-test variables. Results showed that MMPI-A-RF content non-responsiveness does have a predictable impact on validity scale scores, RC scale scores, and clinical scale relationships through changes in mean T-scores, degradation of validity coefficients, and significant moderating effects. Limitations and implications of the current study are addressed.

This dissertation is dedicated to my daughters, Ellis and Sydney.

ACKNOWLEDGEMENTS

There were many people who made the successful completion of this graduate program possible, and I would like to acknowledge them here. First, to my dissertation chair, Dr. Handel, your patient collaboration, advice, and support contributed greatly to my overall professional development. To my dissertation committee, I am thankful for your support and guidance throughout this process. I would also like to thank those who graciously granted me access to their dissertations, including Dr. Joe Minifie and Dr. Danielle Eason. To my classmates, Jamie, Casey, Ryan, Claire, and Stacey: graduate school was a wonderful, special time in my life thanks to your friendship and humor. My family has been continually supportive throughout this process, and I am grateful to have such a large Test/Pitta cheering section. My beautiful daughters, Ellis and Sydney, always managed to provide humor and fun when I needed it most and always reminded me what was really important in life. This acknowledgement section does not provide an adequate thank you for my amazing husband, John, who has the patience of a saint and deserves an honorary doctorate for his tireless support and encouragement. I consider this milestone a shared one! And last but not least, I thank our sweet golden retriever, Molly, who always reminded me of the simple things in life, and that every problem could be solved with some fresh air and a good walk.

TABLE OF CONTENTS

Page

LIST OF TABLES

Table Page

Table Page

Table Page

Table Page

CHAPTER I

INTRODUCTION

Overview of Content Non-Responsiveness

A major area of concern in the self-report assessment of psychopathology and personality is the issue of content non-responsiveness (CNR), or the idea that a test-taker is responding to test questions in a manner not based on item meaning or content (Berry, Wetter, Baer, Widiger, Sumpter, Reynolds & Hallam, 1991). CNR is also sometimes referred to as non-content-based responding. A test-taker, for example, may respond randomly to a test's items based on a variety of reasons including lack of content comprehension, reading difficulties, or intentional noncompliance with test instructions. Regardless of the reason(s), however, the primary concern is that test items are answered in a way that has no value or bearing on the measurement of actual symptomatology or personality traits, likely leading to an invalid test protocol (Wetter, Baer, Berry, Smith & Larsen, 1992).

Within the broader category of CNR are the subcategories of random-, fixed-, and non-responding. Although all three response styles may occur for a variety of reasons, they all have far reaching effects on the validity of an assessment tool and, if not detected, can lead to increased measurement error and decreased interpretability (Wetter et al., 1992; Clark & Gironda, 2003). Random responding involves answering in a random or arbitrary manner (Ben-Porath & Archer, 2008). In a true-false inventory, there are two types of fixed responding: acquiescence refers to a response style that is characterized by indiscriminant true responding, while counter-acquiescence involves indiscriminant false responding. Non-responding can involve a test-taker either not answering an item at all, or answering a single item as both True and False. Regardless of the specific type of CNR style, however, all typically involve

responding without full consideration of item content. CNR can be unintentional, such as responding despite not having the ability to understand the item. These unintentional types of non-content based responding should be contrasted with occasions where test-takers appear to accurately read and comprehend items but purposely provide misleading responses (Ben-Porath & Archer, 2008).

The reasons for non-content based responding are numerous. For example, non-content based responding may result from a lack of comprehension of item content, low reading level, poor command of English language, or low IQ (Wetter et al., 1992; Tellegen, 1988; Dahlstrom, Welsh & Dahlstrom, 1972; Gallen & Berry, 1996; Charter & Lopez, 2003). It may also be the result of active resistance to the test-taking process (Gravitz, 1967; Wetter et al., 1992; Fulkerson & Willage, 1980; Tellegen, 1988; Dahlstrom et al., 1972), or a lack of interest or motivation to comply with test instructions (Gravitz, 1967; Charter & Lopez, 2003). It is also possible that CNR can be the result of an inability to respond accurately, for instance, due to vision difficulties, confusion, severe mental illness, or cognitive impairment (Berry et al., 1991; Gravitz, 1967; Fulkerson & Willage, 1980; Charter & Lopez, 2003). Ambiguous item content or items that are idiosyncratic in meaning can also more easily lend themselves to inconsistent responding (Gravitz, 1967). Even when a test-taker is compliant with testing, they may misnumber responses or give an unintended answer due to carelessness, losing place on the answer sheet, or not paying close enough attention to items (Berry et al., 1991; Wetter et al., 1992; Tellegen, 1988). Non-content-based responding can happen at the beginning of a test or later in the assessment if fatigue, boredom, or frustration occurs (Baer, Ballenger, Berry & Wetter, 1997). Lastly, non-content-based responding can be deliberate, with a purposeful lack of

response due to such things as a desire to appear "well", suspiciousness, or defensiveness (Berry et al., 1991; Fulkerson & Willage, 1980; Dahlstrom et al., 1972).

Tellegen (1988), considered such reasons for inconsistent responding to be examples of what he termed "faultiness," or technical validity. Faultiness, as described by Tellegen, can be conceptualized as deviant records that result from technical difficulties or flaws. These flaws lead to test scores that are not valid due to the technical and procedural aspects of testing, rather than aspects of testing having to do with content (Tellegen, 1988). While he considered such records to be "aberrant," Tellegen makes the distinction that not all aberrant protocols are the result of faultiness, just as not all inconsistent protocols are aberrant (Tellegen, 1988). Since aberrancy can be thought of as extreme inconsistency of protocols, it is therefore important to establish the cause of the aberrancy (Tellegen, 1988).

Inconsistent responding might also be a function of traitedness, or of its opposite, untraitedness, as there does exist the possibility that a test-taker simply does not possess the personality trait in question (Tellegen, 1988). As Tellegen explains, however, trait measurement is not necessarily the same thing as trait level. Trait salience, for example, can play a role in inconsistent responding. A more salient trait is more strongly expressed in behavioral terms and therefore more easily noticed on measurement; a less salient trait, on the other hand, may be latent on measurement but not any less strong of a trait level (Tellegen, 1988). Therefore, faultiness is concerned with the validity of trait measurement, but assessing personality traits means also being concerned with trait salience (Tellegen, 1988).

There are many reasons why a trait may be less salient, or why it may be measured at a lower level than it truly exists. Variations within a person's trait level, what Tellegen refers to as intra-individual variability, can reflect significant fluctuations in traitedness levels, but it can also

reflect variation due to faultiness (Tellegen, 1988). Temporal variation must also be taken into account, as fluctuations in trait endorsement do occur and do not necessarily imply a lack of a trait (Tellegen, 1988). There is also the idea of "decalage", that people may achieve a level of development before actually executing tasks at that level. In terms of personality assessment, this is related to the idea of temporal variation and the idea that people exemplify different traits at different times and different situations (Tellegen, 1988). These apparent sources of trait measurement "inconsistency" may not be inconsistency at all; in fact, these variations may merely exemplify differences in trait expression based on time and situation (Tellegen, 1988).

Even with such differences in trait presentation, it is important to differentiate between protocol invalidity and trait invalidity, or put another way, the inconsistency of trait measurement and inconsistency of a trait itself. For example, faultiness examples may invalidate a protocol yet not necessarily invalidate the trait being measured (Tellegen, 1988). In fact, this variability in trait expression may merely give the impression of inconsistency due to such things as limitations to our own constructs of what we understand as traitedness, traits that appear similar but in fact do not correlate highly, and outward behaviors that seem at odds with our assumptions about underlying personality traits (Tellegen, 1988). It is these issues that make examinations of response validity critical when interpreting a test protocol. In the absence of such an examination, a lack of response validity may be falsely attributed to trait expression when in fact it is due to faultiness, and vice versa.

MMPI Development and History

Perhaps one of the most well-known instruments to address the topic of inconsistent responding is the Minnesota Multiphasic Personality Inventory (MMPI). In 1937, Hathaway & McKinley set out to develop an empirically-based assessment instrument that could assess

psychological symptoms, including changes in symptoms over time, as well as provide differential diagnoses (Archer, 2005; Dahlstrom et al., 1972). It was hoped that this instrument could successfully assign appropriate diagnostic labels to patients as well as differentiate between those with and without psychiatric diagnoses (Archer, Krishnamurthy & Stredny, 2007; Graham, 2006). The original MMPI was published by Hathaway & McKinley in 1942 and quickly became both extremely popular and the most commonly used psychological self-report measure in existence at the time (Archer et al., 2007).

The MMPI's popularity was largely rooted in the measure's development, which departed from the rational item development procedure typically used at the time. As the rational item development method was limited in its reliance on face validity and subject to impression management and response distortion, Hathaway & McKinley's use of the empirical keying method was a new idea in test construction (Graham, 2006; Archer, 2005). Rather than using a rational, content-based approach, the empirical keying (also known as criterion keying) approach selected items based on their ability to discriminate between groups of people. In the case of the MMPI, the empirical keying approach was used to differentiate between criterion groups of psychiatric patients and comparison groups of non-mentally ill individuals, with the clinical patients grouped according to diagnosis (Archer et al., 2007; Graham, 2006). During the test construction phase, the responses of individuals in both groups were compared and items were selected that distinguished between the two groups (Archer, 2005). The normative sample was one of convenience, consisting of patients and individuals visiting those receiving treatment at the University of Minnesota Hospital (Archer, 2005).

The original MMPI consisted of eight clinical scales, defined by what were assumed to be discrete psychiatric diagnoses at the time: Hypochondriasis, Depression, Hysteria,

Psychopathic Deviant, Paranoia, Psychasthenia, Schizophrenia, and Hypomania. A Masculinity-Femininity scale and, later, a Social Introversion scale brought the total number of clinical scales to ten (Archer, 2005). The MMPI also included a number of validity scales to look at inconsistent responding, one of the first personality assessment tools to utilize such scales to measure a test-taker's approach to the task (Archer, 2005; Archer et al., 2007). These validity scales were developed to detect impression management and response distortion, and included the Cannot Say (?) scale for omitted items, the Lie (L) scale for positive impression management, the Infrequency (F) scale for endorsing a higher than expected number of psychiatric symptoms, and the Correction (K) scale for defensiveness (Graham, 2006; Archer, 2005). The development of validity scales is believed to be one of the reasons for the MMPI's great success and popularity, as it allowed for wide use of the instrument in various settings and for clinicians to use and interpret findings with confidence (Archer, Krishnamurthy, Kaufman & Kaufman, 2002).

Even with these validity scales, however, early research showed that the MMPI was not successful at its original intended purpose of providing differential diagnoses. The clinical group showed elevations on multiple scales, rather than just on the scale corresponding to their diagnosis, and the non-clinical group showed higher than expected clinical elevations. These findings indicated that the test did not differentiate as well as intended, perhaps due to a high degree of interscale correlation (Graham, 2006; Ben-Porath & Archer, 2008; Archer, 2005). Over time and with additional use, the MMPI came to be used instead as a tool to describe and infer personality traits of both clinical and nonclinical test-takers (Graham, 2006). Used in this way, certain profiles began to appear with common types of attributes, referred to as code types, allowing patients to be classified into broad "types" (Ben-Porath & Archer, 2008). Code type

interpretations began as a way to incorporate extratest correlates and made the MMPI a successful descriptive tool (Archer, 2005).

In 1982, the University of Minnesota Press formed a Restandardization Project committee to revise the MMPI. There were several reasons for revision: concerns that, as a convenience sample from the 1930's, the original normative sample was not representative of the general population; outdated content that included references to items no longer relevant to popular culture; some sexist language and religious items that seemed irrelevant; items that asked about things that seemed extraneous to personality assessment; and concerns that some areas of personality (e.g., substance abuse) were not adequately assessed (Graham, 2006). The work of the committee resulted in the publication of the MMPI-2 in 1989. The revised version included a new normative sample and several new scales, most notably 15 new content scales and two new validity scales: the Variable Response Inconsistency Scale (VRIN) measuring random responding, and the True Response Inconsistency Scale (TRIN) measuring fixed responding.

While the original clinical scales remained intact on the MMPI-2, subsequent to its publication, an alternate set of clinical scales were developed during the Restructured Clinical Scale development project (Ben Porath & Tellegen, 2008). Given the high degree of interscale correlation on the clinical scales due to item overlap and heterogeneous scale content, the RC scales were designed to address these issues and produce clinical scales with greater psychometric and clinical utility (Ben Porath & Tellegen, 2008). Factor analytic procedures were used to measure a general factor, Demoralization, which was common to all of the clinical scales. It was believed that removing this common Demoralization factor would allow the clinical scales to be more discriminatory from each other (Graham, 2006). Following this

removal of Demoralization, a series of seed scales measuring distinct psychological constructs were also produced, ultimately leading to nine RC scales: Demoralization, Somatic Complaints, Low Positive Emotions, Cynicism, Antisocial Behavior, Ideas of Persecution, Dysfunctional Negative Emotions, Aberrant Experiences and Hypomanic Activation (Ben Porath & Tellegen, 2008).

In 1989, an advisory panel was convened by the University of Minnesota Press to begin work on developing an adolescent version of the MMPI (Archer et al., 2002). A primary reason for the development of a separate adolescent measure was concern about the appropriateness and applicability of the original MMPI with adolescents, most notably in terms of item content and normative data (Archer et al., 2007). There were also concerns with using the original MMPI with adolescents because the test was quite long, many items seemed irrelevant to adolescent life, the reading level was deemed too high to be appropriate for adolescents, items were not included that would assess uniquely adolescent areas of concern (e.g. school problems), and, perhaps most importantly, the MMPI lacked appropriate adolescent norms (Archer et al., 2007; Archer et al., 2002; Archer, 2005).

Though different sets of adolescent norms had been applied with the MMPI (most notably by Marks and Briggs, Gottesman et al., and Colligan & Offord; Archer, 2005) as well as code-type descriptors based on adolescent data (e.g., by Marks, Seeman, & Haller; Archer et al., 2002), many clinicians continued to use adult MMPI norms when administering the test to adolescents, often leading to markedly elevated profiles (Archer et al., 2002). Compounding this issue was the lack of empirical data on MMPI usage with adolescents, both due to a lack of focus on adolescents from the beginning of MMPI research and from a lack of empirical understanding of adolescent development and psychiatric issues in general (Archer, 1987). As such, during the

Restandardization Project, adolescent norms were not collected for the MMPI-2 and the committee made it clear that the MMPI-2 was not intended for use with adolescents (Archer, 2005).

A landmark study by Hathaway & Monachesi (1963) further underscored the need for an adolescent-specific measure. Collecting one of the largest adolescent MMPI samples to that point (roughly 15,000 subjects), they were primarily interested in longitudinal, prospective data in the hopes that they could identify personality characteristics linked to the development of delinquency in adolescence. Administering the MMPI to adolescents in the 9th grade and again in the 12th grade, Hathaway & Monachesi did find MMPI profiles that were associated with later delinquency (i.e., clinical scale elevations on 4, 8, and 9). However, and perhaps most importantly, they also noted changes among participants' profiles from the 9^{th} to 12^{th} grade, which they attributed to normal changes seen during adolescent personality organization. In what they called the "transient organization of the personality" during adolescence, they believed that MMPI profiles may change simply due to the nature of personality development during this time.

Given this history and background, the goals for the Restandardization Project in terms of the development of the adolescent version of the MMPI were to develop an adolescent normative sample, have items and scales that more appropriately represented adolescent concerns, and produce a shorter instrument (Archer et al., 2007; Archer et al., 2002; Archer, 2005). As with the development of the MMPI-2, the Restandardization Project sought to maintain continuity with the original MMPI format. An experimental test booklet, Form TX, was used to collect adolescent normative data, and in 1992 the MMPI-A was published (Graham, 2006).

Similar to the MMPI-2, the MMPI-A included several new scales. Added to the original MMPI validity scales were subscales of F (F_1 and F_2) as well as VRIN and TRIN. The final

MMPI-A form included the original MMPI clinical scales as well as 15 content scales, 28 Harris-Lingoes scales, and 3 Si subscales (Archer et al., 2002; Archer, 2005; Archer, 1997). The MMPI-A includes 478 items. If the first 350 are successfully administered, the basic clinical scales and the validity scales can be scored and interpreted (Ben-Porath & Archer, 2008).

The MMPI-A was designed for use with 14-18 year olds, although it can be used with "bright" 12 or 13 year olds who appear both developmentally and cognitively advanced enough to comprehend the items (Ben-Porath & Archer, 2008). Archer (1997) recommends that a reading test be administered to this age group if there is a question as to adequate reading level. Elevations on VRIN and TRIN should also help indicate if there are reading level concerns (Archer, 1997). Conversely, examiners should also be careful when administering the MMPI-A with 18 year olds, as they can also take MMPI-2. Archer (1997) argues that the best guide is the test-taker's environment and his or her degree of independence. When in doubt, it is best to compare an 18-year-old's protocol to both adult and adolescent norms (Archer, 1997).

The MMPI-2 Restructured Form (MMPI-2-RF), published in 2008 (Ben Porath & Tellegen), is a revised version of the MMPI-2. At 338-items, the MMPI-2-RF is notably shorter and was designed to more efficiently measure the most salient clinical characteristics of the MMPI (Ben Porath & Tellegen, 2008). The MMPI-2-RF is designed for use with the same adult population as the MMPI-2 and assesses the same clinical areas of functioning as its predecessor. In addition to the previously developed RC scales, a set of eight validity scales and 28 additional substantive scales were produced during the revision process for the MMPI-2-RF (Ben Porath & Tellegen, 2008).

Similar to the evolution of the MMPI-2 to the MMPI-2-RF, the MMPI-A has also undergone revision to a Restructured Form (Archer et al., 2016). Published in 2016, the MMPI-

A-RF consists of 241 total items and relied closely on the MMPI-2-RF as a template for the development process (Archer et al., 2016).

Non-content-based responding on the MMPI-A and MMPI-A-RF

There are many facets to non-content-based responding that are specific to the MMPI-A and to the adolescent population. For instance, adolescent developmental level must be taken into account when considering the reasons behind non-content-based responding. During adolescent development, the transition from concrete operations to formal operations may not happen for all adolescents at the same time. As a result, some adolescent test-takers at the lower MMPI-A age range may have difficulty understanding more abstract items (Archer et al., 2007; Archer, 2005).

Reading level is another factor that can lead to non-content-based responding on the MMPI-A. According to the test manuals, both MMPI-A and MMPI-A-RF reading levels are calibrated at between a 5th and 7th grade level (Butcher et al., 1992; Archer et al., 2016). It is important to note, however, that some individual items may be well above the average 6th grade reading level (Archer et al., 2016). While reading level can be problematic if a test-taker cannot comprehend items at around a 6th grade level, test administration procedures can mostly eliminate this problem. For example, a test of reading ability can be administered prior to MMPI-A administration (Butcher et al., 1992). Reading level is also particularly important to consider with adolescents as difficulty with item comprehension can lead to increased frustration and decreased motivation levels, both of which can result in random or inconsistent responding (Archer et al., 2007). Similarly, if items are irrelevant in content to adolescent life and experience, even for adolescents with adequate reading level and item comprehension abilities, inconsistent responding can result (Archer et al., 2007). Regardless of reason, random or

inconsistent responding should be considered if an adolescent completes a measure too quickly. As an MMPI-A administration should take at least 40 minutes, an adolescent completing the measure more quickly than this should raise a red flag (Archer & Elkins, 1999). Although potential reading problems should ideally be assessed prior to test administration, adolescents with the requisite reading level who complete the MMPI-A too quickly would more than likely produce invalid test protocols.

Lastly, overall information concerning acquiescence and counter-acquiescence must be taken into account when considering MMPI-A protocols. Jackson and Messick (1962) examined the factor analysis of desirability and acquiescence and the proportion of variance attributable to these response styles. As noted in their study of hospital and college samples, both groups exhibited response styles defined by factors of acquiescence and desirability. In addition, the factor loadings of these two dimensions indicated that varying levels of acquiescence are correlated with differing levels of item content desirability, with 75% of the common variance and over 50% of the total variance attributable to these two factors. Although Jackson and Messick's study raised important points about the existence of response sets on the MMPI and respondents' possible attempt to appear more desirable and acquiescent, their findings were challenged by Block, 1965 (as cited in Ben-Porath, 2012). Block conducted analyses that suggested that the two primary MMPI factors actually correlated with meaningful extra-test variables and therefore represented substantive dimensions of personality. For adolescents especially, the desire to minimize difficulties combined with limited insight may make response sets particularly important to note.

Validity Scale Descriptions and Review of Relevant Literature

As noted, content non-responsiveness includes item response omission, responding both true and false to an item, random responding, and responding in an indiscriminant true or false manner. The MMPI-A Cannot Say, VRIN, and TRIN scales can be conceptualized as what Tellegen would consider measures of "semantic inconsistency," as they primarily identify faultiness and invalid protocols (Tellegen, 1988). These scales therefore differ from other types of validity scales, in that they are not based on content that is psychologically meaningful (Tellegen, 1988). Given this distinction, Tellegen believes it is hard to find a reason why high elevations on these scales would be due to anything other than faultiness since these types of elevations represent difficulties with measuring response validity, considered to be above and beyond content responding (Tellegen, 1988). Item response consistency can therefore be considered as something different than accuracy, as consistency can be separate from item content but accuracy cannot (Archer, 2005).

Cannot Say (?) say consists of the number of items omitted from the MMPI, including those items answered both True and False, which are therefore unscorable. As the number and type of omitted items varies among test-takers, the Cannot Say scale does not have a fixed pool of items and its item make up therefore varies with each administration. It is believed that 10 or fewer items omitted will not greatly affect the scoring, interpretation, or validity of the MMPI (Archer et al., 2002). This number of item omissions also appears to be common; indeed, most adolescents appear to omit 10 or fewer items (Archer, 2005). An omission of between 11 and 30 items is considered a moderate level of item omission and requires more cautious interpretation. Omissions of this level are not likely to affect scale interpretations on the remainder of the test unless all omissions appear on one or two scales (Archer, 1987). Archer, however, believes that

item omissions at this level raise the possibility that too low a reading level or lack of understanding of item content due to limited life experience may have played a role (Archer, 2005). While it is generally believed that item omissions greater than 30 constitute an invalid protocol, there is some debate over how to treat protocols with moderate levels of item omissions. Archer and Krishnamurthy (2007) believe that 30 or fewer such items do not seem to affect protocol validity. Graham (2006) on the other hand, believes this criteria is too liberal. He recommends seriously questioning the validity of protocols with omitted item levels as low as 10 (Graham, 2006).

Reasons for omitting or double-endorsing items mimic reasons for inconsistent responding in general, including intentionally leaving items blank due to avoidance of item content or indecision over answering, confusion over item meaning or applicability, or careless reading of items and not paying enough attention when recording answers (Brown, 1950; Graham, 2006). More sensitive item content or items dealing with more personal categories tend to have more items omitted (Archer et al., 2002). Items more difficult to comprehend are also omitted more frequently (Archer et al., 2002). According to Brown (1950), the Cannot Say items function as a "protective cage…where the examinee can retire at will when he feels threatened" (p. 183). In this sense, Cannot Say can be conceptualized as a necessary measure of a test-taker's ability to respond honestly to the items presented, as well as providing a function to allow test-takers to indicate any difficulty in responding to items.

Generally speaking, the greater the number of omitted items, the lower the scores on the other MMPI-A scales (Archer et al., 2002). Indeed, Brown (1950) refers to the Cannot Say score as a "validating score", because it affects the validity of other scores. He believes that high Cannot Say scores invalidate other scale scores, while moderate ones call other scale scores into

question. For this reason, if 30 or fewer items are omitted, it is important to examine where and from which scales the omitted items are located in order to determine scale and protocol validity. If the items are spread among many scales, the protocol can probably be interpreted as usual. If many items are missing from just a few scales, it may be difficult to interpret those scales due to possible scale distortion (Graham, 2006).

There is a long history of Cannot Say investigation in the MMPI literature. One main topic of inquiry is an examination of the reasons why test-takers omit items when administered the MMPI. In 1957, Tamkin & Sherer found no relationship between high Cannot Say scores and Depression and Psychasthenia scale elevations on the MMPI. They also found that high Cannot Say scores did not seem to signify defensiveness on the part of inpatients (Tamkin & Sherer, 1957). Gravitz (1967), however, concluded that omitted items and the Cannot Say scale indicate resistance on the part of the test-taker for answering personal items. In a 1994 study, Samuel, DeGirolamo, Michals & O'Brien examined this question and found that the most frequent reasons for item omissions included defensiveness, refusal to cooperate, psychological disturbance, items that are too personal or deemed irrelevant, fatigue, carelessness, low IQ or reading level, item ambiguity, lack of experience with item content, administration errors, self-disclosure conflicts, indecisiveness, and misinterpreting item content.

The Cannot Say literature has also sought to identify which test-takers are likely to omit items on the MMPI. Ball & Carroll (1960) found a significant association between high Cannot Say scores and both low IQ and low academic achievement. Significant differences were also seen between males and females, with females omitting fewer items. Clopton & Neuringer (1977) found that the majority of test-takers in their study were found to complete all, or nearly all, items. Additionally, they found that job applicants had significantly more protocols with few

or no omissions when compared to psychiatric samples. On the other hand, personal injury litigants appear to omit larger numbers of items: Samuel, DeGirolamo, Michals & O'Brien (1994) found that 98% of their sample of personal injury litigants omitted six or more items on the MMPI. Finally, in 2012, Dragon, Ben-Porath, and Handel found that the greatest number of unscorable items were seen in forensic and domestic violence intervention samples and the fewest in the clinical and employment screening samples.

Some MMPI items have been found to be more frequently omitted than others. In 1960, for example, Ball & Carroll found there were 49 items that were frequently omitted. These items fell into several specific categories: not applicable to adolescents/not easily comprehended by adolescents, religious questions/statements, sexual content/intimate bodily functions, and indecisiveness (mainly relating to personal relationships and personal psychological traits). Furthering this line of research, Mosher (1966) found that while ambiguous items are typically omitted, personal items and items relevant to psychopathology are typically answered. Gravitz (1967), however, found that that the items deemed more personal in nature were more likely to be left blank. He also noted distinct content areas of frequently omitted items. For men, these areas included: personal attitudes/interests, religion, sex, fears, politics, and law/order. For women, these areas were personal attitudes/interests, sex, family, religion, politics, law/order, and fears (Gravitz, 1967). Similarly, Samuel, DeGirolamo, Michals & O'Brien (1994) found that the ten most commonly omitted items were those having to do with outdated item content ("I used to play drop the handkerchief"), religious content, poorly worded items, items dealing with obscure knowledge ("I think Lincoln was greater than Washington"), and items containing sexist language.

There are many opinions in the literature as to how many items can be omitted before interpretability begins to suffer. Clopton & Neuringer (1977) found that there is a need for caution in interpreting protocols with even a moderate degree of omitted items, despite the manual's claims that interpretability is preserved up to 30 omitted items. Indeed, Berry et al.'s study (1997) showed that increasing levels of omitted items led to suppressed clinical scale scores. The authors concluded that undefined code types should be evaluated with caution when there are 10+ omitted items, but defined code types can be interpreted with greater confidence up to 30 omitted items. More recently, Dragon et al. (2012) found an inverse relationship between the amount of unscorable responses in a profile and the ability of that profile to reach an interpretable threshold. Scale validity (the impact of unscorable responses on extra-test correlations) appeared to be largely preserved up to the level of 50% of unscorable scale items inserted into protocols. Scale interpretability (proportion of elevated scores compared to level of unscorable responses), however, suffered beginning at 10% insertion.

The MMPI-A Variable Response Inconsistency (VRIN) scale assesses inconsistency in the form of random responding. It is made up of 50 item pairs of either similar or opposite content and one raw score point is awarded for each item pair answered inconsistently. Consistent answers for similar content item pairs are either both True or both False, and opposite content item pairs are answered consistently if one item is keyed True and the other False. A VRIN T-score of ≥ 80 means the protocol is invalid and unable to be interpreted. T-score elevations in the range of 70-79 suggest a protocol that should be interpreted with caution (Archer et al., 2007).

While the VRIN scale was designed to be sensitive to random responding, it is not sensitive to overreporting. To detect such a protocol, the F scale must be interpreted along with

VRIN; a high F scale T-score with a moderate VRIN score suggests a protocol of a person who is either very ill or deliberately trying to appear so. When both VRIN and F are extremely elevated, however, random responding can be assumed. It is also the case that while VRIN can detect random responding, it cannot tell you *why* a person has responded randomly (Stukenberg et al., 2000). For example, random responding can be deliberate or can be due to boredom, resistance, or a lack of item comprehension (Ben-Porath & Archer, 2008). Also important to note is that VRIN may not catch all instances of random responding. Indeed, the absence of an elevation on VRIN does not necessarily mean there is an absence of randomness (Pinsoneault, 2005).

The True Response Inconsistency (TRIN) scale assesses inconsistency of responding in the form of acquiescence and non-acquiescence, also known as yea-saying and nay-saying. The MMPI-A scale is made up of 24 item pairs, all opposite in item content. Raw points are added for answering item pairs in the True direction and subtracted for answering in the False direction. T-scores on TRIN are therefore reflected, and all T-scores on the scale must be greater than or equal to 50 (Archer, 2005). A "T" or "F" is indicated on the protocol to indicate the direction of responding. Given the reflection and direction of responding, a T-score of 30, for example, would become a T-score of 60F. Although the MMPI-A manual recommends a cutoff of $T \geq 75$, typically, a T-score ≥ 80 is considered to invalidate the protocol (Graham, 2006; Archer et al., 2007) and a T-score between 70-79 on TRIN suggests the protocol should be interpreted with caution (Archer et al., 2007). For the MMPI-A, TRIN has a minimum T-score of 51 or males and 53 for females (Handel et al., 2006).

TRIN was designed to uncover fixed responding regardless of item content. In this way, TRIN can inform the examiner both the extent to which, and in which direction, the fixed

responding is occurring. According to Ben-Porath & Archer (2008), fixed responding is almost always deliberate. An exception may be for severely mentally ill individuals who approach the test honestly but have difficulty answering other than in a perseverative manner (Ben-Porath & Archer, 2008).

It is noted that VRIN and TRIN measure two different kinds of inconsistent responding that are virtually independent (Handel et al., 2006). They are nearly uncorrelated, with a high score on one scale ruling out a high score on the other, and vice versa (Handel et al, 2006). While it will be seen that abundant literature exists for the VRIN scale, very few studies to date have looked specifically at the TRIN scale. According to Gallen & Berry (1996), TRIN is not typically included in studies of random responding because it is "qualitatively different from the 'generic' random responding that is more commonly studied in the literature".

Although VRIN and TRIN are basically uncorrelated, they are designed to detect different aspects of non-content based responding. For example, for the TRIN scale on the Multidimensional Personality Questionnaire (MPQ), essentially a precursor of the TRIN scale of the MMPI, Tellegen (1988) reports that while TRIN identified 97-99% of acquiescent and non-acquiescent protocols if its upper and lower scale cutoffs were set to the respective 1st and 99th percentiles, it did not detect inconsistency. On the other hand, while VRIN detected almost half of inconsistent protocols when its scale cutoff was set to the 99th percentile, VRIN was not effective at detecting acquiescent or non-acquiescent responding. For this reason, it is believed that the two scales are best used in combination. Although these results were based on a measure that was a precursor to the MMPI, conceptually it is believed that VRIN and TRIN on the MMPI function similarly as on the MPQ (Tellegen, 1988).

There is a substantial amount of research in the adult MMPI literature on non-content based responding and validity scale functioning. Stukenberg et al (2000) examined the functioning of VRIN with a serious mentally ill population. The study showed that some inconsistent responding is an expected part of an acutely psychotic patient's self-report response style. Random responding due to psychosis is therefore related to increased VRIN scores and increased scores on scales measuring psychotic symptoms. The authors also expected that low VRIN and high F scores could be an indicator of malingering or faking bad, a hypothesis that appeared supported by the findings.

The location of random responding and the question of which test-takers will respond randomly was the purpose of Berry, Wetter, Baer, Larsen, Clark, & Monroe's (1992) study. They found a 20-60% frequency of random responding in college students, community volunteers, and police recruits; a significant number of random responses reported by participants (up to 38); significant correlations between self-report and validity scale elevations in all but police recruits; and that most random responding appeared to occur at the end of the test. Butcher, Atlis & Fang (2000) showed that women given altered test instructions produced significantly higher VRIN scale scores when compared to those in the standard-instruction group. Additionally, both men and women in the altered-instruction group produced significantly higher TRIN scale scores than those in the standard-instruction group.

A main question in the MMPI literature is the extent of VRIN's effectiveness. Berry et al (1991) looked at F, Fb, and VRIN and found that the validity scales were in fact sensitive to random responding as intended. In Gallen and Berry's (1996) study, the strongest performance in discriminating random versus valid responding was from VRIN + (F-Fb), followed by VRIN alone. The authors noted that an advantage of VRIN over VRIN + (F-Fb) is that VRIN does not

pick up overreporting. Wetter, Baer, Berry, Smith and Larsen (1992) found that VRIN was able to pick up random responding but was not affected by over-reporting. Clark and Gironda (2003) found that VRIN did not detect back random responding (BRR) very well, or responding that is initially content-based but changes to random during the test and continues in that manner, as it was not until over 400 items had been introduced that VRIN meets the .80 criterion for sensitivity to detect BRR. According to Pinsoneault (2007), his study showed that while VRIN is effective at identifying protocols that were entirely random, it was less effective at identifying those that were only partially random. Although Pinsoneault posits that more investigation is needed, he believes that protocols with even moderate VRIN elevations may need to be interpreted as random.

There is some question as to the most appropriate cutoff scores for VRIN and TRIN.

Berry et al (1991) looked at F, Fb, and VRIN in their 1991 study and the authors found that maximum accuracy in distinguishing random from valid responses was found using a raw VRIN cut score of equal or greater to 14. This is similar to the recommended raw VRIN cut score of 13 noted in the MMPI-2 manual. Paolo and Ryan (1992) followed the recommended VRIN cutoff of T=80 (raw score of 13) in their study, which resulted in a hit rate of 92%. Additionally, 87% of random protocols were correctly classified and 97% of patient protocols were correctly classified. According to Paolo and Ryan, these findings support the current recommendation for a VRIN cutoff. Charter & Lopez (2003), however, looked to establish confidence interval bounds for VRIN raw scores based on a normal distribution. Using summary statistics from previously published studies, they found confidence interval bounds for 85%, 90%, and 95% levels for the VRIN scale on the MMPI-2. The authors believe that the established VRIN elevation cutoff of a raw score of 13 is too high, as it puts the test-taker in the

random range of all three confidence interval levels. For the TRIN scale specifically, Handel, Ben-Porath, Tellegen & Archer (2010) found that MMPI-2-RF TRIN-r was more sensitive to counteracquiescence than MMPI-2 TRIN. Overall, this study supports the MMPI-2-RF manual recommendations for interpretability but indicates cautious interpretation of RC scales with VRIN-r and TRIN-r scale elevations.

Similar to the adult literature, adolescent MMPI research has also examined why random responding occurs and how often it takes place. According to a study by Baer, Ballenger, Berry & Wetter (1997), 73% of their adolescent study sample self-reported one or more random responses while taking the MMPI-A. Further, the most common self-reported reasons for random responding were difficulty choosing a response to an item or difficulty comprehending item meaning, but not difficulty paying attention to the test (Baer et al, 1997).

The effectiveness of the MMPI-A VRIN scale has also been well-examined in the literature. Baer et al (1997) examined VRIN's ability to effectively discriminate among completely random, partially random and nonrandom protocols, and found that VRIN was able to correctly identify 88% of the random protocols and 73% of standard protocols, with an overall correct classification rate of 84%. The authors believed this showed that VRIN was effective at discriminating between standard protocols and both all random and partially random protocols. Pinsoneault (2005) found similar results, with VRIN successfully detecting all-random protocols in the study, with an overall effectiveness of .97 at a base rate of .10. VRIN performed less strongly, however, when trying to identify partially random protocols (50-75% random), raising concerns regarding VRIN's effectiveness with less than completely random protocols. Archer & Elkins (1999) also examined the validity scales of the MMPI-A and their ability to discriminate between random and nonrandom protocols. While TRIN was not shown to be useful in

discriminating between random and nonrandom protocols, F, F1, F2, and VRIN were found to be effective (Archer & Elkins, 1999). Extending this line of research, Archer, Handel, Lynch & Elkins (2002) found that VRIN seems to work best when used to detect completely random responding or random responding not confined to the latter half of test. For VRIN specifically, it did not show a high rate of classification accuracy for the partially random protocols. Of note was this study's finding that standard validity measures may not pick up random responding in the back half of the test, which is concerning, given the assumption that the adolescent population has a particular propensity to become bored or fatigued during latter stages of the test (Archer et al, 2002).

Another line of MMPI-A VRIN research concerns appropriate cutoff scores for the scale, in order to maximize invalid profile identification. Baer, Kroll, Rinaldo & Ballenger (1999) found that a VRIN cutoff score of T=61 correctly identified 95% of the random responders in their sample. A cutoff of T=70, on the other hand, only correctly identified 55% of random responders. The authors believe the optimal VRIN cutoff score may be lower than the recommended T≥80. Archer & Elkins (1999) examined the validity scales of the MMPI-A and their ability to discriminate between random and nonrandom protocols. In contrast to the MMPI-A manual (Butcher et al., 1992), which recommends T ≥75 as characterizing inconsistent responding to a degree that invalidates the measure, the authors believe a T of 70-79 (inclusive) should indicate some degree of inconsistent responding with a T≥80 indicating an invalid protocol. In 2002, Archer, Handel, Lynch & Elkins examined the ability of the MMPI-A validity scales to detect varying degrees of random responding. According to their results, VRIN was more effective for distinguishing the standard protocols from those with back half random responding when using a cutoff score of T≥60. VRIN was best at distinguishing between

standard protocols and fully random protocols at a cutoff score of T ≥75 (Archer et al, 2002). Lastly, in Pinsoneault's 2005 study, a T-score cutoff for VRIN greater or equal to 75 almost always pointed to a random protocol, and scores starting at 65 started to raise concerns about random responding. The author notes, however, that this cutoff of 75 still failed to correctly categorize almost 1/3 of the random protocols.

Concerning the optimal cutoff score for TRIN, Handel et al (2006) found that for the MMPI-A, the TRIN cutoff score recommended in the MMPI-A manual appears practical when protocols have at least a moderate degree of yea-saying. For the False response direction, the authors also believe that a T=75 cutoff appears practical, as raising this cut score may sacrifice sensitivity.

The process of development for the non-content based validity scales on the MMPI-A-RF closely follows that of Tellegen and Ben-Porath (2008, 2011) and Handel, Ben-Porath, Tellegen, and Archer (2010). As is outlined in the MMPI-A-RF manual (Archer et al., 2016), content-non-responsiveness was initially measured through item pair response inconsistency (random pairs for VRIN-r; acquiescent and counteracquiescent pairs for TRIN-r True and False, respectively). Item pairs were then developed through an examination of all item correlations from the MMPI-A (478). Strongly related pairs were noted as positive correlations for VRIN-r pairs (T/F or F/T responses) and negative correlations for TRIN-r pairs (T/T for TRIN-r True and F/F for TRIN-r False) (Archer et al., 2016). Tellegen and Ben-Porath (2008, 2011) referred to such pairs as "c-composites" given their configural scoring based on 2x2 response pattern options. Final item pairs on the MMPI-A-RF were then selected if c-composites met the following criteria: reliable correlation between c-composites; c-composite item pairs included face valid content; low ratio of "observed-to-expected" c-composites; low correlation of c-composites with other highly

relevant c-composites; and no overlap between c-composite items (Archer et al., 2016). This development process yielded the following: VRIN-r (27 item pairs), TRIN-r (8 True pairs and 5 False pairs), plus a new scale, the Combined Response Inconsistency scale (CRIN). The CRIN scale consists of all VRIN-r item pairs plus the TRIN-r True and TRIN-r False item pairs, for a total of 40 item pairs, and is meant to be a general indicator of content non-responsiveness (Archer et al., 2016). Overall, MMPI-A-RF validity scales correlate highly with their MMPI-A counterparts, with correlations ranging from .51-.93 for TRIN/TRIN-r and .51-.76 for VRIN/VRIN-r depending on the sample (Archer et al., 2016).

CHAPTER II

STUDY RATIONALE AND HYPOTHESES

As the above literature review revealed, although the MMPI-A has a history of garnering good clinical results, there is still a need to address non-content based responding with the adolescent population. Particularly in light of the length of the MMPI-A, which can be problematic with the adolescent population's attention span, there were several additional issues on the MMPI-A that the MMPI-A-RF seeks to address. Chief among these concerns are the MMPI-A's item overlap, lack of strong scale discriminant validity, and outdated, vague item content (Archer, Handel, Ben-Porath & Tellegen, 2016). Therefore, one of the main reasons the MMPI-A-RF has been developed is to develop stronger scales for over- and under-reporting and non-content based responding (Archer et al, 2016).

As the MMPI-A-RF begins to be used in clinical and research settings, it is important to examine its psychometric functioning. While Handel et al. (2010) examined the effects of non-content based responding on the MMPI-2-RF, the same research studies have not yet been conducted for the MMPI-A-RF. Despite the MMPI-A-RF having its basis in the same item pool as the MMPI-A, the majority of its scales are entirely new. Therefore, it is important to gain information on the effectiveness, reliability, and validity of scores on MMPI-A-RF scales.

Accordingly, this study's goals are as follows:

1. Evaluate how validity scale scores are affected by increasing degrees of non-content-based responding, and evaluate the appropriateness of different cutoff scores and compare these scores to those on the MMPI-A. Hypothesis: Validity scale T-scores will increase.

2. Evaluate how non-content-based responding affects scores on substantive scales, specifically the RC scales. Hypothesis: Scores may increase or decrease based on the keyed direction of RC scales.
3. Evaluate how non-content-based responding affects validity coefficients. Hypothesis: Validity coefficients will decrease with increasing non-content-based responding.
4. Evaluate the moderating effects of VRIN-r and TRIN-r on the relationships between RC scales and extra-test variables. Hypothesis: VRIN-r and TRIN-r will show significant moderating effects on these relationships.

CHAPTER III

METHOD

Participants

For the current study, two samples were used: the MMPI-A-RF normative sample (Archer et al., 2016), and a forensic sample of outpatient adolescent patients previously published in Handel et al. (2011). The MMPI-A-RF normative sample is a subset of the MMPI-A normative sample (Butcher et al., 1992). However, the MMPI-A-RF uses combined gender T-scores, whereas the MMPI-A uses T-scores calculated separately by gender. Combined gender T-scores are used because gendered T-scores mask any actual gender differences (Archer et al., 2016). In order to get a balanced gender sample, Archer et al. randomly selected 805 females from the 815 total in the MMPI-A normative sample, which then matched the 805 males included. In the present study, this sample was further reduced by applying both MMPI-A and MMPI-A-RF score validity criteria which varied based on selected scale. The validity criteria applied for random responding analyses was as follows: (MMPI-A) CNS < 30, L < 65, K < 65, TRIN < 75, F < 90, F1 < 90, F2 < 90 and (MMPI-A-RF) CNS < 10, TRIN-r < 75, CRIN (no cases removed), F-r < 90, L-r < 65, K-r < 65. For fixed responding analyses, validity criteria included (MMPI-A) CNS < 30, L < 65, K < 65, VRIN < 75, F < 90, F1 < 90, F2 < 90 and (MMPI-A-RF) CNS < 10, VRIN-r < 75, CRIN (no cases removed), F-r < 90, L-r < 65, K-r < 65. Finally, for omitted item analyses, validity criteria included (MMPI-A) CNS < 30, L < 65, K < 65, VRIN and TRIN < 75, F < 90, F1 < 90, F2 < 90 and (MMPI-A-RF) CNS < 10, VRIN-r, TRIN-r, and CRIN < 75, F-r < 90, L-r < 65, K-r < 65. Following the application of the above-listed validity criteria, the final sample included the following: *n*=1215 for VRIN and VRIN-r analyses, *n*=1231 for TRIN and TRIN-r analyses, and *n*=1201 for Cannot Say.

The MMPI-A-RF normative sample has a mean age of 15.56 (SD = 1.18). Ethnic breakdown of the sample is as follows: White (76.3%), Black (12.4%), Asian (2.9%), American Indian (2.9%), Hispanic (2.0%), Other (2.5%) and No Response (1%). Regarding education level, over 75% of the MMPI-A-RF normative sample includes adolescents in grades 9-11 (Archer et al., 2016). Additional demographic information regarding parents' characteristics can be found in Archer et al. 2016.

An additional outpatient forensic sample was used for this study, initially collected from an outpatient treatment facility where participants completed the MMPI-A (Handel et al, 2011). The initial sample of 761 adolescents (470 boys, 290 girls, and one individual who did not identify gender), was reduced due to removal of cases for reasons such as omitted gender status, no current legal charges, or an age < 14. Demographic information for the initial sample showed a mean age for boys of 15.79 (SD=1.14) and for girls of 15.85 (SD=1.09). The majority of participants were African-American (around 62%), then Caucasian (around 26%), Biracial (3.5-5%), Hispanic (1.7-2.5%), followed by Other and Unknown. Axis I diagnoses were mainly for impulse control or behavioral disorders, followed by Substance Use Disorders, Depression-related Disorders(e.g., major depressive disorder, dysthymia, depression, not otherwise specified), ADHD, and Adjustment Disorders. Information was also collected regarding participants' current or past legal charges.

For the current study, a final sample of 460 was reached after removal of such cases and the application of MMPI-A-RF score cutoffs (for Cannot Say, a raw of <10; for VRIN-r, TRIN-r, and CRIN, *T* scores <75; F < 90, L < 80, and K, <75). The final sample used in the current study included 276 males and 184 females with an ethnic distribution of 2.2% Asian, 2.0 Hispanic, 62.4% African American, and 27.4% Caucasian. To examine whether differences in ethnicity

were related to rates of protocol invalidity, an independent sample, that is, the outpatient forensic sample, was employed. In this sample, a chi-square test for association was conducted.

Measures

Minnesota Multiphasic Personality Inventory-Adolescent Restructured Form (MMPI-A-RF). The focus of the current study was on several of the validity scales of the MMPI-A-RF, including Cannot Say, VRIN-r, TRIN-r, and the newly developed CRIN scale. As found in the MMPI-A-RF manual (Archer et al., 2016), VRIN-r consists of 27 item pairs while TRIN-r consists of 13 item pairs. CRIN, designed to add support to the shortened TRIN-r and VRIN-r scales, is a combination of all 40 VRIN-r and TRIN-r item pairs and is meant to be a general indicator of content non-responsiveness. In the normative sample subset (n=154), test-retest reliabilities are noted as .78 (VRIN-r), .60 (TRIN-r), and .70 (CRIN). Internal consistency (Cronbach's alpha) for males and females, respectively, are .45 and .37 (VRIN-r), .34 and .24 (TRIN-r), and .60 and .52 (CRIN). Alpha coefficients are expected to be low in non-content-based validity indicators for a variety of reasons. First, scores on these measures are devoid of content-related variance. Second, score variability is limited in samples of test-takers who did not engage in a high degree non-content-based responding as is the case in the normative sample. This would be analogous to giving a scale measuring psychosis to a sample of normals. In this case, alpha would be expected to be low due to limited score variability. Further, the standard error of measurement is a more relevant index to evaluate reliability (American Educational Research Association, et al., 2014). Standard errors of measurement (SEM) based on test-retest reliabilities in the normative sample test-retest subset were 4 T-score points for VRIN-r, TRIN-r, and CRIN (Archer et al., 2016). In the normative sample as a whole for males and females, respectively, SEM values were 8 and 7 (VRIN-r), 8 and 8 (TRIN-r), and 7 and 6 (CRIN) (Archer

et al., 2016). These values are all low relative to the possible range of T-scores on these scales, supporting the score reliability of these measures.

The MMPI-A-RF Restructured Clinical (RC) scales were also a focus of the current study. Initially developed in 2003 by Tellegen for the MMPI-2, the RC scales were designed to address limitations of the original clinical scales, namely the extent to which the original clinical scales were intercorrelated. A general demoralization factor (RCd) was first removed from the original scales, believed to be the main underlying common factor. The core component of each scale was then determined, with RCd removed, via factor analysis. Items identified as loading highly with each scale's core component were used as "seed" scales for each new RC scale. Items were then selected for inclusion in the RC scales if they had a high loading on the scale's core factor relative to loadings of the same items on the Demoralization factor. Additional analyses involved recruiting items from the entire MMPI-2 booklet by examining patterns of convergent and discriminant correlations (Tellegen et al, 2003).

For the MMPI-A-RF, similar processes were used, with the primary exception being that items from the MMPI-2 RC scales were carried over to the MMPI-A to serve as an initial template. MMPI-A items that corresponded to MMPI-2-RF RC scale items were used to create "seed scales", which were then subjected to statistical item analyses and content analysis (Archer et al., 2016). Exploratory factor analysis then confirmed that RCd is a distinct factor for each RC scale in adolescents just as it is for adults. Next, correlational analyses with all 478 MMPI-A items were conducted, which led to the addition of 19 adolescent-specific items, a key distinction for the MMPI-A-RF RC scales (Archer et al., 2016). This process led to the final development of 9 RC scales on the MMPI-A-RF yielding a total of 116 items.

Minnesota Multiphasic Personality Inventory-Adolescent (MMPI-A). The MMPI-A is a 478 item self-report measure for adolescents ages 14 – 18 (Butcher et al., 1992). The measure includes various validity, clinical, content, and supplementary scales. The current study utilized MMPI-A validity scales VRIN, TRIN, and Cannot Say as part of its comparative analyses.

Youth Self Report (YSR). The Youth Self Report is part of the Achenbach System of Empirically-Based Assessment (ASEBA; Achenbach & Rescorla, 2001). The YSR is a self-report measure for 11-18 year olds to describe their own behavioral functioning over the last 6 months. The measure includes 112 items on eight syndrome scales: Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints, Social Problems, Thought Problems, Attention Problems, Rule-Breaking Behavior and Aggressive Behavior. Five of the eight syndrome scales are further classified as Internalizing (Anxious/Depressed, Withdrawn/Depressed, Somatic Complaints) and Externalizing (Rule-Breaking Behavior, Aggressive Behavior). Children and adolescents are asked to provide a rating on items of 0 (not true), 1 (somewhat or sometimes true) or 2 (very true or often true). The YSR also includes competence items that ask about a rater's participation in activities such as friendships, chores, jobs, sports and hobbies. The rater's overall functioning is measured by the Total Problem Scale. Combined gender alpha coefficients range from .71 (Withdrawn/Depressed) to .95 (Total Problems) (Achenbach & Rescorla, 2001). In the current dataset, Handel et al. (2011) reported alpha coefficients ranging from .68 (Withdrawn/Depressed) to .95 (Total Problems).

Child Behavior Checklist (CBCL). The Child Behavior Checklist is also part of the ASEBA system (Achenbach & Rescorla, 2001). The CBCL is a parent-report measure for 6-18 year olds to describe observed behavioral functioning of the child over the last 6 months. The

measure includes 120 items on the same eight syndrome scales as the YSR. In addition, it includes competence items and a Total Problem Scale to rate the child's overall functioning. Like the YSR, the syndrome scales are further classified as Internalizing or Externalizing. Items are given a rating of 0 (not true), 1 (somewhat true), or 2 (very true or often true). Combined gender alpha coefficients range from .78 (Thought Problems, Somatic Complaints) to .97 (Total Problems) (Achenbach & Rescorla, 2001). In the current dataset, Handel et al. (2011) reported alpha coefficients ranging from .72 (Withdrawn/Depressed) to .96 (Total Problems).

Disruptive Behavior Rating Scale – Parent Form. The Disruptive Behavior Rating Scale (DBRS; Barkley & Murphy, 1998) is a parent-report measure to detect common behavioral problems in children ages 5-10, including aggression, hyperactivity, oppositional tendencies, and conduct problems. Fifty items yield scores on four subtests: Distractible, Oppositional, Impulsive-Hyperactive, and Antisocial Conduct. The 26 items that assess for ADHD and ODD symptoms are rated on a four-point scale (Not at All, Just a Little, Pretty Much, and Very Much). There are also 15 items that include content designed to assess the DSM-IV criteria for Conduct Disorder. For these 15 items, the parent is asked to respond Yes or No to indicate if his or her child has engaged in any of the listed behaviors during the previous 12 months. Alpha coefficients for the current dataset, reported in Handel et al. (2011) include .71 (Conduct Disorder), .88 (Impulsive-Hyperactive), .91 (Inattentive) and .93 (Oppositional Defiant Disorder).

CHAPTER IV

PROCEDURE

Three main phases of analysis were conducted in the current study. The first phase involved inserting increasing percentages of simulated random, true, and false responses into valid protocols and conducting new T-score calculations for VRIN-r, TRIN-r, VRIN, TRIN, and CRIN. The second phase involved these same non-content-based response insertion percentages in order to conduct new T-score calculations for the RC scales. Lastly, moderated multiple regressions were conducted to examine how VRIN-r, TRIN-r, and CRIN moderate the relationships between several of the RC scales and similar constructs from the YSR, CBCL, and the DBRS.

In the first phase, using existing MMPI-A protocols, I employed a procedure similar to Handel et al. 2010, whereby varying degrees of simulated random responding, acquiescence, and counter-acquiescence were inserted into valid MMPI-A protocols in order to examine the effects of simulated responses on scale and overall protocol validity. For each case in the data set, a percentage of the original items (i.e., 10%, 20%, 30%, 40%, 50%, 60%, and 70%, 80%, 90%, and 100%) were randomly selected and replaced by randomly generated True or False responses. For example, in the 10% VRIN condition, 10% of the items in the 478-item MMPI-A pool were selected and replaced with randomly generated True or False responses. Similarly, 10% of the items in the 241-item MMPI-A-RF item pool were replaced with randomly generated True or False responses. The same procedure was followed at the 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, and 100% levels for VRIN and VRIN-r.

After all levels of random insertion were completed for VRIN and VRIN-r, a similar procedure was repeated for TRIN and TRIN-r in both the acquiescent and counteracquiescent

conditions, beginning at the 10% condition for each. For example, at the 10% True condition, 10% of items out of the MMPI-A-RF item pool were randomly selected and replaced with computer-generated True responses. The same procedure was repeated at the 20%, 30%, 40%, 50%, 60% and 70%, 80%, 90%, and 100% levels for TRIN and TRIN-r True. For TRIN and TRIN-r False, at the 10% condition, 10% of items out of the total item pool (478 items for TRIN and 241 items for TRIN-r) were randomly selected and replaced with computer-generated False responses. The same procedure was then repeated at the aforementioned higher percentage levels.

For the CRIN analyses, a similar procedure of inserting increasing degrees of non-content based responding was followed, with a couple of distinctions. As there is no CRIN scale on the MMPI-A, the designated percentage of replaced items applied to the MMPI-A-RF CRIN scale only, with no corresponding comparison on the MMPI-A. CRIN scale analyses were conducted at every level of non-content-based responding (0-100%) for random, true, and false response insertion.

For the Cannot Say scale, the same procedure was used as for VRIN-r, TRIN-r, and CRIN, with the exception of the type of response inserted. Rather than True or False responses, increasing percentages of omitted items were inserted into existing protocols.

These simulated responding analyses were used in order to examine cutoff scores for the VRIN-r, TRIN-r, and CRIN scales of the MMPI-A-RF and to compare VRIN-r and TRIN-r to the MMPI-A VRIN and TRIN scales. For all analyses, validity scale T-scores were examined in both combined gender and gendered conditions. To summarize, in order to ensure that consistency across MMPI-A and MMPI-A-RF protocols was maintained and in order to allow for direct comparisons between the two scale sets, simulated insertion was based on the item

pool for each test. For example, in the 40% counter-acquiescence condition for TRIN-r, 40% of the original MMPI-A 478 items were randomly selected, whereas 40% of the 241 MMPI-A-RF items were randomly selected for replacement with False responses. Similar procedures were utilized for TRIN-r True, VRIN-r, and CRIN comparisons with the exception of which items were selected for simulated insertion. As items were randomly selected for each individual protocol, the likelihood of two individual protocols reflecting the exact same selected items was extremely low.

To examine how VRIN-r, TRIN-r, CRIN, T-scores are affected by increasing percentages of random insertions, T-score recalculations were conducted to evaluate changes to T-score elevations and their relationship to the cutoffs of T≥65, 70, 75, and 80. The proportion of elevated T-scores on VRIN-r, TRIN-r, CRIN, for the MMPI-A-RF were compared to the proportion of elevated T-scores on the same scales for the MMPI-A (although the MMPI-A does not have a CRIN scale) at each level of random insertion, in order to compare scales. The percentage of elevated scores (defined according to the proposed cutoffs, above), were calculated at each level of response insertion for each scale, in order to examine whether a pattern of increasing or decreasing T-scores emerged as a function of increasing levels of computer-simulated response insertion.

For the second phase of analysis, the same procedure as phase one was followed but was applied to the RC scales. T-score recalculations were conducted for each RC scale at each level of simulated insertion for random, acquiescent, and counteracquiescent responding in order to evaluate the effect of increasing levels of non-content-based insertion on RC scale T-scores.

In the third and final phase of analyses, I looked at how VRIN-r and TRIN-r moderate the relationships between MMPI-A-RF Restructured Clinical (RC) Scales and selected criterion

measures. The criterion measures selected for this portion of the analyses were several YSR, CBCL, and DBRS scales that measure similar purported constructs as the MMPI-A-RF RC scales. As the data already exists for correlations between RC scales and scales on the above-mentioned measures (Archer et al, 2016), RC scale pairings were considered if they were correlated at or above .2 for CBCL and DBRS and at or above .4 for YSR. Final scale pairings were selected which met or exceeded these thresholds and which also had a strong conceptual underpinning. The selected scale pairings are presented below.

1. RC4 Antisocial Behavior – DBRS Conduct Problems
2. RCd Demoralization - CBCL Anxious/Depressed
3. RCd Demoralization - CBCL Internalizing
4. RC4 Antisocial Behavior - CBCL Rule Breaking Behavior
5. RC4 Antisocial Behavior - CBCL Externalizing
6. RCd Demoralization - YSR Anxious/Depressed
7. RCd Demoralization - YSR Withdrawn/Depressed
8. RCd Demoralization - YSR Internalizing
9. RC1 Somatic Complaints - YSR Somatic Complaints
10. RC4 Antisocial Behavior - YSR Rule-Breaking Behavior
11. RC4 Antisocial Behavior - YSR Aggressive Behavior
12. RC4 Antisocial Behavior - YSR Externalizing
13. RC7 Dysfunctional Negative Emotions - YSR Anxious/Depressed
14. RC7 Dysfunctional Negative Emotions - YSR Internalizing

These same conceptually and empirically related RC scale and criterion measure combinations were used to illustrate the moderating effects (or lack thereof) of the VRIN and TRIN scales using moderated multiple regressions. All scale pairings were combined gender for greater power. For these analyses, rather than examining the relationship at the 0%-100% levels, the data set was randomly divided in half. The first half of the data set was left unmodified. The second half of the data set consisted of a high degree (i.e., 80%) of simulated non-content-based responding (random, true, or false). The two halves were then be recombined and the moderated multiple regression analyses (MMR) conducted.

For the MMR analyses, a procedure similar to that in Burchett (2012) was followed. First, an interaction term was created using the RC scale as predictor and either VRIN-r or TRIN-r as moderator and multiplying their raw scores. Next, the predictor variable (i.e., RC scale) was entered as an independent variable in the first step, with the moderator (e.g., VRIN-r) and interaction terms entered as independent variables in the second step. The criterion variable (e.g., DBRS Conduct Disorder) was entered as the dependent variable. This regression was run to see if there was a significant moderating effect among the variables. If there was a significant moderating effect, two more regressions were run to check for slope and intercept differences. To check for slope differences, the predictor variable and moderator were entered as independent variables in the first step, interaction term as independent variable in the second step, and criterion variable as dependent variable. To check for intercept differences, the predictor variable was entered as independent variable in the first step, moderator as independent variable in the second step, and criterion variable as dependent variable.

CHAPTER IV

RESULTS

Study results are presented in two distinct sections: normative and forensic sample analyses. Normative sample analyses address the first hypothesis: validity scale scores will increase monotonically with increasing percentages of simulated item insertion. Normative and forensic analyses address the second hypothesis: increased levels of simulated response insertion will lead to RC scale score distortion. Forensic sample analyses address a third hypothesis, that increased levels of simulated response insertion will lead to decreased validity, seen in criterion measure correlation decreases. Finally, forensic sample analyses examined the hypothesis that VRIN-r and TRIN-r will show significant moderating effects on these relationships.

Validity criteria were applied to Cannot Say, VRIN-r, TRIN-r, and CRIN scales in order to ensure no invalid protocols remained in the samples. Criteria were applied in a way so as to not contribute overlap with the scale under investigation. For example, when examining the VRIN and VRIN-r scales, TRIN, L, K, F, F1, and F2 scale elevations were considered but VRIN and VRIN-r scale elevations were not.

MMPI-A-RF Normative Sample Analyses

Cannot Say. Tables 1-3 show the effects of varying degrees of simulated omitted items on mean RC scale T-scores. Sample sizes varied (Combined gender, *n*=1201; Males, *n*=574; Females, *n*=627). As expected in the combined group (Table 1), for all RC scales, mean T-scores decreased systematically with greater percentages of omitted items. Male and female analyses showed similar patterns (Tables 2 and 3). All groups showed similar change patterns (8-22 points) in T-scores. In general, RC8 showed the smallest change in T-scores and RC9 showed the largest.

Table 1

The Effects of Varying Degrees of Omitted Items on Mean RC Scale T-Scores for RCd, RC1, RC2, and RC3 – Normative Sample - Combined Gender

Percentage Omitted Responses	RCd dem		RC1 som		RC2 lpe		RC3 cyn	
	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95% CI	M (SD)	95%CI
0%	51.3 (10.1)	[50.8, 51.9]	50.1 (9.9)	[49.6, 50.7]	48.9 (9.3)	[48.3, 49.4]	51.3 (9.9)	[50.7, 51.8]
10%	49.6 (8.9)	[49.1, 50.1]	48.8 (9.1)	[48.3, 49.3]	47.8 (8.8)	[47.3, 48.3]	48.6 (8.7)	[48.1, 49.1]
20%	47.9 (7.9)	[47.5, 48.4]	47.3 (8.2)	[46.8, 47.8]	46.7 (8.3)	[46.2, 47.2]	46.4 (7.3)	[45.9, 46.8]
30%	46.2 (7.0)	[45.9, 46.6]	45.9 (7.5)	[45.5, 46.3]	45.5 (7.6)	[45.1, 46.0]	44.4 (6.1)	[44.0, 44.7]
40%	44.8 (6.2)	[44.4, 45.1]	44.4 (6.7)	[44.0, 44.8]	44.4 (6.9)	[44.0, 44.8]	42.6 (5.3)	[42.3, 42.9]
50%	43.2 (5.5)	[42.9, 43.5]	42.9 (6.1)	[42.5, 43.2]	43.2 (6.4)	[42.9, 43.6]	40.9 (4.7)	[40.7, 41.2]
60%	41.7 (5.0)	[41.2, 42.0]	41.3 (5.6)	[41.0, 41.7]	42.1 (5.9)	[41.7, 42.4]	39.4 (4.2)	[39.2, 39.6]
70%	40.0 (4.5)	[39.8, 40.3]	39.6 (5.0)	[39.4, 39.9]	40.9 (5.1)	[40.6, 41.2]	37.9 (3.9)	[37.6, 38.1]
80%	38.2 (4.0)	[38.0, 38.4]	37.7 (4.2)	[37.5, 38.0]	39.5 (4.3)	[39.3, 39.8]	36.2 (3.5)	[36.0, 36.4]
90%	36.0 (3.0)	[35.8, 36.2]	35.7 (3.1)	[35.6, 35.9]	38.1 (3.2)	[37.9, 38.3]	34.3 (2.8)	[34.1, 34.4]
100%	33.5 (0.0)	[33.5, 33.5]	33.4 (0.0)	[33.4, 33.4]	36.6 (0.0)	[36.6, 36.6]	32.1 (0.0)	[32.1, 32.1]

Note. N=1201; RC = Restructured Clinical; dem = Demoralization; som = Somatic Complaints; lpe = Low Positive Emotions; cyn = Cynicism.

Table 2

The Effects of Varying Degrees of Omitted Items on Mean RC Scale T-Scores for RC4, RC6, RC7, RC8, RC9 – Normative Sample - Combined Gender

Percentage Omitted Responses	RC4 asb		RC6 per		RC7 dne		RC8 abx		RC9 hpm	
	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95%CI
0%	49.6 (9.9)	[49.0, 50.1]	50.1 (9.9)	[49.5, 50.7]	51.6 (10.0)	[51.0, 52.1]	49.3 (9.5)	[48.8, 49.8]	51.3 (10.1)	[50.7, 52.0]
10%	48.4 (9.0)	[47.8, 48.9]	48.9 (9.2)	[48.4, 49.5]	49.4 (8.9)	[48.9, 50.0]	48.6 (8.8)	[48.1, 49.1]	48.3 (8.8)	[47.8, 48.9]
20%	47.2 (8.2)	[46.8, 47.7]	47.9 (8.7)	[47.4, 48.4]	47.3 (7.8)	[46.9, 47.7]	48.0 (8.2)	[47.6, 48.4]	45.9 (7.5)	[45.5, 46.3]
30%	46.2 (7.4)	[45.8, 46.6]	46.6 (7.9)	[46.2, 47.1]	45.6 (6.9)	[45.2, 45.9]	47.3 (7.7)	[46.8, 47.7]	43.7 (6.6)	[43.3, 44.1]
40%	45.0 (6.8)	[44.6, 45.4]	45.5 (7.5)	[45.1, 46.0]	43.8 (6.2)	[43.5, 44.2]	46.5 (7.0)	[46.1, 46.9]	41.7 (5.7)	[41.4, 42.0]
50%	43.8 (6.1)	[43.5, 44.2]	44.3 (6.8)	[43.9, 44.7]	42.0 (5.6)	[41.7, 42.3]	45.8 (6.5)	[45.5, 46.2]	39.8 (5.4)	[39.4, 40.1]
60%	42.6 (5.6)	[42.3, 42.9]	43.1 (6.0)	[42.8, 43.5]	40.2 (4.9)	[40.0, 40.5]	45.1 (5.9)	[44.8, 45.4]	38.1 (5.0)	[37.8, 38.3]
70%	41.3 (5.0)	[41.1, 41.6]	41.8 (5.4)	[41.6, 42.1]	38.5 (4.4)	[38.3, 38.8]	44.2 (5.1)	[44.0, 44.5]	36.1 (4.6)	[35.8, 36.3]
80%	39.8 (4.2)	[39.6, 40.0]	40.6 (4.6)	[40.3, 40.8]	36.7 (3.8)	[36.5, 36.9]	43.4 (4.3)	[43.2, 43.7]	34.0 (4.1)	[33.8, 34.3]
90%	38.1 (3.2)	[37.9, 38.3]	39.0 (3.3)	[38.8, 39.2]	34.6 (2.9)	[34.5, 34.8]	42.6 (3.1)	[42.4, 42.7]	31.8 (3.2)	[31.6, 32.0]
100%	36.0 (0.0)	[36.0, 36.0]	37.3 (0.0)	[37.3, 37.3]	32.3 (0.0)	[32.3, 32.3]	41.7 (0.0)	[41.7, 41.7]	29.4 (0.0)	[29.4, 29.4]

Note. *N*=1201; RC = Restructured Clinical; asb = Antisocial Behavior; per = Ideas of Persecution; dne = Dysfunctional Negative Emotions; abx = Aberrant Experiences; hpm = Hypomanic Activation.

Table 3

The Effects of Varying Degrees of Omitted Items on Mean RC Scale T-Scores for RCd, RC1, RC2, and RC3 – Normative Sample Gendered – Males

Percentage Omitted Responses	RCd dem		RC1 som		RC2 lpe		RC3 cyn	
	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95% CI	M (SD)	95%CI
0%	49.6 (9.7)	[48.8, 50.5]	48.1 (9.1)	[47.4, 48.9]	49.6 (9.6)	[48.8, 50.4]	51.9 (9.9)	[51.1, 52.7]
10%	48.1 (8.6)	[47.4, 48.9]	47.0 (8.5)	[46.3, 47.7]	48.3 (9.0)	[47.6, 49.1]	49.2 (8.8)	[48.5, 49.9]
20%	46.5 (7.8)	[45.9, 47.2]	45.7 (7.7)	[45.1, 46.3]	47.2 (8.6)	[46.6, 48.0]	46.8 (7.3)	[46.1, 47.4]
30%	45.1 (7.1)	[44.5, 45.7]	44.4 (7.1)	[43.9, 45.0]	46.1 (7.8)	[45.6, 46.8]	44.6 (5.9)	[44.1, 45.1]
40%	43.7 (6.3)	[43.2, 44.3]	43.2 (6.5)	[42.7, 43.7]	44.7 (7.0)	[44.2, 45.3]	42.8 (5.2)	[42.4, 43.2]
50%	42.3 (5.7)	[41.8, 42.8]	41.8 (5.9)	[41.3, 42.2]	43.5 (6.4)	[43.0, 44.1]	41.1 (4.7)	[40.7, 41.4]
60%	40.9 (5.1)	[40.5, 41.3]	40.4 (5.4)	[40.0, 40.9]	42.4 (5.8)	[41.9, 42.8]	39.6 (4.2)	[39.2, 39.9]
70%	39.4 (4.6)	[39.0, 39.8]	39.0 (4.7)	[38.6, 39.3]	41.1 (5.2)	[40.7, 41.6]	38.0 (3.9)	[37.7, 38.3]
80%	37.7 (4.0)	[37.4, 38.1]	37.4 (4.0)	[37.0, 37.7]	39.6 (4.4)	[39.3, 40.0]	36.3 (3.5)	[36.0, 36.6]
90%	35.7 (2.9)	[35.5, 35.9]	35.5 (2.9)	[35.3, 35.7]	38.3 (3.4)	[38.0, 38.5]	34.3 (2.8)	[34.1, 34.6]
100%	33.5 (0.0)	[33.5, 33.5]	33.4 (0.0)	[33.4, 33.4]	36.6 (0.0)	[36.6, 36.6]	32.1 (0.0)	[32.1, 32.1]

Note. N=574; RC = Restructured Clinical; dem = Demoralization; som = Somatic Complaints; lpe = Low Positive Emotions; cyn = Cynicism.

Table 4

The Effects of Varying Degrees of Omitted Items on Mean RC Scale T-Scores for RC4, RC6, RC7, RC8, RC9 – Normative Sample - Gendered – Males

Percentage Omitted	RC4 asb		RC6 per		RC7 dne		RC8 abx		RC9 hpm	
Responses	M (SD)	95%CI	M (SD)	95%CI	M(SD)	95%CI	M (SD)	95%CI	M (SD)	95%CI
0%	50.7 (10.7)	[49.8, 51.6]	50.4 (10.3)	[49.6, 51.3]	49.9 (9.7)	[49.1, 50.7]	49.3 (9.7)	[48.5, 50.1]	49.7 (9.5)	[49.0, 50.6]
10%	49.4 (9.8)	[48.7, 50.2]	49.2 (9.5)	[48.4, 50.0]	47.8 (8.4)	[47.1, 48.5]	48.7 (9.1)	[48.0, 49.5]	46.9 (8.1)	[46.3, 47.6]
20%	48.1 (8.8)	[47.4, 48.8]	48.0 (8.7)	[47.3, 48.7]	45.9 (7.4)	[45.4, 46.6]	48.1 (8.5)	[47.5, 48.9]	44.7 (7.0)	[44.1, 45.3]
30%	47.0 (7.9)	[46.4, 47.7]	46.6 (7.9)	[46.0, 47.2]	44.4 (6.5)	[43.8, 44.9]	47.3 (7.9)	[46.7, 48.0]	42.8 (6.2)	[42.2, 43.3]
40%	45.8 (7.2)	[45.2, 46.4]	45.5 (7.4)	[44.9, 46.1]	42.9 (6.0)	[42.4, 43.4]	46.6 (7.3)	[46.0, 47.2]	41.0 (5.5)	[40.6, 41.5]
50%	44.5 (6.4)	[44.0, 45.0]	44.3 (6.8)	[43.7, 44.8]	41.2 (5.4)	[40.8, 41.7]	46.0 (6.7)	[45.4, 46.5]	39.2 (5.1)	[38.8, 39.6]
60%	43.2 (5.8)	[42.7, 43.7]	43.0 (6.0)	[42.5, 43.5]	39.6 (4.9)	[39.2, 40.0]	45.2 (5.9)	[44.7, 45.6]	37.7 (4.9)	[37.3, 38.1]
70%	41.8 (5.1)	[41.4, 42.2]	41.7 (5.3)	[41.3, 42.2]	38.0 (4.4)	[37.6, 38.3]	44.3 (5.1)	[43.9, 44.7]	36.0 (4.5)	[35.6, 36.3]
80%	40.1 (4.4)	[39.7, 40.4]	40.5 (4.5)	[40.2, 40.9]	36.2 (3.7)	[35.9, 36.5]	43.5 (4.3)	[43.1, 43.8]	34.0 (4.0)	[33.7, 34.4]
90%	38.3 (3.4)	[38.1, 38.6]	39.0 (3.3)	[38.7, 39.2]	34.3 (2.7)	[34.1, 34.5]	42.5 (2.9)	[42.2, 42.7]	31.7 (3.2)	[31.5, 32.0]
100%	36.0 (0.0)	[36.0, 36.0]	37.3 (0.0)	[37.3, 37.3]	32.3 (0.0)	[32.3, 32.3]	41.7 (0.0)	[41.7, 41.7]	29.4 (0.0)	[29.4, 29.4]

Note. N=574; RC = Restructured Clinical; asb= Antisocial Behavior; per = Ideas of Persecution; dne = Dysfunctional Negative Emotions; abx = Aberrant Experiences; hpm = Hypomanic Activation.

Table 5

The Effects of Varying Degrees of Omitted Items on Mean RC Scale T-Scores for RCd, RC1, RC2, and RC3 – Normative Sample - Gendered – Females

Percentage Omitted Responses	RCd dem		RC1 som		RC2 lpe		RC3 cyn	
	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95% CI	M (SD)	95%CI
0%	52.8 (10.1)	[52.1, 53.7]	52.0 (10.2)	[51.2, 52.8]	48.2 (9.0)	[47.6, 48.9]	50.7 (9.9)	[49.9, 51.6]
10%	51.0 (8.9)	[50.3, 51.7]	50.4 (9.3)	[49.7, 51.1]	47.2 (8.6)	[46.6, 47.9]	48.0 (8.5)	[47.4, 48.8]
20%	49.2 (7.8)	[48.6, 49.9]	48.8 (8.3)	[48.2, 49.4]	46.1 (7.9)	[45.6, 46.8]	46.0 (7.4)	[45.4, 46.6]
30%	47.3 (6.7)	[46.8, 47.9]	47.3 (7.6)	[46.7, 47.9]	45.0 (7.3)	[44.4, 45.6]	44.2 (6.3)	[43.7, 44.7]
40%	45.8 (5.9)	[45.3, 46.2]	45.5 (6.8)	[45.0, 46.0]	44.1 (6.9)	[43.6, 44.6]	42.4 (5.3)	[42.0, 42.9]
50%	44.0 (5.2)	[43.6, 44.4]	43.8 (6.1)	[43.4, 44.3]	43.0 (6.3)	[42.5, 43.5]	40.8 (4.7)	[40.4, 41.2]
60%	42.4 (4.7)	[42.1, 42.8]	42.2 (5.7)	[41.8, 42.6]	41.8 (5.9)	[41.4, 42.2]	39.2 (4.2)	[38.9, 39.6]
70%	40.6 (4.4)	[40.3, 41.0]	40.3 (5.2)	[39.9, 40.7]	40.7 (5.1)	[40.3, 41.1]	37.7 (3.9)	[37.4, 38.0]
80%	38.7 (3.9)	[38.3, 39.0]	38.1 (4.3)	[37.7, 38.4]	39.4 (4.3)	[39.1, 39.8]	36.1 (3.5)	[35.8, 36.4]
90%	36.2 (3.0)	[36.0, 36.5]	35.9 (3.3)	[35.7, 36.2]	37.9 (3.0)	[37.7, 38.2]	34.2 (2.8)	[34.0, 34.4]
100%	33.5 (0.0)	[33.5, 33.5]	33.4 (0.0)	[33.4, 33.4]	36.6 (0.0)	[36.6, 36.6]	32.1 (0.0)	[32.1, 32.1]

Note. N=627; RC = Restructured Clinical; dem = Demoralization; som = Somatic Complaints; lpe = Low Positive Emotions; cyn = Cynicism.

Table 6

The Effects of Varying Degrees of Omitted Items on Mean RC Scale T-Scores for RC4, RC6, RC7, RC8, RC9 – Normative Sample - Gendered – Females

Percentage Omitted Responses	RC4 asb		RC6 per		RC7 dne		RC8 abx		RC9 hpm	
	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95%CI	M (SD)	95%CI
0%	48.5 (8.9)	[47.9, 49.3]	49.7 (9.6)	[49.0, 50.5]	53.1 (10.1)	[52.3, 54.0]	49.3 (9.3)	[48.6, 50.0]	52.8 (10.4)	[52.0, 53.6]
10%	47.5 (8.1)	[46.9, 48.1]	48.7 (9.0)	[47.9, 49.4]	50.9 (9.0)	[50.2, 51.7]	48.5 (8.5)	[47.8, 49.1]	46.7 (9.1)	[49.0, 50.4]
20%	46.5 (7.4)	[45.9, 47.0]	47.8 (8.7)	[47.1, 48.5]	48.6 (7.9)	[48.0, 49.2]	47.9 (8.0)	[47.3, 48.5]	47.0 (7.7)	[46.4, 47.6]
30%	45.5 (6.9)	[45.0, 46.0]	46.7 (8.0)	[46.1, 47.3]	46.6 (7.0)	[46.1, 47.2]	47.2 (7.4)	[46.6, 47.8]	44.5 (6.8)	[44.0, 45.1]
40%	44.4 (6.3)	[43.9, 44.9]	45.6 (7.5)	[45.0, 46.2]	44.7 (6.3)	[44.2, 45.2]	46.5 (6.8)	[45.9, 47.0]	42.3 (5.8)	[41.9, 42.8]
50%	43.2 (5.8)	[42.8, 43.6]	44.4 (6.8)	[43.9, 45.0]	42.7 (5.6)	[42.2, 43.1]	45.7 (6.3)	[45.2, 46.2]	40.3 (5.5)	[39.8, 40.7]
60%	42.1 (5.3)	[41.7, 42.5]	43.2 (6.0)	[42.7, 43.7]	40.8 (4.8)	[40.4, 41.1]	45.0 (5.8)	[44.6, 45.5]	38.4 (5.0)	[38.0, 38.8]
70%	40.9 (4.8)	[40.6, 41.3]	42.0 (5.4)	[41.6, 42.4]	39.0 (4.4)	[38.7, 39.4]	44.2 (5.1)	[43.8, 44.6]	36.1 (4.7)	[35.8, 36.5]
80%	39.6 (4.0)	[39.3, 39.9]	40.6 (4.6)	[40.3, 41.0]	37.1 (3.8)	[36.8, 37.4]	43.4 (4.3)	[43.0, 43.7]	34.0 (4.2)	[33.7, 34.4]
90%	37.9 (3.0)	[37.7, 38.1]	39.0 (3.3)	[38.7, 39.3]	34.9 (3.0)	[34.7, 35.1]	42.6 (3.2)	[42.4, 42.9]	31.8 (3.3)	[31.5, 32.0]
100%	36.0 (0.0)	[36.0, 36.0]	37.3 (0.0)	[37.3, 37.3]	32.3 (0.0)	[32.3, 32.3]	41.7 (0.0)	[41.7, 41.7]	29.4 (0.0)	[29.4, 29.4]

Note. N=627; RC = Restructured Clinical; asb = Antisocial Behavior; per = Ideas of Persecution; dne = Dysfunctional Negative Emotions; abx = Aberrant Experiences; hpm = Hypomanic Activation.

VRIN and VRIN-r. Results from comparative normative sample analyses of VRIN and VRIN-r functioning are presented in tables 7-9 for combined gender, males, and females. As seen in Table 7, VRIN and VRIN-r combined gender means are comparable at lower degrees of response insertion (i.e., until 40%). Beginning with the 50% random response insertion condition, however, VRIN combined gender means were higher than those for VRIN-r by at least 3 points; at higher percentage insertions, this difference was as large as 5 points (i.e., at100% response insertion). The combined gender means for both VRIN and VRIN-r increased systematically as greater percentages of random responses were inserted. For gendered means, VRIN and VRIN-r means still increased systematically with increasing percentages of random responses. While the VRIN and VRIN-r Male means were comparable at all percentage levels, Female means were higher for VRIN compared to VRIN-r at almost all percentage levels, a difference that became more notable at greater percentage levels, particularly at the 30% insertion level and higher.

For the combined gender group, random insertion had differing effects based on the T-score cutoff used, as seen in Table 8. At the 65T cutoff, VRIN and VRIN-r were able to identify a majority (i.e., greater than 50%) of partially random protocols by the 40% and 60% random response insertion conditions, respectively. At the 70*T* cutoff, VRIN and VRIN-r were able to identify a majority of partially random protocols by the 70% and 90% response insertion conditions, respectively. At the 75*T* cutoff, VRIN was able to identify a majority of partially random protocols by the 80% condition, while VRIN-r never reached this majority. At 80*T*, neither VRIN nor VRIN-r was able to identify a majority of invalid protocols. Neither VRIN nor VRIN-r was able to identify 100% of invalid protocols in any condition.

When examined by gender, males and females had differing results, as seen in Table 9. At the 65*T* cutoff for males, a majority of partially random protocols in were identified by the 60% response insertion condition for VRIN and VRIN-r. For females, a majority of random protocols were identified by the 30% response insertion condition for VRIN but not until the 60% response insertion condition for VRIN-r. A majority of male random protocols were identified by VRIN and VRIN-r at the 70*T* cutoff by the 80% and 90% percentage insertion levels, respectively. VRIN identified a majority of female random protocols at the 70*T* cutoff by the 60% response insertion condition, while VRIN-r did the same at the 90% condition. At the 75*T* cutoff, VRIN could identify a majority of the female random protocols at the 70% response insertion condition. It could not, however, identify a majority of male random protocols at any condition. VRIN-r could not identify a majority of male or female random protocols at any condition at 75*T*. VRIN-r was unable to identify a majority of partially random protocols in any condition for males or females at the 80*T* cutoff. Lastly, neither VRIN nor VRIN-r was able to identify all invalid protocols in any condition.

Table 7

MMPI-A VRIN and MMPI-A-RF VRIN-r Descriptive Statistics – Normative Sample - Combined Gender and Gendered

	Combined Gender		Gendered			
	VRIN	VRIN-r	VRIN		VRIN-r	
	M (SD)	M (SD)	Male M (SD)	Female M (SD)	Male M (SD)	Female M (SD)
0%	48.5 (8.7)	49.2 (9.0)	48.0 (8.6)	48.9 (8.8)	49.5 (9.5)	48.9 (8.4)
10%	53.0 (8.6)	52.8 (9.1)	52.0 (8.2)	53.9 (8.8)	53.0 (9.6)	52.6 (8.6)
20%	57.4 (8.5)	56.1 (9.4)	55.7 (8.1)	58.8 (8.7)	56.4 (10.0)	55.7 (8.9)
30%	61.3 (8.9)	58.8 (9.5)	59.5 (8.2)	63.0 (9.2)	59.3 (9.8)	58.3 (9.2)
40%	64.4 (9.0)	61.8 (9.6)	62.1 (7.7)	66.4 (9.6)	61.8 (10.2)	61.8 (9.1)
50%	67.6 (9.3)	64.3 (10.1)	64.8 (8.2)	70.1 (9.5)	64.2 (10.5)	64.4 (9.8)
60%	70.0 (9.5)	67.0 (10.2)	67.0 (8.0)	72.8 (9.9)	66.9 (10.5)	67.2 (10.0)
70%	72.4 (9.9)	68.4 (10.4)	68.9 (8.6)	75.6 (9.9)	68.3 (10.1)	68.5 (10.6)
80%	74.2 (9.7)	69.7 (10.6)	70.8 (8.4)	77.2 (9.7)	69.8 (10.7)	69.6 (10.5)
90%	75.9 (9.7)	70.8 (10.2)	72.6 (8.5)	79.0 (9.8)	70.9 (10.0)	70.8 (10.4)
100%	76.6 (10.1)	71.6 (10.7)	72.9 (8.2)	80.1 (10.5)	71.7 (10.5)	71.6 (10.8)

Note. *N*=1215 Combined Gender; *N*=582 Males; *N*=633 Females; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; VRIN = Variable Response Inconsistency; VRIN-r = Variable Response Inconsistency – Revised.

Table 8

MMPI-A VRIN and MMPI-A-RF VRIN-r Percentage of Cases With T-Scores ≥ 70, ≥75, and ≥80 for Varying Degrees of Random Response Insertion – Normative Sample - Combined Gender

	VRIN				VRIN-r			
Random Insertion	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*
0%	6.4	3.0	1.5	0.7	5.5	2.7	1.3	0.4
10%	11.8	4.4	2.9	0.7	10.5	4.0	1.5	0.4
20%	22.0	8.2	4.3	1.1	17.2	7.9	2.6	1.0
30%	38.4	16.5	10.0	2.5	25.1	12.9	4.9	1.9
40%	50.3	25.8	16.3	4.8	36.9	20.1	8.1	2.9
50%	64.0	37.7	24.8	9.5	45.4	26.7	14.5	6.4
60%	75.1	47.1	34.1	14.9	57.1	37.2	21.2	10.1
70%	80.7	57.0	45.9	21.5	62.5	43.8	26.2	12.9
80%	85.5	65.9	52.8	27.5	67.7	46.5	28.6	15.6
90%	89.7	71.5	60.2	33.2	71.4	52.1	31.8	17.1
100%	90.5	73.7	60.4	36.7	73.7	55.1	36.5	20.9

Note. N=1215 Combined Gender; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; VRIN = Variable Response Inconsistency; VRIN-r = Variable Response Inconsistency – Revised.

Table 9

MMPI-A VRIN and MMPI-A-RF VRIN-r Percentage of Cases With T-Scores ≥ 70, ≥75, and ≥80 for Varying Degrees of Random Response Insertion – Normative Sample - Gendered

	VRIN								VRIN-r							
Random Insertion Percentage	Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*		Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0%	6.4	6.5	2.6	3.5	1.2	1.7	0.7	0.6	7.0	4.1	3.6	1.9	1.9	0.8	0.5	0.3
10%	8.2	15.0	3.1	5.7	1.7	3.9	0.7	0.6	12.0	9.0	5.7	2.7	2.4	0.6	0.5	0.3
20%	13.7	29.5	5.2	11.1	2.4	6.0	0.7	1.4	18.7	15.8	9.6	6.3	3.8	1.6	1.7	0.3
30%	25.4	50.2	11.2	21.5	6.0	13.6	1.5	3.3	28.7	21.8	15.3	10.7	6.0	3.8	2.4	1.4
40%	36.9	63.5	15.5	35.4	8.1	23.9	1.7	7.6	37.1	36.7	21.8	18.5	9.8	6.8	4.0	1.9
50%	48.6	78.2	25.8	48.7	15.3	33.5	4.6	14.1	43.5	47.2	28.0	25.4	16.2	13.0	6.9	6.0
60%	63.4	85.8	33.8	59.2	21.1	46.0	6.9	22.3	56.2	58.0	37.3	37.1	19.8	22.6	9.8	10.4
70%	70.1	90.4	42.6	70.3	31.3	59.4	12.4	29.9	62.0	62.9	43.6	43.9	25.9	26.4	12.7	13.1
80%	77.8	92.6	52.7	78.0	38.1	66.2	17.5	36.7	77.7	77.4	46.2	46.8	29.4	27.8	16.8	14.5
90%	83.3	95.6	61.2	81.0	48.8	70.6	22.7	42.8	71.5	71.2	51.7	52.4	32.0	31.6	16.7	17.5
100%	84.9	95.6	62.2	84.4	44.8	74.7	23.5	48.8	84.4	82.6	55.5	54.8	36.6	36.5	20.3	21.5

Note. *N*=582 Males; *N*=633 Females; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; VRIN = Variable Response Inconsistency; VRIN-r = Variable Response Inconsistency – Revised.

TRIN and TRIN-r Acquiescent Responding. Results from comparative normative sample analyses of TRIN and TRIN-r acquiescent (True) functioning are presented in a similar fashion as the VRIN and VRIN-r results. TRIN and TRIN-r True results are presented in Tables 10-12. TRIN True combined gender means (Table 10) were considerably higher than those for TRIN-r, even at low levels of fixed response insertion (i.e., beginning at 30% condition), and this difference grew greater as insertion levels increased with mean T-score differences of up to 25 points. The combined gender means for both TRIN and TRIN-r increased systematically as greater percentages of true responses were inserted. For gendered means, TRIN and TRIN-r means still increased systematically with increasing percentages of true responses, although gendered means followed a similar pattern as the combined gender means, with greater divergence of scores as insertion levels increased. Differences in mean T-scores were noted for males of up to 20 points and up to 30 points for females. Large differences in combined gender means seem to be driven by high scores for females on TRIN.

For the combined gender group, as seen in Table 11, true response insertion had differing effects based on the T-score cutoff used. At the 65*T* cutoff, TRIN and TRIN-r were able to identify a majority of partially acquiescent protocols by the 20% true response insertion condition. At the 70*T* cutoff, TRIN and TRIN-r were able to identify a majority of partially acquiescent protocols by the 30% and 40% true response insertion conditions, respectively. At both the 75*T* and 80*T* cutoffs, TRIN was able to identify a majority of partially true protocols by the 50% true response insertion condition, while TRIN-r reached a majority by 50% true response insertion condition.

For the male and female groups, as seen in Table 12, at the 65*T* cutoff, TRIN and TRIN-r were able to identify a majority of elevated cases by the 20% true response insertion condition

for both groups. Also at the 65*T* cutoff, all elevated cases were identified by TRIN at 60% (males) and 70% (females). For TRIN-r at the 65*T* cutoff, all cases were identified by the 70% true response condition. At the 70*T* cutoff, TRIN and TRIN-r were able to identify a majority of elevated cases for both males and females by the 30% and 40% true response conditions, respectively, and all elevated cases were identified for both genders by the 70% and 90% true response insertion conditions, respectively. At both the 75*T* and 80*T* cutoffs, TRIN was able to identify a majority of elevated cases for both males and females by the 40% true response insertion condition, while TRIN-r reached this majority for both males and females by the 50% true response insertion condition. All elevated cases were identified for both males and females by the 80% (TRIN) and 90% (TRIN-r) true response insertion conditions.

Taken together, these results show that the TRIN and TRIN-r True scales appear to work in a similar fashion across cutoffs and at various percentages of simulated true response insertion.

Table 10

MMPI-A TRIN and MMPI-A-RF TRIN-r True-Response Descriptive Statistics – Normative Sample - Combined Gender and Gendered

	Combined Gender		Gendered			
	TRIN	TRIN-r	TRIN		TRIN-r	
	M (SD)	M (SD)	Male M (SD)	Female M (SD)	Male M (SD)	Female M (SD)
0%	50.6T (9.3)	50.5T (9.4)	50.8T (8.8)	50.3T (9.8)	50.2T (9.5)	50.8T (9.3)
10%	58.0T (10.5)	56.1T (10.5)	58.0T (9.5)	57.9T (11.4)	55.9T (10.6)	56.4T (10.4)
20%	65.6T (11.5)	61.5T (11.4)	65.3T (10.4)	65.9T (12.5)	61.5T (11.2)	61.5T (11.7)
30%	73.4T (12.0)	67.9T (12.0)	72.3T (10.8)	74.5T (13.0)	67.8T (11.5)	67.9T (12.4)
40%	82.0T (12.4)	73.8T (12.3)	80.3T (11.2)	83.5T (13.2)	74.1T (11.8)	73.4T (12.7)
50%	90.6T (12.2)	80.2T (11.9)	88.3T (11.1)	92.7T (12.8)	80.3T (11.4)	80.2T (12.4)
60%	99.3T (12.1)	86.6T (11.3)	96.5T (10.8)	101.7T (12.7)	86.4T (11.0)	86.8T (11.6)
70%	108.8T (11.5)	93.3T (10.7)	105.5T (10.2)	111.7T (11.8)	93.2T (10.4)	93.4T (10.9)
80%	118.1T (10.3)	100.0T (9.2)	114.1T (9.0)	121.8T (10.1)	99.9T (9.1)	100.0T (9.4)
90%	128.1T (8.6)	106.7T (6.5)	123.0T (6.7)	132.5T (7.6)	106.5T (6.5)	107.0T (6.5)
100%	138.1T (5.4)	113.6T (0.0)	132.5T (0.0)	143.3T (0.0)	113.6T (0.0)	113.6T (0.0)

Note. *N*=1231 Combined Gender; *N*=586 Males; *N*=645 Females; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; TRIN = True Response Inconsistency; TRIN-r = True Response Inconsistency – Revised. T=True; F=False.

Table 11

MMPI-A TRIN and MMPI-A-RF TRIN-r Percentage of Cases With T-Scores ≥65, ≥ 70, ≥75, and ≥80 for Varying Degrees of True Response Insertion – Normative Sample - Combined Gender

	TRIN				TRIN-r			
True Insertion Percentage	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*
0%	13.1	4.8	2.0	1.0	15.8	4.7	2.1	1.1
10%	29.9	13.9	5.7	2.4	29.4	10.2	3.2	2.8
20%	56.9	36.8	19.7	9.0	50.7	23.0	7.8	7.6
30%	81.6	62.8	43.4	25.4	70.8	43.4	21.0	21.0
40%	94.6	85.7	69.7	52.0	85.0	63.0	38.6	38.6
50%	99.5	96.6	91.3	78.1	95.1	81.5	59.1	59.1
60%	99.8	99.4	98.2	94.5	98.9	93.3	90.1	80.1
70%	100.0	100.0	99.8	99.4	100.0	98.6	92.5	92.5
80%	100.0	100.0	100.0	100.0	100.0	99.8	98.4	98.4
90%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
100%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note. N=1231 Combined Gender; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; TRIN = True Response Inconsistency; TRIN-r = True Response Inconsistency – Revised.

Table 12

MMPI-A TRIN and MMPI-A-RF TRIN-r Percentage of Cases With T-Scores ≥65, ≥ 70, ≥75, and ≥80 for Varying Degrees of True Response Insertion – Normative Sample - Gendered

	TRIN								TRIN-r							
True Insertion Percentage	Percentage ≥ 65*T* M	F	Percentage ≥ 70*T* M	F	Percentage ≥ 75*T* M	F	Percentage ≥ 80*T* M	F	Percentage ≥ 65*T* M	F	Percentage ≥ 70*T* M	F	Percentage ≥ 75*T* M	F	Percentage ≥ 80*T* M	F
0%	10.2	15.7	4.9	4.7	2.0	2.0	0.7	1.2	16.0	15.7	4.3	5.1	1.7	2.5	0.9	1.2
10%	28.8	30.9	13.3	14.4	5.8	5.6	2.4	2.5	28.3	30.4	9.9	10.4	2.9	3.4	2.6	3.1
20%	57.2	56.6	37.7	36.0	19.3	20.0	9.2	8.8	50.5	50.9	22.4	23.6	7.5	8.1	7.3	7.9
30%	80.7	82.3	63.0	62.6	42.3	44.3	24.6	26.2	72.4	69.5	43.0	43.7	20.5	21.6	20.5	21.6
40%	95.4	93.8	85.7	85.7	69.1	70.2	50.9	53.0	86.5	83.6	66.0	60.2	39.1	38.1	39.1	38.1
50%	99.7	99.4	97.3	96.0	91.1	91.5	77.1	79.1	96.2	94.1	83.8	79.4	57.5	60.5	57.5	60.5
60%	100.0	99.7	99.7	99.2	98.5	98.0	94.2	94.7	99.1	98.6	94.5	92.2	80.2	80.0	80.2	80.0
70%	100.0	100.0	100.0	100.0	99.5	100.0	99.5	99.2	100.0	100.0	99.0	98.3	93.0	92.1	93.0	92.1
80%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8	99.8	98.0	98.8	98.0	98.9
90%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
100%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note. *N*=582 Males; *N*=633 Females; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; TRIN = True Response Inconsistency; TRIN-r = True Response Inconsistency – Revised; M=Male; F=Female.

TRIN and TRIN-r, Counteracquiescent Responding. Results from comparative normative sample analyses of TRIN and TRIN-r False functioning are presented in tables 13-15. As seen in Table 13, TRIN False combined gender means were considerably higher than those for TRIN-r and this difference grew greater as insertion levels increased (differences of up to 15 points). The combined gender means for both TRIN and TRIN-r increased systematically as greater percentages of fixed responses were inserted. For gendered means, TRIN and TRIN-r means still increased systematically with increasing percentages of fixed responses. Gendered means followed a similar pattern as the combined gender means, with greater divergence of scores as insertion levels increased (difference of up to 10 points for males, up to 19 points for females). Large differences in combined gender means seem to be driven by high scores for females on TRIN.

For combined gender protocols (Table 13), at a 65*T* cutoff, a majority identified of elevated protocols were identified by 30% for TRIN and 40% for TRIN-r, with all counteracquiescent protocols identified by the 80% condition for TRIN and 100% condition for TRIN-r. At the 70*T* cutoff, TRIN and TRIN-r were able to identify a majority of elevated cases by the 40% and 60% conditions, respectively, and all elevated protocols were identified by the 90% and 100% conditions, respectively. At the 75*T* cutoff, TRIN was able to identify a majority of elevated cases by the 50% condition, while TRIN-r reached this majority by the 60% condition. All invalid protocols were identified by the 100% condition for both TRIN and TRIN-r. At 80*T*, TRIN identified a majority of invalid protocols by the 60% condition while TRIN-r was able to do so at the 80% condition. For both TRIN and TRIN-r, all invalid protocols could be identified at the 100% condition at a cutoff of 80*T*.

For gendered protocols (Tables 14 and 15), results were very similar for males and females. At 65*T*, TRIN identified a majority of cases at 40% condition for males and 30% for females, while TRIN-r identified a majority of cases at 40% for both males and females. For both TRIN and TRIN-r, all cases were identified by the 80% condition for both males and females. At 70*T*, TRIN identified a majority of cases at the 50% (males) and 40% (females) conditions, while TRIN-r identified a majority of cases at the 60% condition for both males and females. For TRIN at 70*T*, all invalid cases were identified by the 90% condition; for TRIN-r, at the 100% condition. At 75*T*, TRIN identified a majority of cases at 60% for males and 50% for females, and identified all invalid cases by the 100% condition. For TRIN-r, a majority of cases for both genders was identified by the 60% condition, and all cases were identified by the 100% for both males and females. At 80*T*, TRIN identified a majority of cases at the 60% condition for females and the 70% condition for males, with all invalid cases identified by 100% for both genders. For TRIN-r at 80*T*, both genders saw a majority of cases identified by the 80% condition and all by the 100% condition.

Table 13

MMPI-A TRIN and MMPI-A-RF TRIN-r False-Response Descriptive Statistics – Normative Sample - Combined Gender and Gendered

	Combined Gender		Gendered			
	TRIN	TRIN-r	TRIN		TRIN-r	
	M (SD)	M (SD)	Male M (SD)	Female M (SD)	Male M (SD)	Female M (SD)
0%	50.6T (9.3)	50.5T (9.4)	50.8T (8.8)	50.3T (9.8)	50.2T (9.5)	50.8T (9.3)
10%	54.9F (9.6)	53.3F (9.7)	54.2F (9.1)	55.5 (10.0)	53.4F (9.9)	53.2F (9.6)
20%	60.4F (9.9)	57.2F (10.0)	59.2F (9.3)	61.5 (10.3)	57.0F (10.1)	57.3F (9.9)
30%	65.9F (10.3)	61.0F (10.0)	64.4F (9.5)	67.2 (10.9)	60.6F (10.0)	61.3F (9.9)
40%	71.7F (10.4)	64.9F (9.9)	69.7F (9.5)	73.5 (10.9)	64.7F (9.8)	65.0F (10.0)
50%	77.2F (10.1)	69.1F (9.8)	74.8F (9.3)	79.3 (10.3)	69.0F (9.9)	69.2F (9.7)
60%	82.6F (9.8)	73.1F (9.4)	79.8F (8.6)	85.2 (10.2)	73.1F (9.5)	73.2F (9.2)
70%	88.2F (9.3)	77.5F (8.7)	84.9F (8.1)	91.3 (9.3)	77.7F (8.7)	77.3F (8.6)
80%	94.1F (8.3)	82.1F (7.2)	90.3F (6.8)	97.6 (8.0)	82.1F (7.2)	82.0F (7.3)
90%	100.0F (7.1)	86.5F (5.6)	95.6F (5.5)	103.9 (5.9)	86.5F (5.6)	86.4F (5.7)
100%	105.9F (4.3)	91.0F (0.0)	101.4F (0.0)	110.1 (0.0)	91.0F (0.0)	91.0F (0.0)

Note. *N*=1215 Combined Gender; *N*=582 Males; *N*=633 Females; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; TRIN = True Response Inconsistency; TRIN-r = True Response Inconsistency – Revised.

Table 14

MMPI-A TRIN and MMPI-A-RF TRIN-r Percentage of Cases With T-Scores ≥65, ≥70, ≥75, and ≥80 for Varying Degrees of False Response Insertion – Normative Sample - Combined Gender

	TRIN				TRIN-r			
False Insertion Percentage	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*
0%	13.1	4.8	2.0	1.0	15.8	4.7	2.1	1.1
10%	21.0	5.6	2.0	0.6	20.5	5.0	3.3	0.6
20%	37.9	17.0	6.7	1.9	30.9	8.0	7.1	1.5
30%	57.7	36.4	17.1	6.5	43.7	16.0	15.8	2.8
40%	78.6	57.3	34.9	16.8	59.3	27.6	27.5	7.1
50%	90.9	77.3	56.3	32.2	75.1	45.1	45.1	14.7
60%	97.0	91.0	75.6	53.9	85.5	62.2	62.2	28.4
70%	99.3	97.5	90.9	75.5	94.9	79.5	79.5	44.8
80%	100.0	99.8	98.3	92.5	99.1	93.3	93.3	69.6
90%	100.0	100.0	99.7	99.3	99.9	98.8	98.8	90.4
100%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note. N=1215 Combined Gender; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; TRIN = True Response Inconsistency; TRIN-r = True Response Inconsistency – Revised.

Table 15

MMPI-A TRIN and MMPI-A-RF TRIN-r Percentage of Cases With T-Scores ≥65,≥ 70, ≥75, and ≥80 for Varying Degrees of False Response Insertion – Normative Sample - Gendered

	TRIN								TRIN-r							
False Insertion Percentage	Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*		Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
0%	10.2	15.7	4.9	4.7	2.0	2.0	0.7	1.2	16.0	15.7	4.3	5.1	1.7	2.5	0.9	1.2
10%	13.3	27.9	2.9	8.1	1.4	2.6	0.2	1.1	21.3	19.7	5.1	5.0	3.4	3.3	0.9	0.5
20%	27.3	47.4	9.7	23.6	3.2	9.8	0.7	2.9	30.5	31.2	8.0	7.9	7.3	7.0	1.7	1.2
30%	45.9	68.4	26.5	45.4	9.9	23.7	2.4	10.2	41.8	45.4	15.7	16.3	15.2	16.3	2.9	2.8
40%	69.6	86.7	46.8	66.8	25.1	43.9	8.2	24.7	59.0	59.5	27.1	28.1	27.0	28.1	6.3	7.8
50%	86.0	95.3	69.1	84.8	44.4	67.1	21.0	42.3	73.5	76.4	45.6	44.7	45.6	44.7	14.8	14.6
60%	95.6	98.3	86.7	94.9	65.5	84.8	42.3	64.5	84.0	87.0	62.1	62.3	62.1	62.3	30.0	26.8
70%	98.8	99.7	95.7	99.1	85.7	95.7	65.2	84.8	94.7	95.0	80.2	78.9	80.2	78.9	46.6	43.1
80%	100.0	100.0	99.7	99.8	97.3	99.2	87.9	96.7	99.0	99.2	93.5	93.2	93.5	93.2	70.6	68.7
90%	100.0	100.0	100.0	100.0	99.5	99.8	98.6	99.8	99.8	100.0	98.6	98.9	98.6	98.9	91.1	89.8
100%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note. *N*=582 Males; *N*=633 Females MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; TRIN = True Response Inconsistency; TRIN-r = True Response Inconsistency – Revised.

Combined Response Inconsistency. The CRIN scale is designed to serve a measure of general inconsistency and to augment the shortened length of the MMPI-A-RF VRIN-r and TRIN-r scales. It is made up of all VRIN-r item pairs (27 pairs) and all TRIN-r True and False item pairs (13 pairs), for a total of 40 item pairs. Increasing degrees of random, true, and false responding were inserted into the CRIN scale with the following results, listed in tables 16-21.

For random response insertion in the combined gender sample (Table 16), mean T-scores increased systematically as greater levels of random response insertion occurred. At 65*T*, a majority of random protocols was identified at the 50% condition. The highest amount identified was 83.5% of invalid protocols at the 100% condition. At 70*T*, a majority of invalid protocols was identified at the 90% condition and the highest amount identified was 57.4% of protocols at the 100% condition. Using a 75*T* cutoff, a majority of invalid protocols was never identified. The highest amount identified was 43.2% of protocols at the 100% condition. Similarly, using the 80*T* cutoff, a majority of invalid protocols was never identified. The highest amount identified was 17.4% at the 100% condition.

For random response insertion in the gendered sample (Table 17), mean T-scores again increased systematically as greater levels of random response insertion occurred and were comparable for males and females. At 65*T*, a majority of invalid protocols was identified at the 50% condition for both males and females. The highest amount identified was 84.4% (males) and 84.6% (females) of protocols at the 100% condition. Using a cutoff of 70*T*, a majority of invalid protocols was identified at the 90% condition for both males and females. The highest amount identified was 57.9% (males) and 56.9% (females) of protocols at the 100% condition. Using a cutoff of 75*T* meant that a majority of invalid protocols was never identified for either gender. As scale performance continued to decline, the highest amount identified was 44.3%

(males) and 42.7% (females) of protocols at the 100% condition. Similarly, at 80*T*, a majority of invalid protocols was never identified for either males or females. The highest amount identified was 17.2% for males and 17.5% for females at the 100% condition.

As can be seen in Tables 18-21, CRIN scale performance followed a U-shaped trend with both True and False response insertion in some conditions. For True response insertion with the combined gender sample (Table 18), mean T-scores increased systematically as greater levels of true response insertion occurred until the 80% condition, after which the mean T-scores began to decline slightly. At 65*T*, a majority of invalid protocols was identified at the 50% condition with full identification of invalid protocols at the 100% condition. After this point, a majority of invalid protocols was never identified at the 70*T*, 75*T*, or 80*T* conditions. A pattern of declining performance was noted at each of these three cutoff scores following a peak in invalid protocol identification at the 70% condition for each. Highest identification percentages were 31.3% (70*T*), 18.2% (75*T*), and 3.4% (80*T*) with declining performance after the 70% condition.

For true response insertion in the gendered sample (Table 19), mean T-scores increased systematically as greater levels of true response insertion occurred until the 70% and 80% conditions (males and females, respectively), after which the mean T-scores began to decline slightly. At 65*T*, a majority of invalid protocols was identified at the 40% (males) and 50% (females) conditions, with full identification at the 100% condition for both males and females. After 65*T*, however, a pattern of declining performance was again noted, with U-shaped data for 70*T*, 75*T*, and 80*T*. A majority of invalid protocols was never identified for any of those three cutoff scores. At 70*T*, identification of invalid protocols peaked at the 70% condition for both genders (32.4% of male protocols, 30.2% of female protocols), after which point identification began to decline. At 75*T*, the highest percentage of protocols identified was 20.0% (males) and

16.6% (females) of protocols at the 70% condition for both genders, after which point identification began to decline. At 80*T*, the highest amount identified was 3.8% (males) and 3.1% (females) of protocols at the 60% condition for both genders, after which point identification began to decline.

Similar results were obtained for false insertion. For combined gender (Table 20), mean T-scores increased systematically with greater levels of false response insertion until the 60% condition, after which the mean T-scores began to decline. A majority of invalid protocols was never identified at any cutoff score. At 65*T*, identification peaked at the 60% condition at 24.8% of protocols identified and then began to decline. At 70*T*, the highest amount identified was 6.0% at the 40% condition, after which identification began to decline. At 75*T*, the highest identified was 3.1% of protocols at the 50% condition, after which identification began to decline. At 80*T*, the highest identified was 0.5% at the 50% condition, after which identification rates declined.

For the gendered sample (Table 21), mean T-scores increased systematically as greater levels of false response insertion occurred until the 70% and 60% conditions (males and females, respectively), after which the mean T-scores began to decline. At no cutoff score was a majority of invalid protocols identified. The highest identified at 65*T* was 24.1% of protocols (males) at 60% and 25.9% of protocols (females) at the 50% condition, after which identification began to decline. At 70*T*, the highest amount identified was 5.6% of protocols (males) at the 50% condition and 6.4% of protocols (females) at 40%, after which identification began to decline. At 75*T*, the highest amount identified was 3.4% of protocols (males) at the 40% condition and 3.3% of protocols (females) at 50%, after which identification began to decline. Lastly, the highest amount of protocols identified at 80*T* was 0.7% (males, 50%) and 0.5% (females, 20%), after which identification began to decline.

Table 16

MMPI-A-RF CRIN Descriptive Statistics and Percentage of Cases With T-Scores ≥ 70, ≥75, and ≥80 for Varying Degrees of Random Response Insertion – Normative Sample - Combined Gender

		CRIN			
Random Insertion Percentage	M (SD)	Percentage ≥65T	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*
0%	48.7 (8.6)	7.2	2.2	1.2	0.1
10%	52.5 (8.3)	11.5	3.0	1.2	0.2
20%	56.0 (8.8)	20.2	6.4	3.2	0.6
30%	58.9 (8.8)	30.2	10.9	5.6	0.8
40%	62.0 (8.8)	43.5	17.2	9.6	1.6
50%	64.6 (9.4)	53.4	26.3	16.0	3.9
60%	67.2 (9.3)	66.3	35.5	23.0	7.1
70%	68.9 (9.1)	73.3	43.5	28.9	8.6
80%	70.4 (9.5)	77.5	47.7	33.1	12.6
90%	71.7 (9.4)	82.6	54.1	38.7	15.1
100%	72.6 (9.5)	83.5	57.4	43.5	17.4

Note. N=1215 Combined Gender; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency.

Table 17

MMPI-A-RF CRIN Descriptive Statistics and Percentage of Cases With T-Scores ≥ 65, ≥ 70, ≥ 75, and ≥80 for Varying Degrees of Random Response Insertion – Normative Sample - Gendered

	CRIN									
Random Insertion Percentage	M (SD)		Percentage ≥ 65T		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*	
	Male	Female	M	F	M	F	M	F	M	F
0%	49.1 (9.2)	48.4 (8.1)	8.9	5.7	3.1	1.4	1.5	0.9	0.0	0.2
10%	52.8 (8.9)	52.3 (7.7)	13.9	9.3	4.5	1.6	1.7	0.6	0.2	0.3
20%	56.5 (9.5)	55.5 (8.2)	21.8	18.8	8.8	4.3	4.8	1.7	0.9	0.3
30%	59.4 (9.0)	58.4 (8.5)	32.3	28.3	13.2	8.8	6.9	4.4	1.0	0.6
40%	62.1 (9.4)	62.0 (8.2)	43.1	43.8	20.4	14.2	11.9	7.6	1.9	1.3
50%	64.7 (9.6)	64.5 (9.2)	54.1	52.8	27.1	25.6	17.2	15.0	4.1	3.6
60%	67.0 (9.5)	67.4 (9.0)	66.5	66.2	33.3	37.4	21.3	24.6	7.0	7.1
70%	68.9 (8.9)	68.9 (9.3)	73.5	73.0	43.5	43.4	29.2	28.6	7.7	9.5
80%	70.6 (9.5)	70.3 (9.5)	77.7	77.4	49.3	46.1	33.8	32.4	12.2	13.0
90%	71.6 (9.4)	71.8 (9.5)	82.3	82.8	53.8	54.3	37.5	39.8	13.4	16.7
100%	72.7 (9.1)	72.5 (9.9)	84.4	82.6	57.9	56.9	44.3	42.7	17.2	17.5

Note. N=582 Males; *N*=633 Females; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency.

Table 18

MMPI-A-RF CRIN Descriptive Statistics and Percentage of Cases With T-Scores ≥ 65, ≥ 70, ≥75, and ≥80 for Varying Degrees of True Response Insertion – Normative Sample - Combined Gender

		CRIN			
True Insertion Percentage	M (SD)	Percentage ≥65T	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80
0%	48.7 (8.4)	6.3	1.5	0.6	0.0
10%	53.3 (8.5)	12.1	4.1	1.8	0.1
20%	57.0 (8.6)	22.0	7.2	3.7	0.6
30%	60.6 (8.4)	34.7	13.6	6.6	1.1
40%	63.4 (8.5)	48.5	20.6	11.5	1.9
50%	65.1 (8.3)	57.7	25.1	15.3	3.1
60%	66.3 (7.8)	65.7	28.5	16.7	3.4
70%	67.2 (7.5)	70.9	31.3	18.2	3.3
80%	67.1 (6.6)	71.9	28.2	14.7	1.9
90%	66.5 (4.8)	75.9	20.1	6.3	0.1
100%	64.9 (0.0)	100.0	0.0	0.0	0.0

Note. N=1231 Combined Gender; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency.

Table 19

MMPI-A-RF CRIN Descriptive Statistics and Percentage of Cases With T-Scores ≥ 65, ≥ 70, ≥75, and ≥80 for Varying Degrees of True Response Insertion – Normative Sample - Gendered

	CRIN									
True Insertion Percentage	M (SD)		Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0%	48.9 (8.8)	48.5 (7.9)	7.8	5.0	1.9	1.1	0.5	0.8	0.0	0.0
10%	53.4 (8.9)	53.2 (8.0)	14.2	10.2	5.6	2.8	2.2	1.4	0.0	0.2
20%	57.3 (8.8)	56.6 (8.3)	23.0	21.1	9.4	5.3	4.1	3.3	0.7	0.5
30%	60.9 (8.7)	60.3 (8.2)	36.3	33.2	15.0	12.2	7.0	6.2	1.2	0.9
40%	64.0 (8.6)	62.7 (8.4)	52.2	45.1	22.9	18.4	13.0	10.1	1.9	2.0
50%	65.7 (8.4)	64.6 (8.2)	61.4	54.3	27.6	22.8	16.9	13.8	3.6	2.6
60%	66.6 (7.7)	66.1 (8.0)	68.9	62.8	28.3	28.7	16.2	17.1	3.8	3.1
70%	67.5 (7.4)	66.9 (7.6)	72.9	69.1	32.4	30.2	20.0	16.6	2.7	3.9
80%	67.2 (6.5)	67.0 (6.6)	72.4	71.5	29.5	27.0	14.3	15.0	2.0	1.7
90%	66.4 (4.7)	66.6 (4.9)	75.4	76.3	18.9	21.2	5.3	7.1	0.0	0.2
100%	64.9 (0.0)	64.9 (0.0)	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0

Note. *N*=586 Males; *N*=645 Females; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency.

Table 20

MMPI-A-RF CRIN Descriptive Statistics and Percentage of Cases With T-Scores ≥ 65, ≥ 70, ≥75, and ≥80 for Varying Degrees of False Response Insertion – Normative Sample - Combined Gender

		CRIN			
False Insertion Percentage	M (SD)	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*
0%	48.7 (8.4)	6.3	1.5	0.6	0.0
10%	51.6 (8.5)	9.5	3.4	1.1	0.1
20%	54.1 (8.4)	13.8	3.9	1.6	0.2
30%	55.8 (8.1)	17.1	5.0	1.9	0.3
40%	57.2 (8.0)	21.0	6.0	3.1	0.2
50%	58.1 (7.6)	24.2	5.9	3.1	0.5
60%	58.4 (7.2)	24.8	5.2	1.9	0.2
70%	58.2 (6.5)	20.9	4.0	1.2	0.0
80%	57.5 (5.5)	15.7	1.3	0.3	0.0
90%	56.1 (4.2)	5.1	0.2	0.0	0.0
100%	54.1 (0.0)	0.0	0.0	0.0	0.0

Note. N=1231 Combined Gender; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency.

Table 21

MMPI-A-RF CRIN Descriptive Statistics and Percentage of Cases With T-Scores ≥ 65, ≥ 70, ≥75, and ≥80 for Varying Degrees of False Response Insertion – Normative Sample - Gendered

	CRIN									
False Insertion Percentage	M (SD)		Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
0%	48.9 (8.8)	48.5 (7.9)	7.8	5.0	1.9	1.1	0.5	0.8	0.0	0.0
10%	51.8 (8.7)	51.5 (8.2)	11.4	7.8	3.8	3.1	1.2	0.9	0.0	0.2
20%	54.1 (8.6)	54.2 (8.3)	14.5	13.2	4.8	3.1	1.7	1.6	0.0	0.5
30%	55.7 (8.2)	55.9 (8.1)	16.7	17.4	5.1	5.0	2.0	1.7	0.3	0.3
40%	56.9 (8.1)	57.4 (8.0)	19.1	22.6	5.6	6.4	3.4	2.8	0.2	0.3
50%	57.8 (7.6)	58.5 (7.6)	22.4	25.9	5.6	6.2	2.9	3.3	0.7	0.3
60%	58.2 (7.4)	58.6 (7.0)	24.1	25.4	5.5	5.0	2.2	1.6	0.2	0.2
70%	58.0 (6.5)	58.4 (6.5)	20.0	21.7	3.9	4.0	1.4	1.1	0.0	0.0
80%	57.1 (5.5)	57.8 (5.6)	13.7	17.5	1.5	1.1	0.7	0.0	0.0	0.0
90%	56.0 (4.2)	56.2 (4.2)	5.3	5.0	0.2	0.2	0.0	0.0	0.0	0.0
100%	54.1 (0.0)	54.1 (0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note. *N*=586 Males; *N*=645 Females; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency.

VRIN-r+CRIN and TRIN-r+CRIN. Results of the VRIN-r + CRIN are presented in Table 22, which indicate whether either scale (e.g., for VRIN-r+CRIN, either VRIN-r or CRIN) were above the cutoff. The percentage of invalid protocols identified increased systematically with increasing levels of random insertion, with comparable increases seen between gendered and combined gender samples. At a cutoff of 65*T*, for both combined gender and gendered, a majority of cases was identified at the 50% condition. For both combined gender and gendered at 70*T*, a majority of random protocols was identified at the 70% condition. At 75*T*, a majority of invalid protocols was never reached for combined gender. The highest percentage identified was 49.5% at 100% random insertion. For gendered at 75*T*, a majority of invalid protocols was identified for males at the 100% condition, but a majority was never reached for females. The highest percentage identified was 48.2% of cases at 100% random insertion. Finally, at a cutoff of 80*T*, a majority of invalid protocols was never identified for either combined gender or gendered samples. The highest percentages identified were 25.8% at the 100% condition for combined gender, and 25.4% (males) and 26.1% (females) at the 100% condition.

For true response insertion (Table 23), the percentage of invalid protocols identified increased systematically for both combined gender and gendered samples with increasing levels of true insertion. These percentages were comparable for both combined gender and gendered, and it is noted that the percentage identified reached much higher levels for TRIN-r+CRIN than for VRIN-r+CRIN. At 65*T*, a majority of invalid protocols was identified by the 20% condition for both gendered and combined gender, with 100% of cases identified by the 70% condition for both combined gender and gendered. At 70*T*, a majority of invalid protocols was identified by the 40% condition for both gendered and combined gender, with 100% of cases identified by 90% true insertion for both combined gender and gendered. At 75*T*, a majority of cases was

identified by the 50% condition for both gendered and combined gender, and 100% of cases identified by 90% true insertion for both groups. Finally, at a cutoff of 80*T*, a majority of invalid protocols was identified by the 50% condition for both gendered and combined gender, with 100% of cases identified by 90% true response insertion for both groups.

Results for false response insertion are presented in Table 24. For TRIN-r FALSE +CRIN, the percentage of cases identified increased systematically for both combined gender and gendered with increasing levels of false insertion. This increase was comparable for both combined gender and gendered samples and the percentage identified again reached much higher levels than that for VRIN-r+CRIN. At a cutoff of 65*T*, a majority of invalid protocols was identified by 30% false response insertion for combined gender and 40% (males) and 30% (females) false response insertion for the gendered sample. For both combined gender and gendered samples, 100% of cases were identified by the 90% condition. At 70*T*, a majority of invalid protocols was identified by the 60% condition for combined gender and gendered, with 100% of cases identified by 100% false response insertion for both groups. At 75*T*, a majority of invalid protocols was identified by the 60% condition for both gendered and combined gender, with 100% of cases identified by 100% false response insertion for both groups. Lastly, for a cutoff of 80*T*, a majority of cases was identified by the 80% condition for both gendered and combined gender with 100% of cases identified at the level of 100% false response insertion for both groups.

Table 22

MMPI-A VRIN-r + CRIN Percentage of Cases With T-Scores ≥ 65, ≥ 70, ≥75, and ≥80 for Varying Degrees of Random Response Insertion – Normative Sample - Combined Gender and Gendered

	VRIN-r + CRIN											
	Combined Gender				Gendered							
Random Insertion Percentage	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*	Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*	
					M	F	M	F	M	F	M	F
0%	8.4	3.1	1.7	0.4	10.5	6.5	4.3	2.1	2.4	1.1	0.5	0.3
10%	14.2	4.9	1.9	0.6	16.0	12.6	6.9	3.2	3.1	0.8	0.7	0.5
20%	23.7	9.9	4.0	1.3	25.3	22.3	12.0	7.9	5.7	2.5	2.2	0.5
30%	34.1	16.2	7.6	2.1	37.5	31.0	19.1	13.6	9.6	5.7	2.9	1.4
40%	48.7	24.8	12.2	3.4	48.3	49.1	27.7	22.1	14.4	10.1	4.3	2.5
50%	57.9	33.5	19.8	7.7	56.4	59.2	34.5	32.5	21.3	18.5	8.4	7.0
60%	71.2	44.6	29.1	12.4	71.0	71.4	43.6	45.5	26.1	31.8	11.5	13.3
70%	76.8	52.8	35.6	15.5	77.3	76.3	52.7	52.8	36.1	35.2	14.9	16.0
80%	80.9	57.1	39.3	19.0	81.3	80.6	57.4	56.9	39.9	38.7	20.1	18.0
90%	85.0	62.9	45.2	22.3	85.2	84.8	63.6	62.2	45.0	45.3	21.1	23.4
100%	86.5	64.8	49.5	25.8	87.1	85.9	65.8	63.8	51.0	48.2	25.4	26.1

Note. *N*=1215 Combined Gender; *N*=582 Males; *N*=633 Females; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency; VRIN-r = Variable Response Inconsistency – Revised.

Table 23

MMPI-A TRIN-r + CRIN Percentage of Cases With T-Scores ≥ 65, ≥ 70, ≥75, and ≥80 for Varying Degrees of True Response Insertion – Normative Sample - Combined Gender and Gendered

	TRIN-r + CRIN											
	Combined Gender				Gendered							
True Insertion Percentage	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*	Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*	
					M	F	M	F	M	F	M	F
0%	18.7	5.4	2.5	1.1	19.8	17.7	5.3	5.4	2.0	2.9	0.9	1.2
10%	34.5	12.5	4.3	2.9	35.0	34.1	13.5	11.6	4.3	4.3	2.6	3.3
20%	56.3	26.6	9.9	7.9	56.3	56.3	27.5	25.9	10.1	9.8	7.8	7.9
30%	76.0	47.3	23.9	21.4	77.8	74.4	47.1	47.4	23.7	24.0	20.8	21.9
40%	88.2	65.6	42.4	38.9	89.9	86.8	68.9	62.6	43.7	41.2	39.6	38.3
50%	96.0	82.8	61.5	59.4	97.1	95.0	84.5	81.2	60.6	62.3	58.0	60.6
60%	99.0	93.8	81.0	80.3	99.3	98.8	95.2	92.6	81.2	80.8	80.7	80.0
70%	100.0	98.8	92.8	92.5	100.0	100.0	99.1	98.4	93.3	92.2	93.0	92.1
80%	100.0	99.8	98.4	98.4	100.0	100.0	99.8	99.8	98.0	98.8	98.0	98.8
90%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
100%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note. *N*=1231 Combined Gender; *N*=586 Males; *N*=645 Females; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency; TRIN-r = True Response Inconsistency – Revised.

Table 24

MMPI-A TRIN-r + CRIN Percentage of Cases With T-Scores ≥ 70, ≥75, and ≥80 for Varying Degrees of False Response Insertion – Normative Sample - Combined Gender and Gendered

	TRIN-r + CRIN											
	Combined Gender				Gendered							
True Insertion Percentage	Percentage ≥ 65*T*	Percentage ≥ 70*T*	Percentage ≥ 75*T*	Percentage ≥ 80*T*	Percentage ≥ 65*T*		Percentage ≥ 70*T*		Percentage ≥ 75*T*		Percentage ≥ 80*T*	
					M	F	M	F	M	F	M	F
0%	18.7	5.4	2.5	1.1	19.8	17.7	5.3	5.4	2.0	2.9	0.9	1.2
10%	25.0	7.5	4.2	0.7	26.8	23.4	7.7	7.3	4.4	4.0	0.9	0.6
20%	37.9	11.1	8.5	1.7	37.2	38.4	12.1	10.1	8.9	8.2	1.7	1.7
30%	50.0	19.5	17.1	3.2	48.6	51.2	19.8	19.2	17.1	17.2	3.2	3.1
40%	64.7	30.6	28.8	7.1	63.7	65.7	30.4	30.9	28.7	28.8	6.5	7.8
50%	79.2	46.9	45.7	15.0	77.0	81.2	47.4	46.4	46.1	45.4	15.4	14.7
60%	87.8	63.7	62.6	28.4	86.0	89.5	63.1	64.2	62.6	62.5	30.0	27.0
70%	95.3	80.3	79.9	44.8	95.1	95.5	81.1	79.7	80.5	79.2	46.6	43.1
80%	99.2	93.6	93.4	69.6	99.1	99.2	93.9	93.3	93.7	93.2	70.6	68.7
90%	100.0	98.8	98.8	90.4	100.0	100.0	98.6	98.9	98.6	98.9	91.1	89.8
100%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note. *N*=1231 Combined Gender; *N*=586 Males; *N*=645 Females; MMPI-A = Minnesota Multiphasic Personality Inventory – Adolescent; MMPI-A-RF = Minnesota Multiphasic Personality Inventory – Adolescent – Restructured Form; CRIN = Combined Response Inconsistency; TRIN-r = True Response Inconsistency – Revised.

RC Scale Means. RC Scale mean scores were also examined in the context of increasing percentages of random, true, and false response insertion (Tables 25-33). Overall, for the combined gender condition (Tables 25-27), RC Scale mean scores either increased or decreased systematically, depending on the scale. In the random condition, all scales showed a systematic increase in mean scores except for RC9, which decreased, and RC7, which did not show any change despite the increasing percentage of random responding. All RC Scales in the true condition showed systematic increased except for RC2, which decreased. And in the false condition, all RC Scales showed a systematic decrease in mean scores except for RC1 and RC2, which increased.

Overall for males and for females (Tables 28-33), all RC Scale mean score changes were monotonic, but differed depending in the direction of change. For example, in the random condition, all scales systematically increased except for RC3 and RC9, which decreased. Additionally, RC7 remained the same despite the increasing percentages of simulated response insertion, showing no increase or decrease. In the true condition, all scales systematically increased except for RC2, which decreased. Lastly, in the false condition, all scales systematically decreased with the exception of RC1 and RC2, which increased.

Additionally, confidence intervals and standard error of measurement (SEM) values were calculated for the RC scales in all three insertion conditions for both the normative and forensic samples. SEM values ranged from 4-7 T score points in the normative sample and 4-6 T score points in the forensic sample. In general, the number of SEM intervals measured between baseline and 100% insertion ranged from 0-8 SEM's. For combined gender in the normative sample (Tables 25-27), in the random response condition there were four scales which did not deviate by at least 1 SEM: RCd, RC3, RC7, and RC9. The rest of the RC scales in the random

response condition reached 1 SEM of deviation at as low as the 30% insertion condition (RC8) and as high as the 60% insertion condition (RC6). As such, the scales reaching 1 SEM at low percentages of insertion were the most susceptible to random response insertion (i.e., RC1, RC4, and RC8). For the combined gender acquiescent condition, RC2 was the only scale which did not deviate by at least one SEM. On the opposite end of the spectrum, four scales reached a high level of deviation (i.e., 5-9 SEM's): RCd, RC4, RC6, and RC8. The remaining four RC scales deviated by at least one SEM: RC1, RC3, RC7, and RC9. For the combined gender counteracquiescent condition, RC6 was the only scale which did not deviate by at least one SEM, while RC2 was the only scale deviating by a high number of SEM's (5 SEM's). The remaining RC scales deviated by at least one SEM. Of note, two scales reached one SEM of score deviation at very high levels of response insertion (RC8 at 90% and RC4 at 100%), although this is likely due to most items being keyed true on these particular scales, making these scales more robust to counteracquiescence. This notion is examined more fully in the discussion section.

For normative sample males, results can be seen in Tables 28-30. In the random response condition there were three scales that did not deviate by any SEM's: RC3, RC7, and RC9. The rest of the RC scales deviated by at least one SEM, with RCd (at 90%) and RC6 (at 60%) reaching high levels of random insertion before deviating by one SEM. In the acquiescent condition, RC2 was the only scale that did not deviate by any SEM's. There were five scales, however, which deviated by a high number of SEMS's (i.e., between 5-8 SEM's): RCd, RC4, RC6, RC7, and RC8. Lastly, in the counteracquiescent condition, RC6 was the only scale that did not deviate by any SEM's. The remaining RC scales deviated by at least one SEM, with RC4

(70%) and RC8 (90%) reaching high levels of false response insertion before deviating by one SEM.

Lastly, for normative sample females, results of the analyses can be viewed in Tables 31-33. In the random response condition for the female group, there were four scales which did not reach a level of one SEM deviation: RCd, RC3, RC7, and RC9. All remaining RC scales deviated from baseline mean T-scores by at least one SEM. All reached that threshold somewhere between the 30% and 60% random insertion conditions. For the acquiescent condition, RC2 was the only scale that did not change by even one SEM's. In contrast, RCd, RC4, RC6, and RC8 deviated by a high number of SEM's (i.e., between 5-9 SEM's). Finally, in the counteracquiescent condition for the female group, RC4 and RC6 deviated by zero SEM's, while RC2 had the highest rate of deviation at 6 SEM's. The remaining RC scales reached at least one SEM of score deviation, with RC8 (90%) being the most robust to false response insertion.

Table 25

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RCd, RC1 and RC2 – Normative Sample - Combined Gender

Response Insertion Percentage	RCd dem			RC1 som			RC2 lpe		
	M	(SD)	95%CI	M	(SD)	95%CI	M	(SD)	95% CI
0% (R)	51.3	(10.0)	[50.8, 51.9]	50.3	(9.9)	[49.7, 50.8]	49.0	(9.4)	[48.5. 49.5]
0% (T)	51.4	(10.1)	[50.8, 52.0]	50.4	(10.0)	[49.8, 50.9]	48.9	(9.3)	[48.4, 49.5]
0% (F)	51.4	(10.1)	[50.8, 52.0]	50.4	(10.0)	[49.8, 50.9]	48.9	(9.3)	[48.4, 49.5]
10% (R)	51.6	(9.1)	[51.1, 52.1]	51.8	(9.2)	[51.3, 52.4]	50.4	(9.0)	[49.9, 50.9]
10% (T)	53.7	(9.6)	[53.2, 54.3]	51.7	(9.2)	[51.1, 52.2]	48.3	(8.7)	[47.8, 48.7]
10% (F)	49.9	(8.9)	[49.4, 50.4]	52.0	(9.2)	[51.4, 52.5]	52.2	(9.2)	[51.7, 52.7]
20% (R)	52.1	(8.4)	[51.6, 52.5]	53.3	(8.7)	[52.8, 53.8]	52.1	(9.0)	[51.5, 52.5]
20% (T)	56.0[a]	(9.2)	[55.5, 56.6]	52.9	(8.4)	[52.4, 53.4]	47.8	(8.2)	[47.3, 48.2]
20% (F)	48.5	(7.9)	[48.0, 48.9]	53.4	(8.5)	[52.9, 53.9]	55.8[a]	(9.1)	[55.2, 56.3]
30% (R)	52.4	(7.6)	[52.0, 52.8]	54.4	(8.1)	[54.0, 54.9]	53.5	(8.8)	[53.0, 54.0]
30% (T)	58.5[a]	(8.9)	[58.0, 59.0]	54.1	(7.8)	[53.6, 54.5]	47.2	(7.7)	[46.8, 47.7]
30% (F)	47.1[a]	(7.0)	[46.7, 47.5]	54.7	(7.8)	[54.3, 55.2]	59.2[a]	(9.2)	[58.7, 59.7]
40% (R)	52.8	(7.0)	[52.4, 53.2]	55.6[a]	(7.8)	[55.2, 56.0]	54.9	(8.5)	[54.5, 55.4]
40% (T)	61.1[b]	(8.6)	[60.6, 61.6]	55.2[a]	(7.2)	[54.8, 55.7]	46.6	(7.1)	[46.2, 47.0]
40% (F)	45.8[a]	(6.1)	[45.5, 46.2]	56.0[a]	(7.2)	[55.6, 56.4]	62.8[b]	(9.3)	[62.3, 63.3]
50% (R)	53.1	(6.6)	[52.8, 53.5]	56.9[a]	(7.3)	[56.5, 57.3]	56.2[a]	(8.3)	[55.7, 56.6]
50% (T)	64.1[b]	(8.1)	[63.6, 64.5]	56.4[a]	(6.6)	[56.0, 56.7]	46.1	(6.4)	[45.8, 46.5]
50% (F)	44.5[a]	(5.4)	[44.2, 44.8]	57.7[a]	(6.7)	[57.3, 58.0]	66.6[b]	(9.1)	[66.0, 67.1]
60% (R)	53.6	(6.0)	[53.2, 53.9]	58.4[a]	(7.0)	[58.0, 58.8]	57.8[a]	(8.5)	[57.3, 58.3]
60% (T)	67.2[c]	(7.5)	[66.8, 67.6]	57.5[a]	(5.9)	[57.1, 57.8]	45.6	(5.8)	[45.3, 45.9]
60% (F)	43.2[a]	(4.9)	[42.9, 43.5]	59.1[a]	(6.1)	[58.8, 59.4]	70.5[c]	(8.7)	[70.0, 70.9]
70% (R)	54.2	(5.5)	[53.8, 54.5]	59.7[b]	(6.9)	[59.3, 60.1]	59.3[a]	(8.5)	[58.9, 59.8]
70% (T)	70.4[d]	(6.4)	[70.1, 70.8]	58.7[a]	(5.2)	[58.5, 59.1]	45.1	(5.1)	[44.8, 45.4]
70% (F)	42.0[b]	(4.3)	[41.7, 42.3]	60.7[b]	(5.4)	[60.3, 61.0]	74.5[d]	(8.1)	[74.0, 74.9]
80% (R)	54.2	(5.3)	[53.9, 54.5]	61.9[b]	(7.0)	[61.5, 62.3]	60.4[a]	(8.3)	[59.9, 60.9]
80% (T)	73.7[e]	(5.2)	[73.4, 74.0]	60.0[b]	(4.3)	[59.7, 60.2]	44.6	(4.2)	[44.4, 44.8]
80% (F)	40.6[b]	(3.7)	[40.4, 40.8]	62.4[b]	(4.6)	[62.1, 62.7]	78.6[d]	(6.6)	[78.2, 78.9]
90% (R)	54.9	(5.3)	[54.6, 55.2]	63.0[b]	(6.8)	[62.6, 63.4]	61.8[b]	(8.6)	[61.3, 62.3]

Table 25 Continued

Response Insertion Percentage	RCd dem M	(SD)	95%CI	RC1 som M	(SD)	95%CI	RC2 lpe M	(SD)	95% CI
90% (T)	77.3[f]	(3.5)	[77.1, 77.5]	61.3[b]	(3.2)	[61.2, 61.5]	44.2	(2.9)	[44.0, 44.3]
90% (F)	39.1[b]	(2.7)	[39.0, 39.3]	64.1[b]	(3.2)	[63.9, 64.3]	82.5[e]	(4.9)	[82.2, 82.8]
100% (R)	55.2	(5.0)	[54.9, 55.5]	64.2[b]	(7.1)	[63.9, 64.6]	63.4[b]	(8.6)	[62.9, 63.9]
100% (T)	80.6[f]	(0.0)	[80.6, 80.6]	62.8[b]	(0.0)	[62.8, 62.8]	43.8	(0.0)	[43.8, 43.8]
100% (F)	37.3[c]	(0.0)	[37.3, 37.3]	65.9[c]	(0.0)	[65.9, 65.9]	86.7[e]	(0.0)	[86.7, 86.7]

Note. N =1215 for random response insertion; N = 1231 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; dem = Demoralization; som = Somatic Complaints; lpe = Low Positive Emotions.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 26

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores forRC3, RC4 and RC6 – Normative Sample - Combined Gender

Response Insertion Percentage	RC3 cyn M	(SD)	95%CI	RC4 asb M	(SD)	95%CI	RC6 per M	(SD)	95%CI
0% (R)	51.2	(9.8)	[50.7, 51.8]	49.7	(9.8)	[49.2, 50.3]	50.1	(9.9)	[49.5, 50.6]
0% (T)	51.4	(10.0)	[50.9, 52.0]	49.8	(10.0)	[49.2, 50.4]	50.3	(10.1)	[49.7, 50.8]
0% (F)	51.4	(10.0)	[50.9, 52.0]	49.8	(10.0)	[49.2, 50.4]	50.3	(10.1)	[49.7, 50.8]
10% (R)	50.6	(9.2)	[50.1, 51.2]	51.4	(9.1)	[50.9, 51.9]	51.4	(9.5)	[50.8, 51.9]
10% (T)	53.1	(10.0)	[52.5, 53.7]	53.7	(9.1)	[53.1, 54.2]	53.4	(9.5)	[52.9, 54.0]
10% (F)	48.7	(8.6)	[48.3, 49.2]	49.2	(9.0)	[48.7, 49.7]	49.6	(9.3)	[49.0, 50.1]
20% (R)	50.0	(8.6)	[49.6, 50.5]	52.8	(8.5)	[52.3, 53.3]	52.5	(8.8)	[52.0, 53.0]
20% (T)	54.8	(10.1)	[54.2, 55.4]	57.1[a]	(8.9)	[56.6, 57.6]	56.2[a]	(9.4)	[55.6, 56.7]
20% (F)	46.5	(7.3)	[46.1, 46.9]	48.6	(8.0)	[48.1, 49.0]	48.9	(8.7)	[48.4, 49.4]
30% (R)	49.6	(8.2)	[49.1, 50.0]	54.0	(7.7)	[53.6, 54.5]	53.2	(8.6)	[52.7, 53.7]
30% (T)	56.8	(10.2)	[56.2, 57.4]	60.5[b]	(8.9)	[59.9, 61.0]	58.9[a]	(9.3)	[58.3, 59.4]
30% (F)	44.5[a]	(6.2)	[44.1, 44.8]	48.1	(7.2)	[47.7, 48.5]	48.3	(7.9)	[47.8, 48.7]
40% (R)	49.4	(7.7)	[49.0, 49.8]	55.3[a]	(7.2)	[54.9, 55.8]	54.5	(8.5)	[54.0, 54.9]
40% (T)	59.1[a]	(10.1)	[58.6, 59.7]	64.3[c]	(8.9)	[63.8, 64.8]	61.8[a]	(9.1)	[61.3, 62.3]
40% (F)	42.7[a]	(5.6)	[42.4, 43.0]	47.6	(6.3	[47.2, 47.9]	47.7	(7.3)	[47.3, 48.1]
50% (R)	48.6	(7.1)	[48.2, 49.0]	56.7[a]	(6.8)	[56.4, 57.1]	55.1	(7.8)	[54.6, 55.5]
50% (T)	61.6[a]	(9.7)	[61.1, 62.2]	68.8[d]	(8.6)	[68.4, 69.3]	65.1[b]	(8.8)	[64.6, 65.6]
50% (F)	41.1[a]	(4.9)	[40.8, 41.3]	47.1	(5.5)	[46.8, 47.5]	47.1	(6.5)	[46.8, 47.5]
60% (R)	48.5	(7.0)	[48.1, 48.9]	58.1[a]	(6.7)	[57.7, 58.5]	56.7[a]	(7.8)	[56.3, 57.2]
60% (T)	64.5[b]	(9.3)	[64.0, 65.1]	73.3[e]	(7.8)	[72.8, 73.7]	68.4[c]	(8.3)	[67.9, 68.9]
60% (F)	39.5[a]	(4.1)	[39.2, 39.7]	46.6	(4.8)	[46.3, 46.8]	46.6	(5.8)	[46.2, 46.9]
70% (R)	47.6	(6.3)	[47.3, 48.0]	59.4[b]	(6.9)	[59.0, 59.8]	57.9[a]	(7.8)	[57.4, 58.3]
70% (T)	67.3[b]	(8.7)	[66.8, 67.8]	77.6[f]	(6.9)	[77.3, 78.0]	71.7[c]	(7.7)	[71.3, 72.2]
70% (F)	37.9[b]	(3.7)	[37.7, 38.1]	46.2	(4.1)	[46.0, 46.4]	46.1	(5.0)	[45.8, 46.3]
80% (R)	47.7	(6.3)	[47.3, 48.0]	60.9[b]	(6.8)	[60.5, 61.3]	59.0[a]	(8.2)	[58.6, 59.5]
80% (T)	70.3[b]	(7.5)	[69.9, 70.7]	82.5[g]	(5.6)	[82.1, 82.8]	75.1[d]	(6.7)	[74.7, 75.5]
80% (F)	36.2[b]	(3.4)	[36.0, 36.4]	45.8	(3.4)	[45.6, 45.9]	45.6	(4.2)	[45.4, 45.8]
90% (R)	47.1	(6.1)	[46.7, 47.4]	62.9[b]	(7.2)	[62.4, 63.3]	60.5[a]	(7.9)	[60.1, 60.9]

Table 26 Continued

Response Insertion Percentage	RC3 cyn M	(SD)	95%CI	RC4 asb M	(SD)	95%CI	RC6 per M	(SD)	95%CI
90% (T)	73.7[c]	(5.4)	[73.4, 74.0]	87.0[h]	(4.0)	[86.8, 87.3]	78.8[d]	(4.7)	[78.5, 79.1]
90% (F)	34.2[b]	(2.7)	[34.1, 34.4]	45.4	(2.4)	[45.2, 45.5]	45.3	(3.0)	[45.1, 45.4]
100% (R)	47.0	(5.9)	[46.6, 47.3]	64.1[c]	(7.0)	[63.7, 64.5]	61.0[a]	(8.3)	[60.6, 61.5]
100% (T)	76.9[d]	(0.0)	[76.9, 76.9]	91.7[i]	(0.0)	[91.7, 91.7]	82.5[e]	(0.0)	[82.5, 82.5]
100% (F)	32.1[c]	(0.0)	[32.1, 32.1]	44.9[a]	(0.0)	[44.9, 44.9]	44.7	(0.0)	[44.7, 44.7]

Note. N =1215 for random response insertion; N = 1231 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; cyn = Cynicism; asb = Antisocial Behavior; per = Ideas of Persecution.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement

Table 27

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RC7, RC8 and RC9 – Normative Sample – Combined Gender

Response Insertion Percentage	RC7 dne			RC8 abx			RC9 hpm		
	M	(SD)	95%CI	M	(SD)	95%CI	M	(SD)	95%CI
0% (R)	51.5	(10.0)	[51.0, 52.1]	49.4	(9.5)	[48.9. 49.9]	51.3	(10.0)	[50.7, 51.8]
0% (T)	51.7	(10.1)	[51.1, 52.3]	49.4	(9.5)	[48.9, 50.0]	51.4	(10.1)	[50.9, 52.0]
0% (F)	51.7	(10.1)	[51.1, 52.3]	49.4	(9.5)	[48.9, 50.0]	51.4	(10.1)	[50.9, 52.0]
10% (R)	51.6	(9.6)	[51.1, 52.2]	52.1	(9.5)	[51.5, 52.6]	50.6	(9.6)	[50.1, 51.1]
10% (T)	53.8	(9.8)	[53.3, 54.4]	55.0	(9.9)	[54.4, 55.5]	52.4	(9.9)	[51.9, 53.0]
10% (F)	49.4	(8.8)	[48.9, 49.9]	48.7	(8.9)	[48.1, 49.2]	48.9	(8.9)	[48.4, 49.4]
20% (R)	51.5	(8.8)	[51.0, 52.0]	54.1	(9.3)	[53.6, 54.7]	50.1	(9.1)	[49.6, 50.7]
20% (T)	56.1	(9.7)	[55.6, 56.7]	60.0[a]	(10.1)	[59.4, 60.5]	53.6	(9.7)	[53.1, 54.1]
20% (F)	47.4	(7.7)	[46.9, 47.8]	48.0	(8.3)	[47.5, 48.4]	46.9	(7.7)	[46.5, 47.3]
30% (R)	51.2	(8.4)	[50.7, 51.7]	56.5[a]	(9.4)	[56.0, 57.1]	49.6	(8.8)	[49.1, 50.1]
30% (T)	58.7[a]	(9.8)	[58.1, 59.2]	64.8[b]	(10.2)	[64.3, 65.4]	54.9	(9.6)	[54.4, 55.4]
30% (F)	45.6	(6.8)	[45.2, 46.0]	47.1	(7.7)	[46.7, 47.6]	45.1	(6.9)	[44.8, 45.5]
40% (R)	51.5	(8.0)	[51.0, 52.0]	59.2[a]	(9.3)	[58.7, 59.7]	48.7	(8.2)	[48.3, 49.1]
40% (T)	61.4[a]	(9.6)	[60.8, 61.9]	69.8[c]	(10.2)	[69.2, 70.3]	56.3	(9.4)	[55.7, 56.8]
40% (F)	43.8[a]	(6.1)	[43.5, 44.2]	46.4	(7.0)	[46.0, 46.8]	43.4	(5.9)	[43.1, 43.8]
50% (R)	51.3	(7.5)	[50.9, 51.8]	61.1[a]	(9.6)	[60.5, 61.6]	48.4	(8.1)	[47.9, 48.9]
50% (T)	64.5[b]	(9.2)	[63.9, 65.0]	74.8[c]	(10.2)	[74.3, 75.4]	57.7	(9.2)	[57.2, 58.3]
50% (F)	41.9[a]	(5.3)	[41.6, 42.3]	45.6	(6.4)	[45.2, 46.0]	41.8[a]	(5.1)	[41.6, 42.1]
60% (R)	51.4	(7.3)	[51.0, 51.8]	63.0[b]	(9.4)	[62.5, 63.5]	47.9	(7.6)	[47.5, 48.4]
60% (T)	67.8[b]	(8.6)	[67.4, 68.3]	79.8[d]	(9.7)	[79.3, 80.4]	59.1[a]	(8.9)	[58.6, 59.6]
60% (F)	40.3[a]	(4.8)	[40.0, 40.5]	44.9	(5.8)	[44.6, 45.3]	40.4[a]	(4.4)	[40.2, 40.7]
70% (R)	51.2	(6.8)	[50.9, 51.7]	65.3[b]	(9.2)	[64.8, 65.9]	47.5	(7.3)	[47.1, 47.9]
70% (T)	71.1[c]	(7.8)	[70.6, 71.6]	84.7[e]	(9.1)	[84.1, 85.2]	60.7[a]	(8.1)	[60.3, 61.2]
70% (F)	38.5[b]	(4.4)	[38.2, 38.7]	44.2	(5.1)	[43.9, 44.5]	39.1[a]	(3.9)	[38.8, 39.3]
80% (R)	51.6	(6.8)	[51.2, 52.0]	66.9	(9.5)	[66.4, 67.5]	47.2	(7.2)	[46.8, 47.6]
80% (T)	74.7[c]	(6.5)	[74.3, 75.1]	89.6[f]	(7.8)	[89.2, 90.1]	62.5[a]	(7.1)	[62.1, 62.8]
80% (F)	36.6[b]	(3.8)	[36.4, 36.8]	43.3	(4.1)	[43.1, 43.6]	37.6[a]	(3.1)	[37.4, 37.8]
90% (R)	51.1	(6.7)	[50.7, 51.5]	69.6[c]	(9.9)	[69.0, 70.1]	46.4	(7.0)	[46.0, 46.8]

Table 27 Continued

Response Insertion Percentage	RC7 dne M	(SD)	95%CI	RC8 abx M	(SD)	95%CI	RC9 hpm M	(SD)	95%CI
90% (T)	78.4[d]	(4.4)	[78.1, 78.6]	94.7[g]	(5.8)	[94.4, 95.0]	64.2[a]	(5.3)	[63.9, 64.5]
90% (F)	34.7[b]	(3.0)	[34.5, 34.8]	42.5[a]	(3.0)	[42.4, 42.7]	36.3[b]	(2.3)	[36.2, 36.4]
100% (R)	51.8	(6.6)	[51.5, 52.2]	72.4[c]	(9.6)	[71.8, 72.9]	46.3	(6.6)	[45.9, 46.7]
100% (T)	81.7[d]	(0.0)	[81.7, 81.7]	99.6[g]	(0.0)	[99.6, 99.6]	66.1[a]	(0.0)	[66.1, 66.1]
100% (F)	32.3[c]	(0.0)	[32.3, 32.3]	41.7[a]	(0.0)	[41.7, 41.7]	34.7[b]	(0.0)	[34.7, 34.7]

Note. N =1215 for random response insertion; N = 1231 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; dne = Dysfunctional Negative Emotions; abx = Aberrant Experiences; hpm = Hypomanic Activation.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 28

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RCd, RC1 and RC2 – Gendered – Normative Sample – Males

Response Insertion Percentage	RCd dem M	(SD)	95%CI	RC1 som M	(SD)	95%CI	RC2 lpe M	(SD)	95% CI
0% (R)	49.6	(9.7)	[48.9, 50.4]	48.2	(9.1)	[47.5, 48.9]	49.8	(9.7)	[49.0, 50.5]
0% (T)	49.6	(9.7)	[48.9, 50.4]	48.2	(9.1)	[47.5, 48.9]	49.7	(9.6)	[48.9, 50.4]
0% (F)	49.6	(9.7)	[48.9, 50.4]	48.2	(9.1)	[47.5, 48.9]	49.7	(9.6)	[48.9, 50.4]
10% (R)	50.2	(8.6)	[49.5, 50.9]	49.9	(8.3)	[49.3, 50.6]	50.9	(9.1)	[50.2, 51.6]
10% (T)	52.2	(9.0)	[51.5, 53.0]	49.8	(8.2)	[49.2, 50.4]	48.9	(8.9)	[48.1, 49.6]
10% (F)	48.5	(8.7)	[47.8, 49.2]	49.9	(8.3)	[49.3, 50.6]	52.9	(9.2)	[52.1, 53.6]
20% (R)	50.6	(8.1)	[50.0, 51.3]	51.7	(8.0)	[51.0, 52.3]	52.7	(9.1)	[52.0, 53.4]
20% (T)	54.7[a]	(8.7)	[54.1, 55.5]	51.4	(7.6)	[50.8, 51.9]	48.3	(8.5)	[47.6, 49.0]
20% (F)	47.2	(7.7)	[46.6, 47.8]	51.6	(7.6)	[51.0, 52.3]	56.2[a]	(9.2)	[55.4, 56.9]
30% (R)	51.3	(7.2)	[50.8, 52.0]	53.4[a]	(7.6)	[52.8, 54.1]	53.8	(9.0)	[53.1, 54.5]
30% (T)	57.3[a]	(8.5)	[56.6, 58.0]	52.7[a]	(6.9)	[52.2, 53.3]	47.9	(7.9)	[47.2, 48.5]
30% (F)	46.1	(6.9)	[45.5, 46.7]	53.1[a]	(7.3)	[52.6, 53.7]	59.6[a]	(9.4)	[58.8, 60.4]
40% (R)	51.8	(6.9)	[51.3, 52.4]	54.3[a]	(7.3)	[53.7, 54.9]	55.1	(8.8)	[54.4, 55.8]
40% (T)	60.0[b]	(8.3)	[59.4, 60.7]	54.1[a]	(6.3)	[53.6, 54.6]	47.2	(7.3)	[46.6, 47.7]
40% (F)	45.0	(6.0)	[44.6, 45.6]	54.7[a]	(6.8)	[54.1, 55.3]	63.3[b]	(9.4)	[62.5, 64.1]
50% (R)	52.4	(6.4)	[51.8, 52.9]	55.8[a]	(6.9)	[55.3, 56.3]	56.6[a]	(8.4)	[55.9, 57.3]
50% (T)	63.0[c]	(7.9)	[62.4, 63.7]	55.4[a]	(6.1)	[54.9, 55.9]	46.6	(6.5)	[46.1, 47.1]
50% (F)	43.9[a]	(5.4)	[43.4, 44.3]	56.6[a]	(6.4)	[56.1, 57.1]	67.0[b]	(9.3)	[66.3, 67.8]
60% (R)	52.7	(5.7)	[52.2, 53.2]	57.7[b]	(6.7)	[57.2, 58.2]	58.0[a]	(8.4)	[57.3, 58.7]
60% (T)	66.3[c]	(7.3)	[65.7, 66.9]	56.7[a]	(5.5)	[56.2, 57.2]	46.0	(6.0)	[45.5, 46.5]
60% (F)	42.8[a]	(4.8)	[42.4, 43.2]	58.2[b]	(5.9)	[57.7, 58.7]	70.9[c]	(8.9)	[70.2, 71.6]
70% (R)	53.6	(5.6)	[53.2, 54.0]	59.1[b]	(6.7)	[58.6, 59.7]	59.2[a]	(8.5)	[58.5, 59.9]
70% (T)	69.8[d]	(6.4)	[69.3, 70.3]	58.1[b]	(4.9)	[57.6, 58.4]	45.5	(5.3)	[45.0, 45.9]
70% (F)	41.7[a]	(4.3)	[41.3, 42.0]	60.1[b]	(5.3)	[59.6, 60.5]	74.9[c]	(8.1)	[74.2, 75.5]
80% (R)	53.7	(5.1)	[53.3, 54.1]	61.3[b]	(6.9)	[60.8, 61.8]	60.3[a]	(8.5)	[59.6, 61.0]
80% (T)	73.4[e]	(5.1)	[72.9, 73.8]	59.4[b]	(4.1)	[59.0, 59.7]	44.8	(4.4)	[44.4, 45.1]
80% (F)	40.3[b]	(3.6)	[40.0, 40.6]	61.9[c]	(4.6)	[61.5, 62.3]	79.0[c]	(6.4)	[78.5, 79.5]

Table 28 Continued

Response Insertion Percentage	RCd dem M	(SD)	95%CI	RC1 som M	(SD)	95%CI	RC2 lpe M	(SD)	95% CI
90% (R)	54.6[a]	(5.2)	[54.1, 55.0]	62.9[c]	(6.8)	[62.4, 63.5]	62.4[a]	(8.7)	[61.6, 63.0]
90% (T)	77.2[f]	(3.5)	[76.9, 77.5]	61.1[b]	(3.0)	[60.9, 61.4]	44.3	(3.1)	[44.1, 44.6]
90% (F)	38.9[b]	(2.6)	[38.7, 39.1]	63.9[c]	(3.3)	[63.6, 64.1]	82.7[d]	(4.8)	[82.3, 83.0]
100% (R)	55.2[a]	(5.1)	[54.8, 55.6]	64.2[c]	(7.2)	[63.6, 64.9]	63.2[b]	(8.5)	[62.5, 63.9]
100% (T)	80.6[g]	(0.0)	[80.6, 80.6]	62.8[c]	(0.0)	[62.8, 62.8]	43.8	(0.0)	[43.8, 43.8]
100% (F)	37.3[b]	(0.0)	[37.3, 37.3]	65.9[c]	(0.0)	[65.9. 65.9]	86.7[d]	(0.0)	[86.7, 86.7]

Note. N =582 for random response insertion; N = 586 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; dem = Demoralization; som = Somatic Complaints; lpe = Low Positive Emotions.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 29

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RC3, RC4 and RC6 – Normative Sample – Males

Response Insertion Percentage	RC3 cyn			RC4 asb			RC6 per		
	M	(SD)	95%CI	M	(SD)	95%CI	M	(SD)	95%CI
0% (R)	51.7	(9.8)	[50.9, 52.5]	50.8	(10.6)	[50.0, 51.7]	50.4	(10.2)	[49.6, 51.2]
0% (T)	51.9	(9.9)	[51.1, 52.7]	51.0	(10.8)	[50.1, 51.8]	50.6	(10.4)	[49.7, 51.4]
0% (F)	51.9	(9.9)	[51.1, 52.7]	51.0	(10.8)	[50.1, 51.8]	50.6	(10.4)	[49.7, 51.4]
10% (R)	50.9	(9.0)	[50.2, 51.7]	52.5	(9.7)	[51.8, 53.3]	51.7	(9.9)	[50.9, 52.4]
10% (T)	53.5	(9.9)	[52.7, 54.3]	54.5	(10.2)	[53.7, 55.3]	53.6	(9.9)	[52.8, 54.4]
10% (F)	49.1	(8.5)	[48.5, 49.8]	50.2	(9.7)	[49.4, 51.0]	49.9	(9.7)	[49.1, 50.6]
20% (R)	50.6	(8.6)	[49.8, 51.3]	53.8	(9.3)	[53.1, 54.6]	52.8	(9.1)	[52.1, 53.6]
20% (T)	55.3	(9.9)	[54.5, 56.0]	57.9[a]	(9.8)	[57.1, 58.7]	56.5	(9.6)	[55.7, 57.2]
20% (F)	46.8	(7.4)	[46.2, 47.4]	49.4	(8.6)	[48.7, 50.1]	49.1	(9.0)	[48.4, 49.9]
30% (R)	50.0	(8.3)	[49.3, 50.7]	54.7	(8.3)	[54.1, 55.4]	53.0	(8.9)	[52.3, 53.7]
30% (T)	57.4	(10.0)	[56.7, 58.2]	61.3[b]	(9.7)	[60.4, 62.0]	59.2[a]	(9.5)	[58.5, 60.0]
30% (F)	44.7[a]	(6.4)	[44.2, 45.3]	48.7	(7.8)	[48.1, 49.4]	48.4	(8.1)	[47.8, 49.1]
40% (R)	49.7	(7.5)	[49.1, 50.3]	55.8[a]	(7.6)	[55.3, 56.4]	54.8	(8.8)	[54.1, 55.5]
40% (T)	59.9[a]	(10.0)	[59.1, 60.7]	64.9[c]	(9.4)	[64.1, 65.7]	62.0[a]	(9.3)	[61.3, 62.7]
40% (F)	42.9[a]	(5.7)	[42.5, 43.4]	48.0	(6.8)	[47.5, 48.6]	47.8	(7.4)	[47.2, 48.4]
50% (R)	49.1	(7.3)	[48.5, 49.7]	57.1[a]	(6.9)	[56.6, 57.7]	55.0	(8.3)	[54.3, 55.6]
50% (T)	62.3[a]	(9.7)	[61.5, 63.1]	69.6[d]	(8.7)	[68.9, 70.3]	65.3[b]	(9.0)	[64.6, 66.0]
50% (F)	41.1[a]	(4.8)	[40.7, 41.5]	47.4	(5.8)	[47.0, 47.9]	47.4	(6.6)	[46.8, 47.9]
60% (R)	48.7	(7.1)	[48.1, 49.4]	58.3[a]	(6.8)	[57.7, 58.8]	56.7[a]	(7.8)	[56.1, 57.3]
60% (T)	65.3[b]	(9.3)	[64.5, 66.0]	73.7[d]	(7.8)	[73.0, 74.4]	68.5[c]	(8.5)	[67.8, 69.2]
60% (F)	39.6[a]	(4.0)	[39.2, 39.9]	46.8	(5.0)	[46.3, 47.2]	46.8	(5.9)	[46.3, 47.3]
70% (R)	47.7	(6.0)	[47.2, 48.2]	60.0[b]	(7.1)	[59.4, 60.6]	58.1[a]	(8.3)	[57.4, 58.8]
70% (T)	68.0[b]	(8.5)	[67.2, 68.6]	78.0[e]	(6.9)	[77.4, 78.5]	71.7[c]	(7.8)	[71.1, 72.3]
70% (F)	37.9[b]	(3.8)	[37.6, 38.2]	46.3[a]	(4.3)	[45.9, 46.6]	46.3	(5.1)	[45.9, 46.7]
80% (R)	47.8	(6.3)	[47.3, 48.3]	61.1[b]	(6.7)	[60.6, 61.7]	59.1[a]	(8.2)	[58.4, 59.8]
80% (T)	70.8[b]	(7.2)	[70.2, 71.4]	82.8[f]	(5.6)	[82.3, 83.2]	74.8[d]	(6.6)	[74.2, 75.3]
80% (F)	36.2[b]	(3.4)	[35.9, 36.5]	45.8[a]	(3.4)	[45.5, 46.1]	45.7	(4.2)	[45.3, 46.1]
90% (R)	47.3	(6.2)	[46.8, 47.8]	62.6[b]	(7.0)	[62.1, 63.2]	60.4[a]	(7.9)	[59.8, 61.1]
90% (T)	73.9[c]	(5.3)	[73.4, 74.2]	87.3[g]	(3.7)	[87.0, 87.6]	78.7[d]	(4.7)	[78.3, 79.1]

Table 29 Continued

Response Insertion Percentage	RC3 cyn M	(SD)	95%CI	RC4 asb M	(SD)	95%CI	RC6 per M	(SD)	95%CI
90% (F)	34.3[b]	(2.7)	[34.0, 34.5]	45.5[a]	(2.4)	[45.2, 45.6]	45.4	(3.0)	[45.1, 45.6]
100% (R)	47.1	(6.3)	[46.6, 47.5]	64.3[b]	(6.9)	[63.7, 64.8]	61.0[a]	(8.5)	[60.4, 61.8]
100% (T)	76.9[c]	(0.0)	[76.9, 76.9]	91.7[h]	(0.0)	[91.7, 91.7]	82.5[e]	(0.0)	[82.5, 82.5]
100% (F)	32.1[b]	(0.0)	[32.1, 32.1]	44.9[a]	(0.0)	[44.9, 44.9]	44.7	(0.0)	[44.7, 44.7]

Note. N =582 for random response insertion; N = 586 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; cyn = Cynicism; asb = Antisocial Behavior; per = Ideas of Persecution.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 30

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RC7, RC8 and RC9 – Normative Sample – Males

Response Insertion Percentage	RC7 dne			RC8 abx			RC9 hpm		
	M	(SD)	95%CI	M	(SD)	95%CI	M	(SD)	95%CI
0% (R)	49.8	(9.7)	[49.0, 50.6]	49.4	(9.7)	[48.6, 50.2]	49.6	(9.4)	[48.9, 50.4]
0% (T)	50.0	(9.7)	[49.2, 50.8]	49.4	(9.7)	[48.6, 50.2]	49.8	(9.5)	[49.1, 50.5]
0% (F)	50.0	(9.7)	[49.2, 50.8]	49.4	(9.7)	[48.6, 50.2]	49.8	(9.5)	[49.1, 50.5]
10% (R)	50.2	(9.4)	[49.5, 51.1]	52.0	(9.6)	[51.3, 52.8]	49.3	(9.1)	[48.6, 50.1]
10% (T)	52.1	(9.5)	[51.3, 52.9]	54.9	(10.2)	[54.1, 55.7]	51.0	(9.4)	[50.3, 51.7]
10% (F)	47.8	(8.3)	[47.1, 48.5]	48.6	(9.0)	[47.8, 49.4]	47.6	(8.3)	[47.0, 48.2]
20% (R)	50.3	(8.6)	[49.6, 50.9]	54.3	(9.5)	[53.5, 55.1]	48.9	(8.9)	[48.2, 49.6]
20% (T)	54.4	(9.4)	[53.7, 55.2]	59.6[a]	(10.5)	[58.8, 60.5]	52.4	(9.4)	[51.6, 53.1]
20% (F)	45.9	(7.3)	[45.4, 46.5]	47.8	(8.4)	[47.2, 48.6]	45.7	(7.1)	[45.1, 46.2]
30% (R)	49.8	(8.0)	[49.2, 50.4]	56.1[a]	(9.2)	[55.4, 56.9]	48.7	(8.2)	[48.0, 49.3]
30% (T)	56.9[a]	(9.5)	[56.2, 57.7]	64.6[b]	(10.4)	[63.8, 65.4]	53.7	(9.3)	[53.0, 54.4]
30% (F)	44.4	(6.5)	[43.9, 44.9]	47.0	(7.6)	[46.4, 47.6]	44.2	(6.2)	[43.7, 44.7]
40% (R)	50.6	(8.0)	[49.9, 51.2]	59.0[a]	(9.3)	[58.3, 59.8]	47.6	(7.4)	[47.0, 48.2]
40% (T)	59.7[a]	(9.4)	[59.0, 60.6]	69.7[c]	(10.2)	[68.9, 70.5]	55.1	(9.3)	[54.3, 55.8]
40% (F)	42.8[a]	(5.8)	[42.4, 43.3]	46.3	(7.0)	[45.7, 46.8]	42.8	(5.5)	[42.4, 43.3]
50% (R)	50.6	(7.4)	[50.0, 51.2]	61.2[a]	(9.7)	[60.4, 62.0]	47.3	(7.4)	[46.7, 47.9]
50% (T)	62.9[b]	(9.2)	[62.1, 63.7]	74.9[d]	(10.0)	[74.1, 75.7]	56.9[a]	(9.0)	[56.2, 57.6]
50% (F)	41.1[a]	(5.0)	[40.7, 41.5]	45.6	(6.4)	[45.1, 46.1]	41.4[a]	(4.6)	[41.1, 41.8]
60% (R)	50.7	(7.4)	[50.1, 51.3]	63.3[b]	(9.1)	[62.5, 64.0]	47.4	(7.6)	[46.8, 48.0]
60% (T)	66.5[b]	(8.8)	[65.9, 67.3]	79.7[d]	(9.6)	[78.9, 80.4]	58.5[a]	(8.9)	[57.8, 59.2]
60% (F)	39.6 [a]	(4.6)	[39.2, 39.9]	45.0	(5.8)	[44.5, 45.5]	40.2[a]	(4.0)	[39.9, 40.5]
70% (R)	50.9	(6.8)	[50.3, 51.4]	65.4[b]	(9.3)	[64.7, 66.1]	47.1	(7.4)	[46.5, 47.7]
70% (T)	70.2[c]	(7.9)	[69.5, 70.8]	84.7[e]	(9.0)	[84.0, 85.4]	60.5[a]	(8.3)	[59.9, 61.2]
70% (F)	37.9[b]	(4.2)	[37.6, 38.2]	44.2	(5.1)	[43.8, 44.7]	39.0[a]	(3.8)	[38.7, 39.4]
80% (R)	51.5	(6.5)	[50.9, 51.9]	66.7[b]	(9.4)	[65.9, 67.5]	46.7	(7.1)	[46.2, 47.3]
80% (T)	74.1[d]	(6.7)	[73.5, 74.6]	89.7[f]	(7.7)	[89.1, 90.3]	62.5[a]	(7.4)	[61.9, 63.1]
80% (F)	36.2 [b]	(3.7)	[35.9, 36.5]	43.4	(4.2)	[43.0, 43.7]	37.6[a]	(3.0)	[37.3, 37.8]
90% (R)	50.7	(6.5)	[50.2, 51.3]	69.7[c]	(10.0)	[68.9, 70.6]	46.0	(6.8)	[45.5, 46.6]

Table 30 Continued

Response Insertion Percentage	RC7 dne M	(SD)	95%CI	RC8 abx M	(SD)	95%CI	RC9 hpm M	(SD)	95%CI
90% (T)	78.1[e]	(4.6)	[77.7, 78.4]	94.9[g]	(5.6)	[94.4, 95.3]	64.0[b]	(5.3)	[63.6, 64.4]
90% (F)	34.4[b]	(2.8)	[34.2, 34.6]	42.5[a]	(3.0)	[42.2, 42.8]	36.2[a]	(2.3)	[36.1, 36.4]
100% (R)	52.2	(6.6)	[51.7, 52.8]	72.1[c]	(9.6)	[71.3, 72.8]	46.2	(6.8)	[45.7, 46.8]
100% (T)	81.7[e]	(0.0)	[81.7, 81.7]	99.6[g]	(0.0)	[99.6, 99.6]	66.1[b]	(0.0)	[66.1, 66.1]
100% (F)	32.3[b]	(0.0)	[32.3, 32.3]	41.7[a]	(0.0)	[41.7, 41.7]	34.9[b]	(0.0)	[34.9, 34.9]

Note. N =582 for random response insertion; N = 586 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; dne = Dysfunctional Negative Emotions; abx = Aberrant Experiences; hpm = Hypomanic Activation.
[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 31

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RCd, RC1 and RC2 – Normative Sample – Females

Response Insertion Percentage	RCd dem			RC1 som			RC2 lpe		
	M	(SD)	95%CI	M	(SD)	95%CI	M	(SD)	95% CI
0% (R)	52.9	(10.1)	[52.1, 53.8]	52.2	(10.3)	[51.4, 52.9]	48.3	(9.1)	[47.6, 49.0]
0% (T)	53.0	(10.2)	[52.2, 53.9]	52.3	(10.4)	[51.5, 53.1]	48.2	(8.9)	[47.6, 49.0]
0% (F)	53.0	(10.2)	[52.2, 53.9]	52.3	(10.4)	[51.5, 53.1]	48.2	(8.9)	[47.6, 49.0]
10% (R)	52.9	(9.4)	[52.2, 53.7]	53.6	(9.7)	[52.9, 54.3]	50.0	(8.9)	[49.3, 50.7]
10% (T)	55.1	(9.9)	[54.3, 55.9]	53.4	(9.7)	[52.7, 54.1]	47.7	(8.5)	[47.1, 48.4]
10% (F)	51.2	(8.9)	[50.5, 51.9]	53.8	(9.6)	[53.0, 54.6]	51.6	(9.1)	[50.9, 52.4]
20% (R)	53.4	(8.4)	[52.7, 54.1]	54.8	(9.0)	[54.1, 55.4]	51.4	(8.9)	[50.7, 52.2]
20% (T)	57.2	(9.5)	[56.5, 58.0]	54.4	(8.9)	[53.7, 55.0]	47.3	(8.0)	[46.7, 48.0]
20% (F)	49.6	(7.9)	[49.0, 50.3]	55.0	(8.9)	[54.3, 55.7]	55.4[a]	(9.0)	[54.7, 56.1]
30% (R)	53.4	(7.9)	[52.7, 54.0]	55.4	(8.4)	[54.7, 56.0]	53.2	(8.6)	[52.5, 53.8]
30% (T)	59.7[a]	(9.1)	[59.0, 60.4]	55.3	(8.3)	[54.7, 56.0]	46.7	(7.5)	[46.1, 47.4]
30% (F)	48.0[a]	(6.9)	[47.5, 48.6]	56.2	(8.1)	[55.5, 56.8]	58.8[a]	(9.0)	[58.1, 59.5]
40% (R)	53.7	(6.9)	[53.2, 54.3]	56.8	(8.0)	[56.1, 57.4]	54.8[a]	(8.1)	[54.2, 55.5]
40% (T)	62.1[b]	(8.7)	[61.4, 62.8]	56.3	(7.8)	[55.7, 56.8]	46.2	(7.0)	[45.6, 46.7]
40% (F)	46.5[a]	(6.0)	[46.0, 47.0]	57.3[a]	(7.3)	[56.7, 57.9]	62.4[b]	(9.2)	[61.7, 63.1]
50% (R)	53.8	(6.7)	[53.2, 54.4]	57.9[a]	(7.6)	[57.3, 58.5]	55.8[a]	(8.3)	[55.2, 56.5]
50% (T)	65.0[b]	(8.2)	[64.3, 65.7]	57.2[a]	(6.9)	[56.7, 57.8]	45.7	(6.30	[45.2, 46.3]
50% (F)	45.1[a]	(5.4)	[44.6, 45.5]	58.7[a]	(6.7)	[58.2, 59.2]	66.1[b]	(8.9)	[65.5, 66.9]
60% (R)	54.4	(6.1)	[53.9, 54.9]	59.2[a]	(7.1)	[58.6, 59.7]	57.7[a]	(8.6)	[57.0, 58.4]
60% (T)	68.0[c]	(7.6)	[67.4, 68.5]	58.2[a]	(6.1)	[57.7, 58.6]	45.2	(5.7)	[44.8, 45.7]
60% (F)	43.6[b]	(4.9)	[43.2, 44.0]	59.9[a]	(6.1)	[59.5, 60.4]	70.0[c]	(8.5)	[69.4, 70.7]
70% (R)	54.7	(5.5)	[54.2, 55.1]	60.3[a]	(7.1)	[59.7, 60.9]	59.5[a]	(8.5)	[58.8, 60.2]
70% (T)	71.0[d]	(6.4)	[70.5, 71.5]	59.4[a]	(5.4)	[58.9, 59.8]	44.8	(4.9)	[44.5, 45.3]
70% (F)	42.3[b]	(4.4)	[42.0, 42.6]	61.2[b]	(5.3)	[60.8, 61.7]	74.0[d]	(8.1)	[73.4, 74.7]
80% (R)	54.6	(5.5)	[54.2, 55.1]	62.5[b]	(7.0)	[61.9, 63.0]	60.5[a]	(8.2)	[59.9, 61.2]
80% (T)	74.0[d]	(5.2)	[73.6, 74.4]	60.5[a]	(4.3)	[60.1, 60.8]	44.4	(3.9)	[44.1, 44.7]
80% (F)	40.9[b]	(3.7)	[40.6, 41.1]	62.9[b]	(4.5)	[62.5, 63.2]	78.1[d]	(6.8)	[77.6, 78.7]
90% (R)	55.2	(5.4)	[54.8, 55.6]	63.0[b]	(6.7)	[62.5, 63.5]	61.3[b]	(8.4)	[60.6, 61.9]

Table 31 Continued

Response Insertion Percentage	RCd dem M	(SD)	95%CI	RC1 som M	(SD)	95%CI	RC2 lpe M	(SD)	95% CI
90% (T)	77.3[e]	(3.5)	[77.1, 77.6]	61.5[b]	(3.3)	[61.3, 61.8]	44.0	(2.7)	[43.8, 44.2]
90% (F)	39.3[c]	(2.7)	[39.1, 39.5]	64.3[b]	(3.1)	[64.1, 64.6]	82.4[e]	(5.0)	[82.0, 82.7]
100% (R)	55.2	(5.0)	[54.8, 55.6]	64.3[b]	(7.0)	[63.7, 64.8]	63.6[b]	(8.6)	[62.9, 64.2]
100% (T)	80.6[f]	(0.0)	[80.6, 80.6]	62.8[b]	(0.0)	[62.8, 62.8]	43.8	(0.0)	[43.8, 43.8]
100% (F)	37.3[c]	(0.0)	[37.3, 37.3]	65.9[b]	(0.0)	[65.9, 65.9]	86.7[f]	(0.0)	[86.7, 86.7]

Note. N =633 for random response insertion; *N* = 645 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; dem = Demoralization; som = Somatic Complaints; lpe = Low Positive Emotions.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 32

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RC3, RC4 and RC6 - Normative Sample - Females

Response Insertion Percentage	RC3 cyn M	(SD)	95%CI	RC4 asb M	(SD)	95%CI	RC6 per M	(SD)	95%CI
0% (R)	50.7	(9.9)	[50.0, 51.5]	48.7	(8.9)	[47.9, 49.3]	49.8	(9.6)	[49.1, 50.6]
0% (T)	51.0	(10.1)	[50.2, 51.8]	48.7	(9.0)	[48.1, 49.4]	50.0	(9.7)	[49.1, 50.7]
0% (F)	51.0	(10.1)	[50.2, 51.8]	48.7	(9.0)	[48.1, 49.4]	50.0	(9.7)	[49.1, 50.7]
10% (R)	50.4	(9.5)	[49.6, 51.1]	50.4	(8.3)	[49.7, 51.0]	51.1	(9.2)	[50.4, 51.8]
10% (T)	52.7	(10.0)	[51.9, 53.5]	52.9	(8.0)	[52.3, 53.6]	53.3	(9.2)	[52.6, 54.0]
10% (F)	48.4	(8.6)	[47.7, 49.1]	48.2	(8.1)	[47.6, 48.9]	49.3	(9.0)	[48.5, 50.0]
20% (R)	49.5	(8.6)	[48.9, 50.2]	51.9	(7.6)	[51.3, 52.5]	52.2	(8.5)	[51.5, 52.8]
20% (T)	54.4	(10.2)	[53.6, 55.2]	56.3[a]	(7.9)	[55.7, 57.0]	55.9[a]	(9.1)	[55.2, 56.6]
20% (F)	46.2	(7.3)	[45.6, 46.7]	47.8	(7.3)	[47.2, 48.4]	48.8	(8.5)	[48.1, 49.4]
30% (R)	49.3	(8.0)	[48.7, 49.9]	53.4[a]	(7.1)	[52.9, 54.0]	53.5	(8.2)	[52.9, 54.1]
30% (T)	56.2	(10.3)	[55.4, 57.0]	59.7[b]	(8.1)	[59.0, 60.4]	58.6[a]	(9.1)	[57.9, 59.3]
30% (F)	44.3[a]	(6.1)	[43.7, 44.7]	47.5	(6.6)	[46.9, 48.0]	48.1	(7.7)	[47.5, 48.7]
40% (R)	49.1	(7.8)	[48.5, 49.8]	54.9[a]	(6.8)	[54.3, 55.4]	54.2	(8.2)	[53.6, 54.9]
40% (T)	58.5[a]	(10.2)	[57.7, 59.3]	63.7[c]	(8.4)	[63.0, 64.3]	61.6[b]	(8.9)	[60.9, 62.3]
40% (F)	42.6[a]	(5.5)	[42.1, 43.0]	47.2	(5.9)	[46.7, 47.6]	47.6	(7.2)	[47.0, 48.1]
50% (R)	48.2	(7.0)	[47.6, 48.8]	56.4[a]	(6.6)	[55.9, 56.9]	55.2	(7.3)	[54.6, 55.8]
50% (T)	61.0[a]	(9.8)	[60.2, 61.8]	68.2[d]	(8.4)	[67.5, 68.8]	64.8[b]	(8.7)	[64.2, 65.5]
50% (F)	41.0[a]	(5.0)	[40.6, 41.4]	46.8	(5.2)	[46.4, 47.2]	46.9	(6.4)	[46.5, 47.4]
60% (R)	48.3	(6.9)	[47.7, 48.8]	57.9[b]	(6.5)	[57.4, 58.5]	56.8[a]	(7.7)	[56.2, 57.3]
60% (T)	63.8[b]	(9.2)	[63.1, 64.5]	72.8[e]	(7.8)	[72.2, 73.4]	68.3[c]	(8.1)	[67.7, 68.9]
60% (F)	39.4[a]	(4.2)	[39.1, 39.7]	46.4	(4.6)	[46.0, 46.8]	46.3	(5.7)	[45.9, 46.7]
70% (R)	47.5	(6.6)	[47.0, 48.0]	58.9[b]	(6.7)	[58.4, 59.4]	57.7[a]	(7.4)	[57.1, 58.2]
70% (T)	66.7[b]	(8.8)	[66.0, 67.4]	77.4[f]	(6.9)	[76.8, 77.9]	71.7[c]	(7.6)	[71.2, 72.4]
70% (F)	37.9[b]	(3.6)	[37.6, 38.2]	46.1	(4.0)	[45.8, 46.5]	45.9	(4.9)	[45.5, 46.2]
80% (R)	47.5	(6.3)	[47.1, 48.0]	60.7[b]	(6.8)	[60.2, 61.3]	59.0[a]	(8.1)	[58.3, 59.6]
80% (T)	69.8[c]	(7.7)	[69.2, 70.3]	82.2[g]	(5.7)	[81.8, 82.6]	75.3[d]	(6.8)	[74.8, 75.8]
80% (F)	36.2[b]	(3.4)	[36.0, 36.5]	45.7	(3.3)	[45.4, 46.0]	45.5	(4.1)	[45.2, 45.8]

Table 32 Continued

Response Insertion Percentage	RC3 cyn M	(SD)	95%CI	RC4 asb M	(SD)	95%CI	RC6 per M	(SD)	95%CI
90% (R)	46.8	(6.1)	[46.4, 47.4]	63.1[c]	(7.4)	[62.5, 63.6]	60.6[a]	(8.0)	[60.0, 61.2]
90% (T)	73.5[c]	(5.4)	[73.0, 73.9]	86.8[h]	(4.2)	[86.5, 87.1]	78.9[d]	(4.7)	[78.5, 79.2]
90% (F)	34.2[b]	(2.7)	[34.0, 34.4]	45.3	(2.3)	[45.1, 45.5]	45.2	(2.9)	[44.9, 45.4]
100% (R)	46.9	(5.6)	[46.5, 47.3]	64.0[c]	(7.0)	[63.4, 64.5]	61.0[a]	(8.2)	[60.4, 61.7]
100% (T)	76.9[d]	(0.0)	[76.9, 76.9]	91.7[i]	(0.0)	[91.7, 91.7]	82.5[e]	(0.0)	[82.5, 82.5]
100% (F)	32.1[b]	(0.0)	[32.1, 32.1]	44.9	(0.0)	[44.9, 44.9]	44.7	(0.0)	[44.7, 44.7]

Note. N =633 for random response insertion; N = 645 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; cyn = Cynicism; asb = Antisocial Behavior; per = Ideas of Persecution.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 33

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RC7, RC8 and RC9 - Normative Sample - Females

Response Insertion Percentage	RC7 dne M	(SD)	95%CI	RC8 abx M	(SD)	95%CI	RC9 hpm M	(SD)	95%CI
0% (R)	53.2	(10.0)	[52.4, 54.0]	49.4	(9.4)	[48.7, 50.1]	52.8	(10.4)	[51.9, 53.6]
0% (T)	53.3	(10.2)	[52.5, 54.1]	49.5	(9.3)	[48.8, 50.2]	52.8	(10.4)	[52.0, 53.6]
0% (F)	53.3	(10.2)	[52.5, 54.1]	49.5	(9.3)	[48.8, 50.2]	52.8	(10.4)	[52.0, 53.6]
10% (R)	52.9	(9.7)	[52.1, 53.7]	52.1	(9.4)	[51.4, 52.9]	51.8	(9.9)	[51.0, 52.6]
10% (T)	55.3	(9.7)	[54.6, 56.1]	55.0	(9.7)	[54.3, 55.8]	53.7	(10.1)	[52.9, 54.5]
10% (F)	50.9	(9.0)	[50.2, 51.6]	48.7	(8.8)	[48.0, 49.4]	50.1	(9.3)	[49.4, 50.9]
20% (R)	52.7	(8.8)	[52.1, 53.5]	54.0	(9.1)	[53.3, 54.7]	51.3	(9.1)	[50.5, 52.0]
20% (T)	57.7	(9.7)	[56.9, 58.5]	60.3[a]	(9.7)	[59.6, 61.0]	54.7	(9.9)	[53.9, 55.4]
20% (F)	48.7	(7.9)	[48.0, 49.3]	48.1	(8.2)	[47.4, 48.7]	48.0	(8.2)	[47.3, 48.6]
30% (R)	52.5	(8.5)	[51.8, 53.1]	56.9[a]	(9.6)	[56.2, 57.7]	50.4	(9.3)	[49.6, 51.2]
30% (T)	60.3[a]	(9.7)	[59.5, 61.0]	65.0[b]	(10.1)	[64.2, 65.8]	55.9	(9.7)	[55.2, 56.6]
30% (F)	46.7[a]	(7.0)	[46.1, 47.3]	47.2	(7.7)	[46.7, 47.9]	45.9	(7.5)	[45.4, 46.5]
40% (R)	52.3	(7.9)	[51.7, 52.9]	59.3[a]	(9.3)	[58.6, 60.0]	49.7	(8.8)	[49.0, 50.4]
40% (T)	62.8[a]	(9.6)	[62.1, 63.6]	69.8[c]	(10.3)	[69.1, 70.6]	57.3	(9.4)	[56.6, 58.0]
40% (F)	44.7[a]	(6.1)	[44.2, 45.2]	46.5	(7.0)	[46.0, 47.1]	44.0[a]	(6.3)	[43.5, 44.5]
50% (R)	52.0	(7.6)	[51.4, 52.6]	60.9[a]	(9.5)	[60.1, 61.7]	49.4	(8.6)	[48.8, 50.1]
50% (T)	65.9[b]	(9.0)	[65.2, 66.6]	74.8[c]	(10.4)	[74.0, 75.6]	58.5	(9.2)	[57.8, 59.2]
50% (F)	42.7[a]	(5.5)	[42.3, 43.2]	45.6	(6.4)	[45.1, 46.2]	42.2[a]	(5.5)	[41.8, 42.6]
60% (R)	52.1	(7.2)	[51.5, 52.7]	62.8[b]	(9.6)	[62.0, 63.4]	48.4	(7.7)	[47.8, 49.0]
60% (T)	69.0[b]	(8.3)	[68.4, 69.7]	80.0[d]	(9.9)	[79.2, 80.7]	59.6	(8.8)	[59.0, 60.3]
60% (F)	40.9[a]	(4.9)	[40.5, 41.3]	44.9	(5.8)	[44.5, 45.4]	40.6[a]	(4.7)	[40.3, 41.0]
70% (R)	51.6	(6.8)	[51.1, 52.1]	65.2[b]	(9.2)	[64.5, 66.0]	47.8	(7.2)	[47.3, 48.4]
70% (T)	71.9[b]	(7.6)	[71.4, 72.5]	84.6[e]	(9.1)	[83.9, 85.2]	60.9[a]	(8.0)	[60.3, 61.6]
70% (F)	39.0[b]	(4.5)	[38.6, 39.3]	44.2	(5.0)	[43.7, 44.6]	39.1[a]	(4.0)	[38.8, 39.4]
80% (R)	51.7	(7.0)	[51.1, 52.2]	67.1[b]	(9.7)	[66.4, 67.8]	47.6	(7.3)	[47.1, 48.2]
80% (T)	75.2[c]	(6.3)	[74.8, 75.7]	89.6[f]	(7.9)	[89.0, 90.2]	62.5[a]	(6.7)	[61.9, 63.0]
80% (F)	37.1[b]	(3.9)	[36.8, 37.4]	43.3	(4.0)	[43.0, 43.6]	37.6[b]	(3.2)	[37.3, 37.8]
90% (R)	51.4	(6.8)	[50.8, 51.9]	69.4[c]	(9.8)	[68.7, 70.2]	46.8	(7.2)	[46.2, 47.3]

Table 33 Continued

Response Insertion Percentage	RC7 dne M	(SD)	95%CI	RC8 abx M	(SD)	95%CI	RC9 hpm M	(SD)	95%CI
90% (T)	78.7[d]	(4.2)	[78.4, 79.0]	94.5[f]	(6.0)	[94.0, 95.0]	64.4[a]	(5.2)	[64.0, 64.8]
90% (F)	34.9[b]	(3.1)	[34.7, 35.2]	42.6[a]	(3.1)	[42.3, 42.8]	36.3[b]	(2.4)	[36.1, 36.5]
100% (R)	51.5	(6.5)	[51.0, 52.0]	72.7[c]	(9.6)	[71.9, 73.4]	46.3	(6.5)	[45.8, 46.9]
100% (T)	81.7[d]	(0.0)	[81.7, 81.7]	99.6[g]	(0.0)	[99.6, 99.6]	66.1[a]	(0.0)	[66.1, 66.1]
100% (F)	32.3[c]	(0.0)	[32.3, 32.3]	41.7[a]	(0.0)	[41.7, 41.7]	34.9[b]	(0.0)	[34.9, 34.9]

Note. N =633 for random response insertion; N = 645 for true- and false-insertion; RC = Restructured Clinical; R = Random; T= True; F = False; dne = Dysfunctional Negative Emotions; abx = Aberrant Experiences; hpm = Hypomanic Activation.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Forensic Sample Analyses

For the forensic sample analyses, (Tables 34-36), RC Scale mean scores again showed systematic increases or decreases depending on the scale. In the random condition, all scales showed systematic increases except for RC3, which decreased. In the true condition, all scales increased monotonically with the exception of decreases for RC2. In the false condition, all scales decreased systematically except for RC1 and RC2, which increased.

Regarding SEM deviations, in the random response condition there were four scales which did not deviate by at least one SEM: RC4, RC6, RC7, and RC9. The highest deviation was seen with RC8 at three SEM's. The rest of the RC scales in the random response condition reached one SEM of deviation at as low as the 40% insertion condition (RC1) and as high as the 90% insertion condition (RCd). For the acquiescent condition, RC2 was the only scale which did not deviate by at least one SEM. On the opposite end of the spectrum, four scales reached a high level of deviation (i.e. 6-7 SEM's): RCd, RC4, RC7, and RC8. The remaining RC scales deviated by at least one SEM, and all reached that threshold between the 20% and 50% true response insertion conditions. Lastly, for the counteracquiescent condition, all scales deviated by at least one SEM. The highest level of deviation was seen with RC2 at five SEM's. The remaining RC scales deviated by at least one SEM, with RC6 (60%) and RC8 (70%) reaching one SEM of score deviation at high levels of false response insertion.

Table 34

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RCd, RC1 and RC2 – Forensic Sample - Combined Gender

Response Insertion Percentage	RCd dem			RC1 som			RC2 lpe		
	M	(SD)	95%CI	M	(SD)	95%CI	M	(SD)	95% CI
0% (R)	49.7	(11.5)	[48.7, 50.7]	50.9	(9.6)	[50.0, 51.7]	50.1	(10.1)	[49.2, 51.0]
0% (T)	49.7	(11.5)	[48.7, 50.7]	50.9	(9.6)	[50.0, 51.7]	50.1	(10.1)	[49.2, 51.0]
0% (F)	49.7	(11.5)	[48.7, 50.7]	50.9	(9.6)	[50.0, 51.7]	50.1	(10.1)	[49.2, 51.0]
10% (R)	50.4	(10.2)	[49.5, 51.2]	52.2	(8.9)	[51.4, 53.0]	51.4	(9.6)	[50.5, 52.2]
10% (T)	52.4	(10.)5	[51.5, 53.3]	52.0	(9.0)	[51.2, 52.9]	49.5	(9.3)	[48.6, 50.3]
10% (F)	48.4	(10.3)	[47.5, 49.3]	52.2	(8.6)	[51.4, 53.0]	53.5	(9.4)	[52.7, 54.4]
20% (R)	50.9	(9.3)	[50.1, 51.7]	53.6	(8.2)	[52.9, 54.4]	53.0	(9.5)	[52.2, 54.0]
20% (T)	55.0[a]	(9.9)	[54.1, 55.9]	53.4	(8.4)	[52.6, 54.2]	48.9	(8.8)	[48.1, 49.7]
20% (F)	47.1	(9.1)	[46.4, 47.9]	53.6	(7.9)	[52.9, 54.3]	56.8[a]	(9.1)	[56.0, 57.7]
30% (R)	51.4	(8.3)	[50.7, 52.1]	55.0	(7.9)	[54.3, 55.8]	53.7	(9.0)	[52.9, 54.5]
30% (T)	57.2[a]	(9.7)	[56.4, 58.0]	54.4	(8.1)	[53.8, 55.2]	48.2	(8.1)	[47.5, 49.0]
30% (F)	45.7[a]	(7.6)	[45.1, 46.3]	54.7	(7.5)	[54.1, 55.4]	60.1[a]	(9.0)	[59.3, 61.0]
40% (R)	51.9	(7.8)	[51.2, 52.5]	56.0[a]	(7.5)	[55.3, 56.7]	55.4	(8.6)	[54.6, 56.2]
40% (T)	59.8[b]	(9.1)	[58.9, 60.6]	55.5	(7.5)	[54.9, 56.2]	47.4	(7.6)	[46.7, 48.1]
40% (F)	44.7[a]	(6.8)	[44.2, 45.3]	56.1[a]	(6.7)	[55.5, 56.7]	63.7[b]	(9.1)	[62.8, 64.5]
50% (R)	52.6	(7.2)	[51.9, 53.2]	57.3[a]	(7.1)	[56.7, 58.0]	56.9[a]	(8.6)	[56.1, 57.7]
50% (T)	62.9[c]	(8.7)	[62.1, 63.7]	56.6[a]	(6.9)	[55.9, 57.2]	46.9	(6.9)	[46.3, 47.5]
50% (F)	43.6[a]	(6.0)	[43.1, 44.1]	57.6[a]	(6.2)	[57.1, 58.2]	67.4[b]	(9.0)	[66.6, 68.2]
60% (R)	52.6	(6.4)	[52.0, 53.1]	58.9[a]	(6.9)	[58.3, 59.6]	57.9[a]	(8.4)	[57.2, 58.6]
60% (T)	66.1[c]	(7.9)	[65.4, 66.8]	57.5[a]	(6.2)	[56.9, 58.1]	46.2	(6.5)	[45.6, 46.8]
60% (F)	42.5[a]	(5.1)	[42.0, 42.9]	58.9[a]	(5.6)	[58.4, 59.4]	71.3[c]	(8.3)	[70.5, 72.0]
70% (R)	53.5	(5.7)	[53.0, 54.0]	60.0[a]	(7.1)	[59.4, 60.7]	58.9[a]	(8.4)	[58.1, 59.7]
70% (T)	69.5[d]	(6.7)	[68.9, 70.1]	58.7[a]	(5.5)	[58.2, 59.2]	45.4	(5.6)	[44.9, 45.9]
70% (F)	41.3[b]	(4.2)	[40.9, 41.7]	60.8[b]	(5.3)	[60.3, 61.2]	75.1[c]	(7.5)	[74.3, 75.7]
80% (R)	53.8	(5.6)	[53.3, 54.4]	62.0[b]	(7.0)	[61.4, 62.7]	60.5[a]	(8.7)	[59.7, 61.3]
80% (T)	73.2[e]	(5.5)	[72.7, 73.7]	59.9[a]	(4.6)	[59.5, 60.3]	44.7	(4.5)	[44.3, 45.1]
80% (F)	40.0[b]	(3.5)	[39.7, 40.3]	62.6[b]	(4.6)	[62.2, 63.0]	78.9[d]	(6.3)	[78.3, 79.5]

Table 34 Continued

Response Insertion Percentage	RCd dem M	(SD)	95%CI	RC1 som M	(SD)	95%CI	RC2 lpe M	(SD)	95% CI
90% (R)	54.6[a]	(5.3)	[54.1, 55.0]	63.5[b]	(7.2)	[62.9, 64.2]	62.2[a]	(8.9)	[61.3, 62.9]
90% (T)	77.1[f]	(3.7)	[76.7, 77.4]	61.2[b]	(3.5)	[60.9, 61.6]	44.2	(3.3)	[43.9, 44.5]
90% (F)	38.8[b]	(2.5)	[38.5, 39.0]	64.2[b]	(3.1)	[63.9, 64.5]	82.5[e]	(4.9)	[82.0, 83.0]
100% (R)	55.2[a]	(5.1)	[54.7, 55.7]	64.2[b]	(7.1)	[63.5, 64.8]	63.2[b]	(8.6)	[62.4, 64.0]
100% (T)	80.6[g]	(0.0)	[80.6, 80.6]	62.8[b]	(0.0)	[62.8, 62.8]	43.8	(0.0)	[43.8, 43.8]
100% (F)	37.3[c]	(0.0)	[37.3, 37.3]	65.9[c]	(0.0)	[65.9, 65.9]	86.7[e]	(0.0)	[86.7, 86.7]

Note. N =460; RC = Restructured Clinical; R = Random; T= True; F = False; dem = Demoralization; som = Somatic Complaints; lpe = Low Positive Emotions.
[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 35

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores for RC3, RC4 and RC6 - Forensic Sample – Combined Gender

Response Insertion Percentage	RC3 cyn			RC4 asb			RC6 per		
	M	(SD)	95%CI	M	(SD)	95%CI	M	(SD)	95%CI
0% (R)	55.3	(11.0)	[54.2, 56.3]	60.2	(9.7)	[59.4, 61.2]	55.4	(11.3)	[54.4, 56.4]
0% (T)	55.3	(11.0)	[54.2, 56.3]	60.2	(9.7)	[59.4, 61.2]	55.4	(11.3)	[54.4, 56.4]
0% (F)	55.3	(11.0)	[54.2, 56.3]	60.2	(9.7)	[59.4, 61.2]	55.4	(11.3)	[54.4, 56.4]
10% (R)	54.2	(10.1)	[53.2, 55.1]	60.9	(9.6)	[60.0, 61.9]	56.0	(10.8)	[55.0, 56.9]
10% (T)	56.8	(10.9)	[55.8, 57.8]	62.9	(9.7)	[62.0, 63.8]	57.7	(11.1)	[56.7, 58.7]
10% (F)	51.6	(9.6)	[50.7, 52.5]	58.6	(8.7)	[57.8, 59.4]	54.1	(10.3)	[53.2, 55.0]
20% (R)	53.2	(10.0)	[52.2, 54.2]	60.9	(8.7)	[60.2, 61.8]	56.7	(10.4)	[55.7, 57.6]
20% (T)	58.4	(10.5)	[57.4, 59.4]	66.2[a]	(9.5)	[65.3, 67.1]	60.3	(10.4)	[59.4, 61.3]
20% (F)	48.7[a]	(8.0)	[47.9, 49.4]	56.9	(7.8)	[56.2, 57.6]	53.0	(9.5)	[52.1, 53.9]
30% (R)	52.4	(9.0)	[51.5, 53.3]	61.2	(8.2)	[60.5, 62.1]	56.6	(9.6)	[55.8, 57.5]
30% (T)	60.6	(10.5)	[59.6, 61.6]	69.0[a]	(9.0)	[68.2, 69.8]	63.0[a]	(10.4)	[62.1, 63.9]
30% (F)	46.2[a]	(6.7)	[45.5, 46.8]	55.1[a]	(6.7)	[54.5, 55.7]	51.9	(8.7)	[51.1, 52.7]
40% (R)	51.8	(8.4)	[51.0, 52.6]	61.5	(8.0)	[60.7, 62.2]	57.5	(9.2)	[56.7, 58.4]
40% (T)	62.8[a]	(10.4)	[61.8, 63.8]	72.2[b]	(8.6)	[71.4, 73.0]	65.3[a]	(10.1)	[64.4, 66.2]
40% (F)	44.0[a]	(5.7)	[43.4, 44.5]	53.4[a]	(5.7)	[52.9, 53.9]	50.9	(8.0)	[50.2, 51.6]
50% (R)	50.6	(8.1)	[49.9, 51.3]	61.9	(7.7)	[61.2, 62.7]	57.6	(8.5)	[56.9, 58.4]
50% (T)	64.9[a]	(10.0)	[64.0, 65.9]	75.9[c]	(8.0)	[75.1, 76.6]	68.1[a]	(9.5)	[67.3, 69.0]
50% (F)	41.9[b]	(4.7)	[41.5, 42.3]	51.8[a]	(4.5)	[51.4, 52.2]	49.7	(6.8)	[49.1, 50.3]
60% (R)	49.7	(7.2)	[49.0, 50.4]	62.5	(7.4)	[61.8, 63.2]	59.0	(8.3)	[58.3, 59.8]
60% (T)	67.4[a]	(9.0)	[66.6, 68.1]	79.0[c]	(7.3)	[78.4, 79.7]	70.9[b]	(9.0)	[70.1, 71.7]
60% (F)	40.2[b]	(4.2)	[39.8, 40.6]	50.5[b]	(3.8)	[50.1, 50.9]	48.7[a]	(5.9)	[48.1, 49.2]
70% (R)	48.5	(6.5)	[47.9, 49.2]	63.1	(7.3)	[62.4, 63.7]	59.9	(8.8)	[59.1, 60.8]
70% (T)	69.7[b]	(8.1)	[68.9, 70.4]	81.9[d]	(6.4)	[81.3, 82.5]	73.6[b]	(7.9)	[72.9, 74.3]
70% (F)	38.5[b]	(4.0)	[38.2, 38.9]	49.2[b]	(3.3)	[48.9, 49.5]	47.8[a]	(5.0)	[47.4, 48.3]
80% (R)	48.4[a]	(6.5)	[47.8, 49.0]	63.2	(7.2)	[62.5, 63.9]	60.2	(8.2)	[59.6, 61.0]
80% (T)	71.8[b]	(6.9)	[71.2, 72.4]	85.3[d]	(5.2)	[84.8, 85.8]	76.4[c]	(6.5)	[75.8, 77.0]
80% (F)	36.5[b]	(3.5)	[36.2, 36.9]	47.9[b]	(2.8)	[47.6, 48.1]	46.9[a]	(4.1)	[46.6, 47.3]

Table 35 Continued

Response Insertion Percentage	RC3 cyn M	(SD)	95%CI	RC4 asb M	(SD)	95%CI	RC6 per M	(SD)	95%CI
90% (R)	48.1[a]	(6.2)	[47.6, 48.7]	63.7	(7.0)	[63.0, 64.4]	60.5	(7.9)	[59.8, 61.3]
90% (T)	74.6[b]	(4.8)	[74.1, 75.0]	88.6[e]	(3.7)	[88.2, 88.9]	79.3[c]	(4.7)	[78.9, 79.8]
90% (F)	34.5[c]	(2.9)	[34.2, 34.7]	46.4[c]	(2.2)	[46.2, 46.7]	45.9[a]	(3.0)	[45.6, 4 6.1]
100% (R)	47.1[a]	(6.2)	[46.5, 47.7]	64.2	(6.9)	[63.6, 64.8]	61.0	(8.5)	[60.3, 61.8]
100% (T)	76.9[c]	(0.0)	[76.9, 76.9]	91.7[f]	(0.0)	[91.7, 91.7]	82.5[d]	(0.0)	[82.5, 82.5]
100% (F)	32.1[c]	(0.0)	[32.1, 32.1]	44.9[c]	(0.0)	[44.9, 44.9]	44.7[a]	(0.0)	[44.7, 44.7]

Note. N =460; RC = Restructured Clinical; Random; T= True; F = False; cyn = Cynicism; asb = Antisocial Behavior; per = Ideas of Persecution.
[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

Table 36

The Effects of Varying Degrees of Random, True, and False Response Insertion on Mean RC Scale T-Scores forRC7, RC8 and RC9 - Forensic Sample – Combined Gender

Response Insertion Percentage	RC7 dne			RC8 abx			RC9 hpm		
	M	(SD)	95%CI	M	(SD)	95%CI	M	(SD)	95%CI
0% (R)	47.4	(9.0)	[46.5, 48.2]	51.8	(11.9)	[50.8, 52.9]	45.8	(9.0)	[45.0, 46.7]
0% (T)	47.4	(9.0)	[46.5, 48.2]	51.8	(11.9)	[50.8, 52.9]	45.8	(9.0)	[45.0, 46.7]
0% (F)	47.4	(9.0)	[46.5, 48.2]	51.8	(11.9)	[50.8, 52.9]	45.8	(9.0)	[45.0, 46.7]
10% (R)	47.9	(8.3)	[47.1, 48.7]	54.1	(11.4)	[53.1, 55.2]	46.1	(8.9)	[45.3, 46.9]
10% (T)	49.8	(8.7)	[49.0, 50.6]	57.2	(11.6)	[56.2, 58.3]	47.3	(9.1)	[46.4, 48.1]
10% (F)	45.7	(7.9)	[45.0, 46.4]	50.9	(11.0)	[50.0, 51.9]	44.3	(8.0)	[43.5, 45.0]
20% (R)	48.2	(8.1)	[47.4, 48.9]	56.1	(11.2)	[55.1, 57.1]	45.8	(8.2)	[45.0, 46.5]
20% (T)	52.3	(8.8)	[51.5, 53.1]	61.7[a]	(11.2)	[60.6, 62.7]	48.7	(8.9)	[48.0, 49.6]
20% (F)	44.3	(7.1)	[43.6, 44.9]	50.2	(10.3)	[49.3, 51.1]	42.8	(6.7)	[42.3, 43.5]
30% (R)	48.4	(7.6)	[47.7, 49.1]	57.4	(10.3)	[56.4, 58.3]	45.9	(7.9)	[45.2, 46.7]
30% (T)	54.9[a]	(9.0)	[54.1, 55.7]	66.3[b]	(10.1)	[65.3, 67.4]	50.2[a]	(8.5)	[49.4, 51.0]
30% (F)	42.8[a]	(6.5)	[42.3, 43.4]	49.0	(9.5)	[48.2, 49.8]	41.7	(6.2)	[41.2, 42.3]
40% (R)	48.9	(7.2)	[48.3, 49.6]	60.2[a]	(10.4)	[59.3, 61.3]	45.3	(7.1)	[44.7, 46.0]
40% (T)	57.7[a]	(8.9)	[57.0, 58.5]	71.2[b]	(11.0)	[70.2, 72.2]	51.9[a]	(8.4)	[51.1, 52.7]
40% (F)	41.6[a]	(6.0)	[41.0, 42.1]	47.9	(8.5)	[47.1, 48.6]	40.8	(5.4)	[40.3, 41.3]
50% (R)	49.5	(6.9)	[49.0, 50.2]	63.0[a]	(9.8)	[62.0, 63.9]	46.0	(7.6)	[45.2, 46.7]
50% (T)	61.2[b]	(8.9)	[60.4, 62.0]	76.0[c]	(10.3)	[75.1, 77.0]	53.7[a]	(8.5)	[52.9, 54.5]
50% (F)	40.1[a]	(5.2)	[39.7, 40.6]	46.9	(7.7)	[46.3, 47.6]	39.7[a]	(4.7)	[39.2, 40.1]
60% (R)	49.5	(7.0)	[48.8, 50.1]	64.5[a]	(9.9)	[63.6, 65.4]	46.0	(7.6)	[45.4, 46.8]
60% (T)	65.1[c]	(8.8)	[64.3, 65.9]	80.6[d]	(9.6)	[79.7, 81.4]	55.5[a]	(8.4)	[54.8, 56.3]
60% (F)	38.8[a]	(4.6)	[38.4, 39.2]	46.2	(7.0)	[45.6, 46.8]	38.6[a]	(4.3)	[38.2, 39.0]
70% (R)	50.3	(6.7)	[49.7, 50.9]	66.8[b]	(9.8)	[65.8, 67.6]	45.8	(6.7)	[45.2, 46.4]
70% (T)	69.0[d]	(8.0)	[68.3, 69.7]	85.3[e]	(9.1)	[84.4, 86.1]	57.8[a]	(8.2)	[57.1, 58.6]
70% (F)	37.2[b]	(4.1)	[36.8, 37.5]	45.1[a]	(6.0)	[44.6, 45.7]	37.7[a]	(3.9)	[37.3, 38.0]
80% (R)	50.7	(6.3)	[50.1, 51.3]	68.0[b]	(9.8)	[67.0, 68.8]	45.8	(6.9)	[45.1, 46.4]
80% (T)	73.2[d]	(6.8)	[72.6, 73.8]	90.0[e]	(7.6)	[89.3, 90.8]	60.5[b]	(7.5)	[59.9, 61.2]
80% (F)	35.5[b]	(3.5)	[35.2, 35.8]	44.1[a]	(5.1)	[43.7, 44.6]	36.7[a]	(3.1)	[36.4, 37.0]

Table 36 Continued

Response Insertion Percentage	RC7 dne M	(SD)	95%CI	RC8 abx M	(SD)	95%CI	RC9 hpm M	(SD)	95%CI
90% (R)	51.0	(6.7)	[50.4, 51.6]	70.0[b]	(10.0)	[69.1, 70.9]	45.4	(6.3)	[44.9, 46.0]
90% (T)	77.5[e]	(5.0)	[77.1, 77.9]	95.1[f]	(5.5)	[94.5, 95.6]	63.3[b]	(5.4)	[62.8, 63.8]
90% (F)	34.1[b]	(2.6)	[33.9, 34.3]	43.0[a]	(3.7)	[42.7, 43.4]	35.8[a]	(2.2)	[35.6, 36.0]
100% (R)	52.5	(6.8)	[51.9, 53.1]	71.8[c]	(9.7)	[70.9, 72.7]	46.3	(6.8)	[45.7, 46.9]
100% (T)	81.7[f]	(0.0)	[81.7, 81.7]	99.6[g]	(0.0)	[99.6, 99.6]	66.1[c]	(0.0)	[66.1, 66.1]
100% (F)	32.3[b]	(0.0)	[32.3, 32.3]	41.7[a]	(0.0)	[41.7, 41.7]	34.9[a]	(0.0)	[34.9, 34.9]

Note. N =460; RC = Restructured Clinical; Random; T= True; F = False; dne = Dysfunctional Negative Emotions; abx = Aberrant Experiences; hpm = Hypomanic Activation.

[A, b, c, d, e, f, g]: The mean score differs from the 0% random, acquiescent, or counteracquiescent mean score by one, two, three, four, five, six, or seven times that scale's standard error of measurement.

External Correlates. Correlations between MMPI-A-RF RC Scales and external variables, including scales from the CBCL, DBRS, and YSR, are included in Tables 37-40. In general, correlations between RC Scales and external correlates showed decreasing strength when presented with increasing levels of random, true, and false responding. There are a few exceptions to this trend, seen in Tables 33 and 34. Overall, however, increasing levels of response insertion led to attenuated relationships between the scales.

In general, these scale pairings were robust to simulated response insertion through the 30% (random), 40% (false), and 50% (true) conditions. The scale pairings most impacted by all three types of non-content-based responding were RCd-CBCL Anxious/Depressed, RC4-CBCL Rule-Breaking Behavior, RC4-CBCL Externalizing, and RC4-DBRS Conduct Disorder.

For RC scale and YSR correlations (Tables 39 and 40), increasing levels of random, true, and false response insertion again had the general effect of decreasing correlation strength among the scale pairings. There were again a few exceptions to this general trend, which can be viewed in Tables 39 and 40. All RC scale and YSR scale pairings started with a correlation of .4 or above with the exception of RC2-YSR Withdrawn/Depressed (for males only) and RC9-YSR Internalizing (for females only).

These scale pairings were generally robust to simulated response insertion through the 10% (random), 30% (true), and 40% (false) conditions before correlation values began to noticeably degrade. The scale pairings most impacted were RCd-YSR Anxious/Depressed, RCd-YSR Internalizing, RC7-YSR Anxious/Depressed, and RC7-YSR Internalizing.

Table 37

The Effects of Varying Degrees of Random, True, and False Response Insertion on Correlations between Select MMPI-A-RF RC Scales and CBCL/DBRS Scales -Males and Females

Response Insertion Percentage	RCd[a] M/F	RCd[b] M/F	RCd[e] M/F	RC1[c] M/F	RC2[b] M/F	RC2[e] M/F
0% (R)	.24**/.33**	.12/.25**	.20**/.34**	.01/.22**	.12/.23**	.12/.21**
0% (T or F)	.24**/.33**	.12/.25**	.20**/.34**	.01/.22**	.12/.23**	.12/.21**
10% (R)	.24**/.36**	.12/.27**	.20**/.36**	.03/.21**	.08/.22**	.10/.20*
10% (T)	.24**/.33**	.12/.24**	.20**/.34**	.04/.18*	.10/.23**	.12/.20*
10% (F)	.25**/.34**	.13/.26**	.21**/.35**	.01/.22**	.11/.23**	.13*/.25**
20% (R)	.27**/.29**	.20**/.22**	.26**/.30**	-.02/.20*	.11/.30**	.10/.28**
20% (T)	.22**/.31**	.12/.22**	.18**/.31**	.05/.20*	.08/.24**	.09/.21**
20% (F)	.22**/.33**	.11/.24**	.18**/.34**	.05/.27**	.12/.20*	.15*/.20*
30% (R)	.23**/.33**	.14*/.27**	.20**/.34**	.02/.16*	.10/.28**	.09/.19*
30% (T)	.23**/.31**	.11/.21**	.17**/.30**	.06/.21**	.09/.25**	.12/.21**
30% (F)	.22**/.35**	.11/.23**	.18**/.36**	.05/.23**	.14*/.19*	.16*/.19*
40% (R)	.18**/.27**	.09/.20*	.15*/.30**	.03/.18*	.04/.16*	-.01/.19*
40% (T)	.23**/.32**	.12/.20*	.18**/.30**	.10/.17*	.03/.22**	.09/.18*
40% (F)	.22**/.33**	.10/.20*	.18**/.32**	.03/.21*	.12/.17*	.13/.22**
50% (R)	.14*/.19*	.04/.17*	.13*/.19*	-.22/.10	.03/.11	.06/.05
50% (T)	.24**/.29**	15*/.21*	.19**/.28**	.06/.18*	.00/.27**	.07/.22**
50% (F)	.18**/.27**	.07/.16	.15*/.27**	.04/.21**	.12/.14	.15*/.21**
60% (R)	.12/.08	.08/.16	.11/.11	-.06/.13	.12/.13	.12/.14
60% (T)	.20**/.31**	.12/.20*	.17*/.28**	.06/.25**	-.01/.31**	.03/.24**
60% (F)	.17*/.20*	.03/.08	.11/.21*	.04/.17*	.09/.10	.11/.13
70% (R)	.12/.12	.11/.05	.13/.11	.01/.10	-.02/.14	.03/.04
70% (T)	.18**/.25**	.10/.17*	.14*/.23**	.07/.28**	-.04/.27**	-.02/.17*
70% (F)	.13/.16*	.02/.06	.08/.19*	.02/.20*	.04/.15	.10/.16
80% (R)	.16*/.18*	.01/.19*	.11/.19*	.06/.09	.05/.03	.04/.11
80% (T)	.09/.21**	.03/.17*	.06/.20*	.06/.23**	-.06/.12	-.03/.12
80% (F)	.03/.10	-.00/.02	.01/.11	.03/.30**	.04/.15	.07/.13
90% (R)	.08/.07	.16*/-.04	.12/.06	-.15*/.	-.05/.16*	-.04/.06

Table 37 Continued

Response Insertion Percentage	RCd[a] M/F	RCd[b] M/F	RCd[e] M/F	RC1[c] M/F	RC2[b] M/F	RC2[e] M/F
90% (T)	.07/.19*	.01/.11	.02/.18*	.14*/.19	-.08/.00	-.07/-.03
90% (F)	.03/.09	-.02/.06	-.00/.09	.03/.19*	.06/.09	.03/.14
100% (R)	.06/-.06	-.02/-.03	.04/-.03	-.11/-.04	-.04/-.05	-.07/-.04

Note. ** = significant at .01 level; * = significant at .05 level; RC = Restructured Clinical; CBCL = Child Behavior Checklist; DBRS = Disruptive Behavior Rating Scale; CBCL *n*=226 for males and *n*=155 for females; DBRS *n* = 225-228 for males and *n*=152 for females; R = Random; T= True; F = False; RCd = Demoralization; RC1 = Somatic Complaints; RC2 = Low Positive Emotions; RC4 = Antisocial Behavior; RC7 = Dysfunctional Negative Emotions; a = CBCL Anxious/Depressed; b = CBCL Withdrawn/Depressed; c = CBCL Somatic Complaints; d = CBCL Rule-Breaking Behavior; e = CBCL Internalizing; f = CBCL Externalizing; g = DBRS Conduct Disorder; h = DBRS Oppositional Defiant Disorder; 100% True and False cannot be calculated because the TRIN-r scores are constant.

Table 38

The Effects of Varying Degrees of Random, True, and False Response Insertion on Correlations between Additional Select MMPI-A-RF RC Scales and CBCL/DBRS Scales -Males and Females

Response Insertion Percentage	RC4[d] M/F	RC4[f] M/F	RC7[a] M/F	RC4[g] M/F	RC4[h] M/F
0% (R)	.35**/.43**	.28**/.32**	.16*/.22**	.27**/.33**	.13*/.20*
0% (T or F)	.35**/.43**	.28**/.32**	.16*/.22**	.27**/.33**	.13*/.20*
10% (R)	.31**/.41*	.24**/.29**	.17*/.21**	.24**/.31**	.11/.17*
10% (T)	.30**/.45**	.25**/.34**	.17*/.18*	.25**/.34**	.13*/.20*
10% (F)	.32**/.41**	.25**/.29**	.15*/.24**	.26**/.30**	.11/.19*
20% (R)	.28**/.37**	.22**/.25**	.11/.13	.26**/.29**	.11/.18*
20% (T)	.30**/.38**	.26**/.26**	.15*/.18*	.25**/.29*	.12/.16
20% (F)	.35**/.41**	.27**/.26**	.14*/.24**	.25**/.28*	.12/.15
30% (R)	.31**/.30**	.27**/.21*	.12/.16*	.21**/.19**	.14*/.17*
30% (T)	.26**/.35**	.21**/.24*	.13/.19*	.25**/.27**	.11/.15
30% (F)	.34**/.36**	.28*8/.21**	.15*/.26**	.24**/.23**	.11/.08
40% (R)	.32**/.39**	.23**/.29**	.12/.11	.20**/.27**	.09/.17*
40% (T)	.29**/.32**	.25**/.20*	.13*/.17*	.26**/.25**	.13/.12
40% (F)	.33**/.34**	.28**/.20*	.13/.23**	.23**/.25**	.10/.06
50% (R)	.25**/.31**	.18**/.26**	.20**/.13	.21**/.28**	.04/.19*
50% (T)	.27**/.31**	.24**/.20*	.12/.13	.26**/.25**	.13/.13
50% (F)	.29**/.30**	.25**/.19*	.15*/.26**	27**/.25**	.08/.06
60% (R)	.29**/.23**	.18**/.21**	.13/.18*	.16*/.12	.04/.13
60% (T)	.23**.31**	.20**/.19*	.10/.13	.21**/.25**	.10/.16*
60% (F)	.26**/.25**	.25**/.18*	.18**/.23**	.30**/.27**	.11/.11
70% (R)	.13*/.14	.03/.12	.04/.12	.09/.12	-.05/.07
70% (T)	.15*/.26**	.15*/.16*	.05/.11	.13/.20*	.07/.12
70% (F)	.24**/.17*	.24**/.12	.18**/.21**	.27**/.20*	.10/.09
80% (R)	.18**/.08	.13/.11	.04/.09	.17*/.14	.01/.19*
80% (T)	.18**/.26**	18**/.21*	.03/.10	.18**/.25**	.09/.17*
80% (F)	.16*/.10	.19**/.05	.23**/.11	.26**/.14	.13/-.01
90% (R)	.07/-.11	.09/-.08	-.02/.16*	.02/.02	-.02/-.01

Table 38 Continued

Response Insertion Percentage	RC4[d] M/F	RC4[f] M/F	RC7[a] M/F	RC4[g] M/F	RC4[h] M/F
90% (T)	.14*/.09	.15*/.07	-.02/.02	.18**/.09	.12/.09
90% (F)	.08/.09	.09/.06	.23**/.07	.14*/.11	.08/.03
100% (R)	.07/.00	.11/.04	-.03/-.07	.02/.07	.14*/.02

Note. ** = significant at .01 level; * = significant at .05 level; RC = Restructured Clinical; CBCL = Child Behavior Checklist; DBRS = Disruptive Behavior Rating Scale; CBCL *n*=226 for males and *n*=155 for females; DBRS *n* = 225-228 for males and *n*=152 for females; R = Random; T= True; F = False; RCd = Demoralization; RC1 = Somatic Complaints; RC2 = Low Positive Emotions; RC4 = Antisocial Behavior; RC7 = Dysfunctional Negative Emotions; a = CBCL Anxious/Depressed; b = CBCL Withdrawn/Depressed; c = CBCL Somatic Complaints; d = CBCL Rule-Breaking Behavior; e = CBCL Internalizing; f = CBCL Externalizing; g = DBRS Conduct Disorder; h = DBRS Oppositional Defiant Disorder; 100% True and False cannot be calculated because the TRIN-r scores are constant.

Table 39

The Effects of Varying Degrees of Random, True, and False Response Insertion on Correlations between Select MMPI-A-RF RC Scales and YSR Scales- Males and Females

Response Insertion Percentage	RCd[a] M/F	RCd[b] M/F	RCd[g] M/F	RC1[c] M/F	RC2[b] M/F	RC4[d] M/F
0% (R)	.61**/.68**	.52**/.64**	.64**/.71**	.53**/.61**	.20**/.47**	.59**/.64**
0% (T or F)	.61**/.68**	.52**/.64**	.64**/.71**	.53**/.61**	.20**/.47**	.59**/.64**
10% (R)	.59**/.66**	.50**/.62**	.62**/.69**	.48**/.60**	.19**/.43**	.54**/.60**
10% (T)	.59**/.67**	.50**/.61**	.62**/.69**	.51**/.62**	.20**/.43**	.56**/.61**
10% (F)	.60**/.69**	.51**/.63**	.64**/.71**	.50**/.63**	.17*/.45**	.57**/.63**
20% (R)	.54**/.67**	.48**/.61**	.59**/.70**	.43**/.55**	.19**/.42**	.50**/.62**
20% (T)	.57**/.64**	.49**/.57**	.61**/.67**	.48**/.62**	.18**/.39**	.49**/.54**
20% (F)	.60**/.69**	.51**/.61**	.64**/.69**	.49**/.59**	.17*/.40**	.57**/.61**
30% (R)	.51**/.64**	.46**/.63**	.53**/.67**	.42**/.55**	.11/.33**	.46**/.55**
30% (T)	.55**/.63**	.48**/.57**	.59**/.65**	.49**/.58**	.17*/.36**	.44**/.54**
30% (F)	.59**/.70**	.51**/.62**	.63**/.70**	.49**/.58**	.16*/.38**	.53**/.57**
40% (R)	.48**/.56**	.44**/.54**	.52**/.59**	.36**/.51**	.13/.34**	.48**/.55**
40% (T)	.52**/.61**	.45**/.55**	.56**/.63**	.45**/.51**	.09/.33**	.44**/.48**
40% (F)	.58**/.68**	.48**/.57**	.62**/.67**	.48**/.55**	.12/.40**	.50**/.54**
50% (R)	.46**/.55**	.37**/.47**	.51**/.57**	.41**/.46**	.18**/.30**	.35**/.44**
50% (T)	.48**/.57**	.41**/.50**	.51**/.57**	.39**/.46**	.11/.35**	.37**/.45**
50% (F)	.56**/.64**	.47**/.53**	.59**/.64**	.42**/.51**	.15*/.40**	.47**/.49**
60% (R)	.39**/.46**	.36**/.46**	.42**/.48**	.20**/.28**	.07/.27**	.36**/.34**
60% (T)	.45**/.56**	.35**/.48**	.46**/.56**	.33**/.39**	.12/.39**	.35**/.43**
60% (F)	.53**/.60**	.42**/.49**	.53**/.60**	.38**/.49**	.08/.42**	.39**/.64**
70% (R)	.36**/.46**	.30**/.43**	.37**/.47**	.16*/.32**	.05/.20*	.31**/.38**
70% (T)	.40**/.54**	.29**/.47**	.39**/.54**	.27**/.36**	.07/.37**	.35**/.34**
70% (F)	.52**/.58**	.38**/.56**	.51**/.57**	.37**/.46**	.10/.40**	.31**/.49**
80% (R)	.28**/.36**	.30**/.36**	.33**/.41**	.23**/.15	-.09/.22**	.10/.06
80% (T)	.33**/.46**	.27**/.41**	.33**/.48**	.25**/.32**	-.01/.25**	.27**/.28**
80% (F)	.43**/.45**	.27**/.36**	.40**/.48**	.32**/.46**	.06/.27**	.23**/.45**
90% (R)	.09/.20*	.14*/.06	.13/.19*	.09/.07	.07/.12	-.02/.07

Table 39 Continued

Response Insertion Percentage	RCd[a] M/F	RCd[b] M/F	RCd[g] M/F	RC1[c] M/F	RC2[b] M/F	RC4[d] M/F
90% (T)	.27**/.43**	.26**/.30**	.30**/.41**	.22**/.30**	-.04/.25**	.18*/.07
90% (F)	.34**/.33**	.15*/.28**	.27**/.37**	.23**/.45**	.08/.22**	.16**/.25**
100% (R)	-.08/.-.03	-.13/-.03	-.09/-.05	-.01/-.13	-.01/-.04	.08/.01

Note. ** = significant at .01 level; * = significant at .05 level; RC = Restructured Clinical; CBCL = Child Behavior Checklist; DBRS = Disruptive Behavior Rating Scale; *n* = 207 for males and *n* = 158 for females; R = Random; T= True; F = False; RCd = Demoralization; RC1 = Somatic Complaints; RC2 = Low Positive Emotions; RC4 = Antisocial Behavior; RC7 = Dysfunctional Negative Emotions; a = YSR Anxious/Depressed; b = YSR Withdrawn/Depressed; c = YSR Somatic Complaints; d = YSR Rule-Breaking Behavior; e = YSR Aggressive Behavior; f = YSR Externalizing; g = YSR Internalizing; 100% True and False cannot be calculated because the TRIN-r scores are constant.

Table 40

The Effects of Varying Degrees of Random, True, and False Response Insertion on Correlations between Additional Select MMPI-A-RF RC Scales and YSR Scales- Males and Females

Response Insertion Percentage	RC4[e] M/F	RC4[f] M/F	RC7[a] M/F	RC7[g] M/F	RC9[e] M/F
0% (R)	.46**/.49**	.56**/.61**	.61**/.59**	.60**/.54**	.40**/.36**
0% (T or F)	.46**/.49**	.56**/.61**	.61**/.59**	.60**/.54**	.40**/.36**
10% (R)	.44**/.47**	.53**/.58**	.56**/.58**	.57**/.52**	.39**/.32**
10% (T)	.44**/.46**	.54**/.57**	.58**/.56**	.57**/.52**	.36**/.33**
10% (F)	.44**/.48**	.54**/.60**	.60**/.60**	.58**/.56**	.36**/.34**
20% (R)	.39**/.46**	.48**/.58**	.58**/.45**	.56**/.41**	.41**/.29**
20% (T)	.36**/.43**	.45**/.53**	.56**/.56**	.56**/.50**	.33**/.26**
20% (F)	.42**/.44**	.53**/.57**	.58**/.60**	.56**/.56**	.32**/.32**
30% (R)	.34**/.47**	.43**/.56**	.54**/.37**	.51**/.36**	.39**/.21**
30% (T)	.30**/.44**	.39**/.53**	.53**/.51**	.52**/.44**	.30**/.24**
30% (F)	.40**/.43**	.50**/.54**	.55**/.55**	.53**/.52**	.33**/.30**
40% (R)	.42**/.38**	.49**/.50**	.45**/.40**	.42**/.34**	.31**/.28**
40% (T)	.29**/.40**	.38**/.48**	.41**/.46**	.40**/.38**	.30**/.22**
40% (F)	.37**/.43**	.47**/.52**	.53**/.52**	.51**/.51**	.32**/.30**
50% (R)	.27**/.36**	.33**/.44**	.35**/.35**	.32**/.32**	.25**/.26**
50% (T)	.27**/.36**	.34**/.44**	.42**/.39**	.42**/.31**	.23**/.21**
50% (F)	.32**/.38**	.42**/.47**	.53**/.47**	.50**/.46**	.28**/.23**
60% (R)	.19**/.27**	.28**/.33**	.27**/.35**	.33**/.33**	.17*/.14
60% (T)	.24**/.33**	.31**/.41**	.38**/.38**	.37**/.31**	.19**/.18**
60% (F)	.31**/.37**	.37**/.45**	.47**/.43**	.48**/.43**	.19**/.24**
70% (R)	.31**.27**	.34**/.35**	.34**/.12*	.27**/.13	.22**/.10
70% (T)	.27**/.24**	.33**/.31**	.32**/.37**	.31**/.24**	.14/.16
70% (F)	.28**/.35**	.32**/.45**	.43**/.38**	.42**/.38**	.18**/.23**
80% (R)	.08/.19*	.09/.16	.12/.20*	.16*/.19*	.21**/.11
80% (T)	.19**/.27**	.24**/.30**	.24**/.34**	.24**/.29**	.07/.12
80% (F)	.23**/.34**	.25**/.43**	.34**/.23**	.31**/.25**	.19**/.24**
90% (R)	-.00/.04	-.01/.06	.17*/.22**	.15*/.17*	.04/.01

Table 40 Continued

Response Insertion Percentage	RC4[e] M/F	RC4[f] M/F	RC7[a] M/F	RC7[g] M/F	RC9[e] M/F
90% (T)	.09/.21**	.14*/.17*	.16*/.15	.16*/.10	.00/.08
90% (F)	.22**/.25**	.21**/.28**	.32**/.15	.26**/.16*	.17*/.19*
100% (R)	.07/-.01	.08/.00	-.04/.04	-.04/.07	.09/.00

Note. ** = significant at .01 level; * = significant at .05 level; RC = Restructured Clinical; CBCL = Child Behavior Checklist; DBRS = Disruptive Behavior Rating Scale; *n* = 207 for males and *n* = 158 for females; R = Random; T= True; F = False; RCd = Demoralization; RC1 = Somatic Complaints; RC2 = Low Positive Emotions; RC4 = Antisocial Behavior; RC7 = Dysfunctional Negative Emotions; a = YSR Anxious/Depressed; b = YSR Withdrawn/Depressed; c = YSR Somatic Complaints; d = YSR Rule-Breaking Behavior; e = YSR Aggressive Behavior; f = YSR Externalizing; g = YSR Internalizing; 100% True and False cannot be calculated because the TRIN-r scores are constant.

Moderated Multiple Regression (MMR). A series of moderated multiple regression analyses was conducted to examine how relationships between RC scales and external correlates (DBRS, YSR, CBCL) are moderated by random, acquiescent and nonacquiescent responding. For these analyses, rather than examining the relationship at the 0%-100% levels, the data set was randomly divided in half. The first half of the data set was left unmodified, while the 2nd half of the data set consisted of a high degree (i.e., 80%) of non-content-based responding (random, true, or false). The two halves were then recombined and the moderated multiple regression analyses conducted. Separate regression analyses were conducted for 14 scale pairings at random, true, and false responding. Within these separate regression analyses, each analysis contained three regression equations. Assumptions were checked before the regressions were conducted; violations of assumptions are addressed in more detail in the Discussion section. For all analyses in this section, the assumption of linearity is presumed to be met, given that the criteria for inclusion in these analyses was based on scale correlation and common conceptual underpinnings.

Using random responding (VRIN-r) as a moderator, no outliers were identified as leverage values were all under 0.2 and Cook's Distance values were all under 1 (Laerd Statistics, 2013). Most scale pairings violated the assumption of homoscedasticity, examined through visual inspection of standardized predicted values plotted against standardized residuals (Field, 2009). The exceptions to this were the scale pairings RC4-CNEW7 and RC4-CNEWE. All scale pairings violated the assumption of multicollinearity as VIF values were over 10 (Laerd Statistics, 2013). However, high VIF's can result from both the inclusion of the products of variables and using uncentered variables, both of which apply here (Statistical Horizons, 2012).

It is also noted that uncentered variables do not impact regression results (Kromrey & Foster-Johnson, 1998).

Most pairings violated the assumption of normality of the residuals via visual inspection of normal P-P plots, with exceptions being RC4-CNEWE, RC4-CNEW7, RC4-YNEW7, RC4-YNEWE, and RCd-YNEW2 (Field, 2009). According to Berry & Feldman (1985), however, regression is robust to violations of normality, and the assumption itself is really only critical with very small samples. The independence of observations assumption was met for all pairs based on Durbin-Watson values close to 2 (Field, 2009).

Moderation with TRIN-r True showed no outliers with leverage values all under 0.2 and Cook's Distance values all under 1 (Laerd Statistics, 2013). Most scale pairings violated the assumption of homoscedasticity, examined through visual inspection of standardized predicted values plotted against standardized residuals (Field, 2009). The exceptions to this were the scale pairings RC4-CNEW7 and RC4-CNEWE. All scale pairings violated the assumption of multicollinearity as VIF values were over 10 (Laerd Statistics, 2013), although, again, this can result from the uncentered interaction term (Statistical Horizons, 2012). Most pairings violated the assumption of normality of the residuals via visual inspection of normal P-P plots, with exceptions being RC4-CNEWE, RC4-CNEW7, RC4-YNEW7 and RC4-YNEWE (Field, 2009). As mentioned previously, however, regression is robust to violations of normality (Berry & Feldman, 1985). The independence of observations assumption was met for all pairs based on Durbin-Watson values close to 2 for all pairs (Field, 2009).

Lastly, using TRIN-r False as a moderator, no outliers were identified as leverage values were all under 0.2 and Cook's Distance values were all under 1 (Laerd Statistics, 2013). Most scale pairings violated the assumption of homoscedasticity, examined through visual inspection

of standardized predicted values plotted against standardized residuals (Field, 2009). The exceptions to this were the scale pairings RC4-CNEW7 and RC4-CNEWE. Only one scale pairing (RC1-YNEW3) violated the assumption of no multicollinearity; all 13 other scale pairings met the assumption with VIF values <10 (Laerd Statistics, 2013). Most pairings violated the assumption of normality via visual inspection of normal P-P plots, with exceptions being RC4-CNEWE, RC4-CNEW7, and RC4-YNEWE (Field, 2009). Again, however, regression is robust to violations of normality (Berry & Feldman, 1985). The independence of observations assumption was again met for all pairs based on Durbin-Watson values close to 2 (Field, 2009).

Results from the MMR analyses in the random responding condition are presented in Table 41. RC Scale raw scores, VRIN-r raw scores, and an interaction term derived from the product of RC Scale and VRIN-r raw scores were entered as predictor variables, while YSR, CBCL, and DBRS scales served as the criterion variables. Of the 14 scale pairings, MMR analyses showed a significant overall moderating effect among the variables for 12 pairings. Of those 12 pairings, four showed significant slope differences: RC4/DBRS Conduct, RC4/YNEW7, RC4/YNEW8, and RC4/YNEWE. Another four scale pairings showed significant intercept differences: RCd/CNEW1, RCd/YNEW, RCd/YNEW2, and RC1/YNEW3. There were also three scale pairings that showed significant slope and intercept differences: RCd/CNEWI, RCd/YNEWI, and RC7/YNEW1. The last of the 12 scale pairings to show a significant moderating effect, RC7/YNEWI, did not show either slope or intercept differences. The measure of proportion of variance explained by additional variables (ΔR^2) was large at 15.85% (median).

Further examination indicated significant slope and intercept differences in the expected direction for all involved scale pairings. For those pairs with significant slope differences, mentioned above, results showed that at higher levels of VRIN-r, increases in RC scale scores

were more strongly related to increases in criterion variable scores when compared to lower levels of VRIN-r. For the above-mentioned scale pairings with significant intercept differences, results showed that as RC scale scores increase, criterion scores also increase. Protocols with high VRIN-r scores had higher levels of criterion scale scores at every level of RC scale scores than those protocols with lower levels of VRIN-r scores.

Table 42 includes results of the MMR analyses for the acquiescent responding condition. RC Scale raw scores, TRIN-r True raw scores, and an interaction term derived from the product of those raw scores were entered as predictor variables, while YSR, CBCL, and DBRS scales again served as the criterion variables. Of the 14 scale pairings, MMR analyses showed a significant overall moderating effect among the variables for 13 pairings. The only scale pairing without a significant moderating effect was RC4/CNEWE. Of those 13 pairings with significant moderating effects, one scale (RC4/CONDUCT) showed no significant slope or intercept differences. One scale pairing, RC7/YNEW7, showed both significant slope and significant intercept differences. The remaining 11 scale pairings showed significant intercept differences only. The (ΔR^2) median value was again large at 13.15%.

Further examination indicated significant slope and intercept differences in the expected direction for all involved scale pairings. For the pair with a significant slope difference (RC4-YNEW7), results showed that at higher levels of VRIN-r, increases in RC4 scores were more strongly related to increases in YNEW7 scores when compared to lower levels of VRIN-r. For the above-mentioned scale pairings with significant intercept differences, results showed that as RC scale scores increase, criterion scores also increase. Protocols with high VRIN-r scores had higher levels of criterion scale scores at every level of RC scale scores than those protocols with lower levels of VRIN-r scores.

For the false response condition (Table 43), RC Scale raw scores, TRIN-r False raw scores, and an interaction term derived from the product of those raw scores were entered as predictor variables, while YSR, CBCL, and DBRS scales again served as the criterion variables. Of the 14 scale pairings, MMR analyses showed a significant overall moderating effect among the variables for 11 scale pairings. Of those 11 pairs, six showed significant intercept differences (RC4/CONDUCT, RC4/CNEW7, RC1/YNEW3, RC4/YNEW7, RC7/YNEW1, and RC7/YNEWI). Another five pairings showed both significant slope and significant intercept differences: RCd/YNEW1, RCd/YNEW2, RCd/YNEWI, RC4/YNEW8, and RC4/YNEWE. The (ΔR^2) median value was again large at 18.25%.

Further examination indicated significant slope and intercept differences in the expected direction for all but one of the above-mentioned scale pairings. For those pairs with significant slope differences, mentioned above, results showed that at lower levels of VRIN-r, increases in RC scale scores were more strongly related to increases in criterion variable scores when compared to higher levels of VRIN-r. For the above-mentioned scale pairings with significant intercept differences, results showed that as RC scale scores increased, criterion scores also increased. Protocols with low VRIN-r scores had higher levels of criterion scale scores at every level of RC scale scores than those protocols with higher levels of VRIN-r scores. The only exception to this interpretation was the pairing of RC1-YNEW3, where results were opposite of the expected relationship. In the case of RC1-YNEW3, as RC scale scores increased, criterion scores still also increased. However, protocols with high VRIN-r scores had higher levels of criterion scale scores at every level of RC scale scores than those protocols with lower levels of VRIN-r scores.

Table 41

Results of MMR Analysis on RC Scale with selected YSR, CBCL, and DBRS Pairings Under Conditions of Random Response Insertion - Combined Gender

	Regression 1 (Overall Moderation)	Regression 2 (Slope Difference)		Regression 3 (Intercept Difference)		Regression 4 (Final Model)	
Scale Pairing	*(p)*	*(p)*	ß	*(p)*	ß	ΔR^2	ß
RC4 – CONDUCT	.029*	.03*	-.030	---	---	.051	-.030
RCd – CNEW1	.001**	---	---	<.001 **	-.236	.086	-.030
RCd – CNEWI	<.001 **	.015*	-.102	.002**	-.421	.082	-.102
RC4 – CNEW7	.106	---	---	---	---	.086	-.021
RC4 – CNEWE	.115	---	---	---	---	.047	-.057
RCd – YNEW1	<.001 **	---	---	<.001 **	-.299	.284	-.030
RCd – YNEW2	.020*	---	---	.032*	-.091	.169	-.024
RCd – YNEWI	<.001 **	.012*	-.098	<.001 **	-.516	.276	-.098
RC1 – YNEW3	<.001 **	---	---	<.001 **	-.235	.176	-.030
RC4 – YNEW7	.002**	.002*	-.068	---	---	.181	-.068
RC4 – YNEW8	.020*	.010**	-.085	---	---	.088	-.085
RC4 – YNEWE	.003**	.002**	-.153	---	---	.148	-.153

Table 41 Continued

	Regression 1 (Overall Moderation)	Regression 2 (Slope Difference)		Regression 3 (Intercept Difference)		Regression 4 (Final Model)	
Scale Pairing	*(p)*	*(p)*	ß	*(p)*	ß	ΔR^2	ß
RC7 – YNEW1	<.001 **	.050*	-.062	<.001 **	-.255	.233	-.062
RC7 – YNEWI	.001**	---	---	---	---	.218	-.101

Note. *N*=460; RC Scale = MMPI-A-RF Restructured Clinical Scale; YSR = Youth Self Report; CBCL=Child Behavior Checklist; DBRS=Disruptive Behavior Rating Scale; RCd=Restructured Clinical Scale – Demoralization; RC1= Restructured Clinical Scale – Somatic Complaints; RC4= Restructured Clinical Scale – Antisocial Behavior; RC7= Restructured Clinical Scale – Dysfunctional Negative Emotions; CONDUCT=DBRS Conduct; CNEW1=CBCL Anxious/Depressed; CNEWI=CBCL Internalizing; CNEW7=CBCL Rule-Breaking Behavior; CNEWE=CBCL Externalizing; YNEW1=YSR Anxious/Depressed; YNEWI=YSR Internalizing; YNEW2=YSR Withdrawn/Depressed; YNEW3=YSR Somatic Complaints; YNEWE= YSR Externalizing; YNEW7=YSR Rule-Breaking Behavior; YNEW8=YSR Aggressive Behavior; (*p*) = *p*-value; ß = Unstandardized Regression Coefficient; ΔR^2= change in R^2 from regression equation with one predictor variable only to the final model with both predictors and moderator added; --- = non-significant result.

Table 42

Results of MMR Analysis on RC Scale with selected YSR, CBCL, and DBRS Pairings Under Conditions of True Response Insertion - Combined Gender

	Regression 1 (Overall Moderation)	Regression 2 (Slope Difference)		Regression 3 (Intercept Difference)		Regression 4 (Final Model)	
Scale Pairing	*(p)*	*(p)*	ß	*(p)*	ß	ΔR^2	ß
RC4 – CONDUCT	.014*	---	---	---	---	.046	.025
RCd – CNEW1	<.001 **	---	---	<.001 **	-.477	.053	.015
RCd – CNEWI	.001**	---	---	<.001 **	-.916	.053	.011
RC4 – CNEW7	.005**	---	---	<.001 **	-.517	.054	.002
RC4 – CNEWE	.064	---	---	---	---	.029	-.017
RCd – YNEW1	<.001 **	---	---	<.001 **	-1.00	.237	-.004
RCd – YNEW2	<.001 **	---	---	<.001 **	-.495	.160	.017
RCd – YNEWI	<.001 **	---	---	<.001 **	-2.11	.000	.007
RC1 – YNEW3	<.001 **	---	---	<.001 **	-.346	.217	-.013
RC4 – YNEW7	<.001 **	.033*	-.064	<.001 **	-.704	.164	-.064
RC4 – YNEW8	<.001 **	---	---	<.001 **	-.865	.107	-.053
RC4 – YNEWE	<.001 **	---	---	<.001 **	-.157	.156	-.117
RC7 – YNEW1	<.001 **	---	---	<.001 **	-.991	.204	-.028

Table 42 Continued

	Regression 1 (Overall Moderation)	Regression 2 (Slope Difference)		Regression 3 (Intercept Difference)		Regression 4 (Final Model)	
Scale Pairing	*(p)*	*(p)*	ß	*(p)*	ß	ΔR^2	ß
RC7 – YNEWI	<.001 **	---	---	<.001 **	-1.84	.171	-.100

Note. N = 460; RC Scale = MMPI-A-RF Restructured Clinical Scale; YSR = Youth Self Report; CBCL=Child Behavior Checklist; DBRS=Disruptive Behavior Rating Scale; RCd=Restructured Clinical Scale – Demoralization; RC1= Restructured Clinical Scale – Somatic Complaints; RC4= Restructured Clinical Scale – Antisocial Behavior; RC7= Restructured Clinical Scale – Dysfunctional Negative Emotions; CONDUCT=DBRS Conduct; CNEW1=CBCL Anxious/Depressed; CNEWI=CBCL Internalizing; CNEW7=CBCL Rule-Breaking Behavior; CNEWE=CBCL Externalizing; YNEW1=YSR Anxious/Depressed; YNEWI=YSR Internalizing; YNEW2=YSR Withdrawn/Depressed; YNEW3=YSR Somatic Complaints; YNEWE= YSR Externalizing; YNEW7=YSR Rule-Breaking Behavior; YNEW8=YSR Aggressive Behavior; (*p*) = *p*-value; ß = Unstandardized Regression Coefficient; ΔR^2= change in R^2 from regression equation with one predictor variable only to the final model with both predictors and moderator added; --- = non-significant result.

Table 43

Results of MMR Analysis on RC Scale with selected YSR, CBCL, and DBRS Pairings Under Conditions of False Response Insertion - Combined Gender

	Regression 1 (Overall Moderation)	Regression 2 (Slope Difference)		Regression 3 (Intercept Difference)		Regression 4 (Final Model)	
Scale Pairing	*(p)*	*(p)*	ß	*(p)*	ß	ΔR^2	ß
RC4 – CONDUCT	.014*	---	---	.004**	.260	.054	.001
RCd – CNEW1	.322	---	---	---	---	.068	-.070
RCd – CNEWI	.209	---	---	---	---	.065	-.131
RC4 – CNEW7	.018*	---	---	.005**	.545	.062	-.040
RC4 – CNEWE	.212	---	---	---	---	.031	-.057
RCd – YNEW1	<.001 **	.001**	.148	<.001 **	.469	.329	.148
RCd – YNEW2	<.001 **	<.001 **	.162	<.001 **	.343	.273	.162
RCd – YNEWI	<.001 **	<.001 **	.396	<.001 **	1.15	.354	.396
RC1 – YNEW3	<.001 **	---	---	<.001 **	-.732	.248	.034
RC4 – YNEW7	<.001 **	---	---	<.001 **	.819	.197	-.085
RC4 – YNEW8	<.001 **	.007**	-.211	.011*	.737	.106	-.211
RC4 – YNEWE	<.001 **	.011*	-.296	<.001 **	1.56	.168	-.296
RC7 – YNEW1	<.001 **	---	---	<.001 **	.735	.244	.093

Table 43 Continued

	Regression 1 (Overall Moderation)	Regression 2 (Slope Difference)		Regression 3 (Intercept Difference)		Regression 4 (Final Model)	
Scale Pairing	*(p)*	*(p)*	ß	*(p)*	ß	ΔR^2	ß
RC7 – YNEWI	<.001 **	---	---	<.001 **	1.59	.228	.298

Note. *N*= 460; RC Scale = MMPI-A-RF Restructured Clinical Scale; YSR = Youth Self Report; CBCL=Child Behavior Checklist; DBRS=Disruptive Behavior Rating Scale; RCd=Restructured Clinical Scale – Demoralization; RC1= Restructured Clinical Scale – Somatic Complaints; RC4= Restructured Clinical Scale – Antisocial Behavior; RC7= Restructured Clinical Scale – Dysfunctional Negative Emotions; CONDUCT=DBRS Conduct; CNEW1=CBCL Anxious/Depressed; CNEWI=CBCL Internalizing; CNEW7=CBCL Rule-Breaking Behavior; CNEWE=CBCL Externalizing; YNEW1=YSR Anxious/Depressed; YNEWI=YSR Internalizing; YNEW2=YSR Withdrawn/Depressed; YNEW3=YSR Somatic Complaints; YNEWE= YSR Externalizing; YNEW7=YSR Rule-Breaking Behavior; YNEW8=YSR Aggressive Behavior; (*p*) = *p*-value; ß = Unstandardized Regression Coefficient; ΔR^2= change in R^2 from regression equation with one predictor variable only to the final model with both predictors and moderator added; --- = non-significant result.

CHAPTER VI

DISCUSSION

Study Hypotheses and Review of Findings

As noted in the Introduction, my study had four major aims. First, I sought to evaluate how validity scale scores are affected by increasing degrees of non-content-based responding, and evaluate the appropriateness of different cutoff scores and compare them to those scores on the MMPI-A. Second, the current study evaluated how non-content-based responding affects scores on the RC scales. Third, the study evaluated how non-content-based responding affects validity coefficients. Lastly, the current study evaluated the moderating effects of VRIN-r and TRIN-r on the relationships between RC scales and external variables.

To examine the response of several validity scales to non-content-based responding, mean scores were examined at increasing degrees of omitted items and random, true, and false response insertion. For the Cannot Say scale, RC scale mean scores were shown to decrease systematically with increasing percentages of omitted items. In effect, these omitted items served to depress RC scale mean scores. The end result of excessive item omissions is decreased clinical utility of the RC Scales. Archer et al. (2016) recommended that scales with more than 10% omitted items should not be interpreted, and this recommendation was supported by the present results. Further, these results are similar to those found by Dragon et al. (2012) where increasing degrees of omitted items led to decreases in RC scale mean scores. For VRIN-r and TRIN-r (True and False), mean scale T-scores increased systematically as greater percentages of simulated insertion took place. Similar results were seen in Handel et al., 2010's study, where systematic increases in mean scale T-scores were seen for VRIN-r and TRIN-r with increasing levels of simulated item insertion. The CRIN scale in the random insertion condition showed similar results; however, CRIN in the true and false insertion conditions showed a U-shaped

result. In this scenario, as insertion levels increased, CRIN T-scores systematically increased up to a point but then began to decrease again. As CRIN is the first scale of its kind, there is no literature with which to compare. One possible explanation for the U-shaped results, however, is that since CRIN includes all VRIN-r and TRIN-r true and false item pairs, CRIN may not be able to effectively identify the different types of responding due to the way it is scored. At moderate levels of simulated responding, all three types of content-non-responsiveness (random, true, false) contribute to CRIN's score. At higher levels, due to the relatively uncorrelated nature of the types of responding, two of the three scales drop to zero and contribute no points to the CRIN total score, so CRIN decreases.

The current study also sought to evaluate the appropriateness of different cutoff scores. VRIN and VRIN-r showed a systematic increase in mean scores with increasing percentages of random insertion, with a larger difference in mean scores at higher percentages (VRIN scores being higher). Of course, the greatest number of invalid protocols identified was at the 65T cutoff. As expected, VRIN-r's ability to identify invalid protocols decreased at higher cutoffs. Overall, a VRIN-r cutoff of 75T, as is recommended in the MMPI-A-RF manual (Archer et al., 2016), did not identify a majority of invalid protocols even at the 100% condition (maximum identified per condition was 36% for combined gender, 36.6% for males, 36.5% for females). This is in comparison to VRIN, which at 75T could identify 60.4% of invalid protocols at 100% (44.8% for males, 74.7% for females).

For both TRIN/TRIN-r True and TRIN/TRIN-r False, there was also a systematic increase in mean scores, with TRIN means being much higher than TRIN-r's. Again, 65T identified the most invalid cases, as lower cutoffs always do. However, applying the manual's recommended cutoff of 75T (Archer et al., 2016), TRIN-r (both True and False) could identify a

majority of invalid protocols at roughly the same condition as its corresponding TRIN scales, lending support for 75T as an effective cutoff.

For the CRIN scale, there was again a systematic increase in mean scores. The manual's recommended cutoff of 75T (Archer et al., 2016), however, did not appear to be the most effective cutoff, as CRIN could not identify a majority of invalid protocols in even the 100% random, true, or false conditions. In the true and false conditions it is necessary to note that there was a u-shaped pattern seen in both mean scores and cutoff score performance. For both conditions, mean scores systematically increased up to a point and then began to decline. This finding can be explained by the fact that CRIN raw scores are a composite of all three inconsistent response styles. At very extreme levels of true (or false) responding, the other two components of the raw score will contribute no raw scores points to the total score. For example, in a 100% false condition, it is impossible for any random (i.e., T-F or F-T) or acquiescent (i.e., T-T) pairs to be endorsed. Similarly, a cutoff score of 65T indicated the best performance in terms of identifying invalid protocols; after 65T, there was notable declining performance seen with 70T, 75T, and 80T. As noted above, these CRIN results may simply be a byproduct of the scale's unique composition of random, true, and false item pairs.

Using an either/or approach with TRIN-r or VRIN-r + CRIN yielded better results than CRIN alone (i.e., either scale reached the threshold). These results are encouraging as they support the rationale for the development of CRIN. For VRIN-r+CRIN, the percentage of invalid protocols identified increased monotonically with increasing percentages of random insertion. A cutoff of 75T was adequate to identify a majority of invalid protocols by the 100% conditions for all groups under VRIN-r+CRIN. For TRIN-r+CRIN (both True and False), 75T was more than able to identify a majority of invalid protocols, doing so by the 50% condition

(True) and 60% condition (False). In the case of TRIN-r+CRIN (both True and False), these scale combinations performed notably better than VRIN+CRIN, which again may be due to something about the performance of the CRIN scale or perhaps the combination of VRIN and CRIN together.

A second aim of the current study was to evaluate how non-content-based responding affects scores on substantive scales, specifically the RC scales. Similar to the validity scales, the RC Scales showed systematic increases or decreases (depending on the scale) in the random, true, and false responding conditions. While the results of this study will help with interpretive nuances of the RC scales in the face of non-content-based responding, clinicians must consider the keyed direction of items on each RC scale. For example, scales such as RCd (with most of the items keyed true), and RC2 (with most of the items keyed false) are particularly susceptible to acquiescence and counter-acquiescence, respectively. One interesting finding was RC7 in the random condition, which did not show a decrease or increase, but rather stayed roughly the same at all levels of random response insertion. This scale, along with RC9, was the most robust to random insertion in general. These results are likely explained by the relatively high raw scores in the normative sample on these scales. For example, RC9 has 8 items and the mean raw score in the normative sample is near the midpoint of the range of possible scores (i.e., M = 4.59, SD = 1.78). Therefore, one would expect a mean of 4 raw score points with 100% random response insertion. In the true condition, RC2 was most robust to true response insertion, for both the normative and forensic samples. For the false condition, it was RC4 and RC6 in the normative sample that were most robust to false insertion. Of the scales that require caution during interpretation, in the normative sample random condition, RC8 appears particularly impacted by random responding. In contrast to RC9 described above, RC8, with eight items keyed true, has a

low mean score in the normative sample (M = 1.00, SD = 1.32). Therefore, one would expect a mean raw score of 4 with 100% random response insertion. Accordingly, one would expect that mean scores would increase substantially with random response insertion. For the True condition, RC4, RC6, and RC8 require cautious interpretation. For the False condition, RC2 appears particularly vulnerable to false response insertion. The forensic sample results revealed RC1 and RC8 to be particularly vulnerable to random insertion, RCd and RC8 to true insertion, and RC2 to false insertion. These results are similar to those found in Handel et al. (2010).

The third aim of the study, to examine the effects of simulated responding on the validity coefficients, indicated a general suppressing effect of increased simulated responding on scale relationships. In general, RC scale and CBCL scale pairings were more robust to non-content-based responding, as evidenced by small changes in correlation strength through the 30% (random), 50% (true), and 40% (false) conditions. RC scale and YSR scale pairings performed less well, with most scale pairings only robust to simulated responding through the 10% (random), 30% (true) and 40% (false) conditions. However, this is likely due to the fact that baseline CBCL correlations were substantially lower than baseline YSR correlations.

Lastly, this study sought to evaluate the moderating effects of VRIN-r and TRIN-r on the relationships between RC scales and external variables. As is seen in the Results section, the validity scales had a large influence on the relationship between the RC scales and DBRS, YSR, and CBCL correlates. In the random condition, there were seven pairings with significant slope differences and seven with significant intercept differences. In the true condition, there was one pairing with a significant slope difference but 12 with significant intercept differences. And in the false condition, there were five pairings with significant slope differences and 11 with significant intercept differences. Given the high number of moderating effects and the large

effect sizes seen in all three conditions, it is clear that VRIN-r and TRIN-r have a large effect on these scale pairing relationships. This underscores the importance of the validity scales in establishing whether clinical assumptions drawn from the substantive scales are accurate.

In addition to accurate clinical judgments, the study of the MMPI-A-RF and its validity scales helps contribute to our general knowledge of MMPI effectiveness and usage. Given the dearth of research on the TRIN scale in general, and validity scales on the MMPI-A in particular, it is important to examine these scales more closely to ensure our body of available literature has a full grasp of these scales and their capabilities. It is hoped that the current study can contribute to the adolescent and psychometric literature, while also pointing to areas of future research. One area of additional research is the CRIN scale, both since it is new and also since it is novel in its design. The issue of test length vs. reliability is an interesting one and one that is central to the performance of the MMPI-A-RF's validity scales. It will be interesting to see if CRIN can offer psychometric utility over and above the other validity scales.

Implications

The present study is the first study to examine the effects of non-content-based responding on the newly developed inconsistency and RC scales of the MMPI-A-RF. Specifically, these results detail the impact of random, true, and false responding and omitted items on the interpretability of both validity and RC scales. The results also underscore the importance of the validity scales on clinical interpretation and utility of the MMPI-A-RF, as excessive non-content-based responding was shown to impact the accuracy of the information gleaned from substantive scales (e.g., score distortion on the RC scales).

These results also lend credence to established interpretability cutoffs for the MMPI-A, and the logical extension of these cutoffs to the MMPI-A-RF. These results generally support

cutoffs of equal or greater to 75 for VRIN-r, TRIN-r, and CRIN, and also support the notion that scores on these validity scales falling in the 65-74T range should be interpreted cautiously (Archer et al., 2016). However, future efforts to improve the sensitivity of random responding indicators should be explored.

Perhaps the biggest implication of the current study, however, is that of interpretability. Given the results of simulated random, true, and false responding, it is clear that protocol interpretability suffers at high degrees of omitted items or non-content-based responding as evidenced by distorted RC scale T-scores in varying degrees. It is also important to note the degradation of external validity as seen in the pairings of RC scales with external variables at greater levels of non-content-based responding.

Lastly, the current study's use of the CRIN scale has implications for the literature in both future research directions and perhaps a shift in the conceptualization of validity scale utility. As CRIN is a new type of validity scale, essentially combining multiple other validity scales, not much is known about its potential usefulness and effectiveness in MMPI-A-RF protocol interpretation. Conceptually, it seems logical that the use of CRIN will usher in a new examination of general indices of validity used in conjunction with individual scales that measure specific types of content non-responsiveness.

Limitations and Future Directions

This study does have several limitations, the most notable of which concern computer simulation. One main concern is that computer simulated test-taking is not the same as that done by actual test-takers (Charter & Lopez, 2003). A computer can give a more consistent or even pattern of response insertion, where the content non-responsiveness of test-takers may be more inconsistent and unpredictable. There is also no way to know how many responses were actually

changed in this study. For example, changing a certain percentage of answers to be False could mean changing all or a portion of the desired percentage of responses, since we do not know what response was keyed previously.

This study is also limited by the notable racial and demographic differences between the samples, as the normative sample is heavily Caucasian while the forensic sample is heavily African-American. There may also be racial or gender differences that are hard to discern given the nature of computer-generated simulated responding. Of note, there is also a question as to whether or not there is a certain point, when taking someone's actual protocol and turning it into a computer simulation, that the protocol ceases to represent the person who initially took the test. Regardless, a chi square test of association was conducted to examine whether invalid protocol rates differed significantly for Caucasian versus African American participants. All expected cell frequencies were greater than five. There was no statistically significant association between ethnicity and invalid protocol rates, $\chi^2(1) = 3.048$, $p = .081$. The association between ethnicity and rates of invalid protocols was weak, $\varphi = -.076$.

Similarly, since MMPI-A protocols were transformed into MMPI-A-RF protocols, it is hard to generalize interpretive findings due to the differences between the tests. While the tests had the same item pool to draw from, there is no way to know if test-takers respond the same way to a shorter test as they do to a longer one. Future studies should attempt to compare booklets of the MMPI-A-RF and MMPI-A to address comparability of MMPI-A-RF scores across administration modalities.

Another limitation to the current study is that the regression analyses included observed assumptions violations. In particular, most scale pairings violated the assumption of homoscedasticity, examined through visual inspection of standardized predicted values plotted

against standardized residuals (Field, 2009). Most scale pairings also violated the assumption of multicollinearity; however, high VIF's can result from both the inclusion of the products of variables and using uncentered variables, both of which apply to the current study (Statistical Horizons, 2012). Most pairings also violated the assumption of normality via visual inspection of normal P-P plots, although regression is robust to violations of normality (Berry & Feldman, 1985).

Lastly, as can be seen in the literature review for this study, there is limited research on the MMPI-A validity scales, particularly TRIN. This lack of research is compounded by the newness of the MMPI-A-RF, and we still have much to learn about how the validity scales will function in a clinical or research setting. In particular, there is a great need for evaluation of the CRIN scale, since it is new and not well-researched in the literature.

Given these limitations, there are several areas for future study that are important to pursue. First and foremost, additional research is needed on the psychometric functioning of the MMPI-A-RF in general and its validity scales in particular. This will ensure validation of the validity scales and the test as a whole. As the measure is new, it obviously will require clinical usage and trials to verify its clinical utility. Given the dearth of research on the role of validity scales in adolescent personality measures, this is also an important general area of research to pursue. Lastly, the CRIN scale of the MMPI-A-RF is a new type of validity scale, and as such, must be examined more closely to determine its utility and validity. Also, the VRIN-r scale appeared to have less than optimal functioning as evidenced by fewer than 50% of cases being identified in the 100% random condition at the recommended cutoff of $T > 74$. Future studies could potentially examine ways to improve the detection of random responding on the MMPI-A-RF.

CHAPTER VII

CONCLUSIONS

In summary, the MMPI-A-RF has the potential to greatly change the landscape of adolescent personality measurement. It has this potential for change by providing a way to get robust results through a shorter test-taking process for the adolescent test-taking population. The results of the current study provide some initial psychometric validation of the MMPI-A-RF and comparison of its functioning with the MMPI-A. These results will hopefully add to the existing adolescent personality assessment literature. It is hoped that future studies can both replicate these results and address some of the current study's limitations.

REFERENCES

Achenbach, T.M., & Rescorla, L. A. (2001). *Manual for the ASEBA School-Age Forms and Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth, and Families.

Allison, Paul (2012). *When can you safely ignore multicollinearity?* Retrieved from www.statisticalhorizons.com. Accessed July 2016.

American Educational Research Association, American Psychological Association, National Council on Measurement in Education, & Joint Committee on Standards for Educational and Psychological Testing US. (2014). *Standards for Educational and Psychological Testing*. Washington, AERA Publications.

Archer, R.P. (1987). *Using the MMPI with Adolescents*. New Jersey: Lawrence Erlbaum Associates, Inc.

Archer, R. P. (1997). Future directions for the MMPI-A: Research and clinical issues. Journal of Personality Assessment, 68(1), 95-109. doi:10.1207/s15327752jpa6801_8

Archer, R.P. (2005). *MMPI-A: Assessing Adolescent Psychopathology* (3rd ed.). New Jersey: Lawrence Erlbaum Associates, Inc.

Archer, R.P. & Elkins, D.E. (1999). Identification of random responding on the MMPI-A. *Journal of Personality Assessment*, 73(3), 407-421. doi: 10.1207/S15327752JPA7303_8

Archer, R.P., Handel, R.W., Ben-Porath, Y.S. & Tellegen, A. (2016). *Minnesota Multiphasic Personality Inventory – Adolescent Restructured Form; Administration, Scoring, Interpretation and Technical Manual.* Minneapolis, MN: University of Minnesota Press

Archer, R.P., Handel, R. W., Lynch, K.D. & Elkins, D.E. (2002). MMPI-A validity scale uses and limitations in detecting varying levels of random responding. *Journal of Personality Assessment*, 78(3), 417-431. doi: 10.1207/S15327752JPA7803_03

Archer, R.P., Krishnamurthy, R., Kaufman, A.S., & Kaufman, N.L. (Eds.). (2002). *Essentials of MMPI-A Assessment.* New York, NY: John Wiley & Sons, Inc.

Archer, R.P., Krishnamurthy, R., & Stredny, R.V. (2007). The Minnesota Multiphasic Personality Inventory – Adolescent (MMPI-A). In S.R. Smith & L. Handler (Eds.), *The Clinical Assessment of Children and Adolescents: A Practitioner's Handbook* (pp.237-266). New Jersey: Lawrence Erlbaum Associates, Inc. 2007.

Baer, R. A., Kroll, L. S., Rinaldo, J., & Ballenger, J. (1999). Detecting and discriminating between random responding and overreporting on the MMPI-A. *Journal of Personality Assessment*, *72*(2), 308-320. doi:10.1207/S15327752JP720213

Baer, R.A., Ballenger, J., Berry, D.T.R. & Wetter, M.W. (1997). Detection of random responding on the MMPI-A. *Journal of Personality Assessment,* 68(1), 139-151. doi: 10.1207/s15327752jpa6801_11

Barkley, R. A. and Murphy, K. R. 1998. *Attention deficit hyperactivity disorder: A clinical workbook* , 2nd ed., New York, NY: Guilford

Ball, J.C., & Carroll, D. (1960). Analysis of MMPI cannot say scores in an adolescent population. *Journal of Clinical Psychology*, 16, 30-31. doi: 10.1002/1097-4679(196007)16:3<304::AID-JCLP2270160323>3.0.CO;2-B

Ben-Porath, Y.S. (2012). *Interpreting the MMPI-2-RF.* Minneapolis, MN: University of Minnesota Press.

Ben-Porath, Y.S. & Archer, R.P. (2008). The MMPI-2 and the MMPI-A. In R.P. Archer & S.R. Smith (Eds.), *Personality Assessment* (pp. 81-131). New York: Taylor & Francis Group, LLC. Ben-Porath, Y. S., & Tellegen, A. (2008/2011). *MMPI-2-RF (Minnesota Multiphasic Personality Inventory-2 Restructured Form) manual for administration, scoring, and interpretation.* Minneapolis: University of Minnesota Press.

Berry, D. T. R., Adams, J. J., Smith, G. T., Greene, R. L., Sekirnjak, G. C., Wieland, G., & Tharpe, B. (1997). MMPI-2 clinical scales and 2-point code types: Impact of varying levels of omitted items. *Psychological Assessment*, 9(2), 158-160. doi:10.1037/1040-3590.9.2.158

Berry, W.D. & Feldman, S. (1985). *Multiple Regression in Practice* (No. 50). Sage. Statistical Horizons (2012).

Berry, D. T. R., Wetter, M. W., Baer, R. A., Larsen, L., Clark, C., & Monroe, K. (1992). MMPI-2 random responding indices: Validation using a self-report methodology. *Psychological Assessment*, 4(3), 340-345. doi:10.1037/1040-3590.4.3.340

Berry, D. T. R., Wetter, M. W., Baer, R. A., Widiger, T. A., Sumpter, J. C., Reynolds, S. K., & Hallam, R. A. (1991). Detection of random responding on the MMPI-2: Utility of F, back F, and VRIN scales. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 3(3), 418-423. doi:10.1037/1040-3590.3.3.418

Brown, M.N. (1950). Evaluating and scoring the Minnesota Multiphasic "Cannot Say" items. *Journal of Clinical Psychology*, 6, 180-184. doi: 10.1002/1097-4679(195004)6:2<180::AID-JCLP2270060218>3.0.CO;2-J

Burchett, D.L. (2012). *MMPI-2-RF validity scale scores as moderators of substantive scale criterion validity* (Unpublished doctoral dissertation). Kent State University, Kent, OH.

Butcher, J.N. (2000). Revising psychological tests: Lessons learned from the revision of the MMPI. *Psychological Assessment*, 12(3), 263-271. doi: 10.1037/1040-3590.12.3.263

Butcher, J.N., Atlis, M.M., & Fang, L. (2000). Effect of altered instructions on the MMPI-2 profiles of college students who are not motivated to distort their responses. *Journal of Personality Assessment*, Vol 75(3), 492-501. doi: 10.1207/S15327752JPA7503_09.

Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A, & Kaemmer, B. (1989).*The Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring*. Minneapolis, MN: University of Minnesota Press.

Butcher, J.N., Williams, C.L., Graham, J.R., Archer, R.P., Tellegen, A., Ben-Porath, Y.S., & Kaemmer, B. (1992). *Minnesota Multiphasic Personality Inventory-Adolescent Version (MMPI-A): Manual for administration, scoring and interpretation*. Minneapolis, MN: University of Minnesota Press.

Clark, M.E., Gironda, R.J., & Young, R.W. (2003). Detection of back random responding: Effectiveness of MMPI-2 and Personality Assessment Inventory validity indices. *Psychological Assessment*, *15*, 233-234.

Clopton, J. R., & Neuringer, C. (1977). MMPI Cannot Say scores: Normative data and degree of profile distortion. *Journal of Personality Assessment*, 41(5), 511-513. doi:10.1207/s15327752jpa4105_8

Charter, R. A., & Lopez, M. N. (2003). MMPI-2: Confidence intervals for random responding to the F, F back and VRIN Scales. *Journal of Clinical Psychology*, 59(9), 985-991. doi:10.1002/jclp.10183

Cohen, J., Cohen, P. C., West, S. G., & Aiken, L. S. (2003). (3rd Ed.) *Applied multiple regression/correlation analysis for the behavioral sciences.* Mahwah, NJ.: Lawrence Erlbaum.

Dahlstrom, W. G., Welsh, G. S., & Dahlstrom, L. E. (1972). *An MMPI handbook: I. Clinical interpretation.* (Rev. ed.). Oxford, England: U. Minnesota Press.

Dragon, W.R., Ben-Porath, Y.S., and Handel, R.W. (2012). Examining the impact of unscorable item responses on the validity and interpretability of the MMPI-2/MMPI-2-RF Restructured Clinical (RC) scale scores. *Assessment*, 19(1), 101-113.

Field, A. (2009). *Discovering statistics using SPSS: Third edition.* Thousand Oaks, CA: Sage Publications, Inc.

Fulkerson, S.C., & Willage, D.E. (1980). Decisional ambiguity as a source of "cannot say" responses on personality questionnaires. *Journal of Personality Assessment*, 44(4), 381-386. doi: 10.1207/s15327752jpa4404_8

Gallen, R.T., & Berry, D.T.R. (1996). Detection of random responding in MMPI-2 protocols. *Assessment, 3, 171-178.*

Graham, J.R. (2006). *MMPI-2: Assessing Personality and Psychopathology* (4th Ed.).New York, NY: Oxford University Press, Inc.

Gravitz, M.A. (1967). Frequency and content of test items normally omitted from MMPI scales. *Journal of Consulting Psychology*, 31(6), 642. doi: 10.1037/h0025158

Handel, R.W., Archer, R.P, Elkins, D.E., Simonds-Bisbee, E.C. (2011). Psychometric properties of the Minnesota Multiphasic Personality Inventory – Adolescent (MMPI-A) clinical, content, and supplementary scales in a forensic sample. *Journal of Personality Assessment*, 93(6), 566-581.

Handel, R.W., Arnau, R.C., Archer, R.P., & Dandy, K.L. (2006). An Evaluation of the MMPI-2 and MMPI-A True Response Inconsistency (TRIN) Scales. *Assessment*, 13(1), 98-106. doi: 10.1177/1073191105284453

Handel, R.W., Ben-Porath, Y.S., Tellegen, A.& Archer, R.P. (2010). Psychometric functioning of the MMPI-2-RF VRIN-r and TRIN-r scales with varying degrees of randomness, acquiescence, and counter-acquiescence. *Psychological Assessment*, 22(1), 87-95. doi: 10.1037/a0017061

Hathaway, S. R. & Monachesi, E. D. (1963). *Adolescent personality and behavior*. Oxford, England: University of Minnesota Press.

Jackson, D.N. & Messick, S. (1962). Response styles on the MMPI: Comparison of clinical and normal samples. *Journal of Abnormal and Social Psychology*, 65(5), 285-299.

Kromrey, J.D. & Foster-Johnson, L. (1998). Mean centering in moderated multiple regression: Much ado about nothing. *Educational and Psychological Measurement*. 58(1), 42-67.

Laerd Statistics. (2013). *Multiple Regression in SPSS.* Retrieved from http://www.statistics.laerd.com. Accessed May – September 2016.

Laerd Statistics (2013). *Chi Square Test for Association Using SPSS.* https://statistics.laerd.com. Accessed September 2016.

Mosher, D.L. (1966). Some characteristics of high and low frequency "cannot say" items on the MMPI. *Journal of Consulting Psychology*, 30(2), 177. doi: 10.1037/h0023167

Paolo, A.M. & Ryan, J.J. (1992). Detection of random response sets on the MMPI-2. *Psychotherapy in Private Practice, 11,* 1-8.

[Phil Chan]. (2012, September 6). *SPSS for newbies: What the residual plot in standard regression tells you.* [Video File]. Retrieved from https://www.youtube.com/watch?v=Vi34XayXk_Y

Pinsoneault, T.B. (2005). Detecting random, partially random, and nonrandom Minnesota Multiphasic Personality Inventory--Adolescent Protocols. *Psychological Assessment*, 17(4), 476-480. doi: 10.1037/1040-3590.17.4.476

Pinsoneault, T. B. (2007). Detecting random, partially random, and nonrandom Minnesota Multiphasic Personality Inventory-2 protocols. *Psychological Assessment*, 19(1), 159-164. doi:10.1037/1040-3590.19.1.159

Samuel, S. E., DeGirolamo, J., Michaels, T. J., & O'Brien, J. (1994). Preliminary findings on MMPI "Cannot Say" responses with personal injury litigants. *American Journal of Forensic Psychology*, 12(4), 5-18.

Stukenberg, K., Brady, C., & Klinetob, N. (2000). Use of the MMPI-2's VRIN scale with severely disturbed populations: Consistent responding may be more problematic than inconsistent responding. *Psychological Reports*, 86(1), 3-14. doi:10.2466/PR0.86.1.3-14

Tamkin, A. S., & Scherer, I. W. (1957). What is measured by the "cannot say" scale of the group MMPI**?** *Journal of Consulting Psychology*, 21(5), 370. doi:10.1037/h0041346

Tellegen, A. (1988). The analysis of consistency in personality assessment. *Journal of Personality*, 56(3), 621-663. doi: 10.1111/j.1467-6494.1988.tb00905.x

Wetter, M. W., Baer, R. A., Berry, D. T. R., Smith, G. T., & Larsen, L. H. (1992). Sensitivity of MMPI-2 validity scales to random responding and malingering. *Psychological Assessment*, 4(3), 369-374. doi:10.1037/1040-3590.4.3.369

VITA

Amy C. Pitta

Education

2009-2016 **The Virginia Consortium Program in Clinical Psychology**
700 Park Avenue/MCAR-410
Norfolk, VA 23504
Psy.D., Degree expected August, 2016
University-based, APA accredited program, jointly sponsored by: Eastern Virginia Medical School, The College of William & Mary, Norfolk State University, and Old Dominion University

2011 **Norfolk State University**
Norfolk, VA 23504
M.A., Clinical and Community Psychology, **May 2011**

2001 **University of Southern California**
Los Angeles, CA 90089
B.A., History, Minor in Psychology

Clinical Experience

Predoctoral Internship:

August 2012 – August 2013 **Spring Grove Hospital Center**
Catonsville, MD