

ASSESSMENT OF FEIGNING WITH THE TRAUMA SYMPTOM INVENTORY:
DEVELOPMENT AND VALIDATION OF NEW VALIDITY SCALES
WITH SEVERELY TRAUMATIZED PATIENTS

Joshua W. Payne, M.A.

Dissertation Prepared for the Degree of
DOCTOR OF PHILOSOPHY

UNIVERSITY OF NORTH TEXAS

May 2011

APPROVED:

Richard Rogers, Major Professor
Charles A. Guarnaccia, Committee Member
Kenneth W. Sewell, Committee Member
Jennifer L. Callahan, Director of Clinical
Training
Vicki L. Campbell, Chair of the Department of
Psychology
James D. Meernik, Acting Dean of the
Toulouse Graduate School

Payne, Joshua W. Assessment of feigning with the Trauma Symptom Inventory: Development and validation of new validity scales with severely traumatized patients. Doctor of Philosophy (Clinical Psychology). May 2011, 146 pp., 30 tables, 1 figure, references, 161 titles.

Currently, only the TSI assesses complex traumatic reactions and patient response styles. However, its feigning scale, ATR, uses a flawed detection strategy and is potentially confounded by experiences of complex PTSD. As a consequence, clinicians using the TSI to evaluate severely traumatized patients have no useful method for discriminating genuine and feigned responding. Several detection strategies have demonstrated utility within evaluations of feigned trauma including the assessment of rare symptoms, symptom combinations, symptom selectivity, and symptom severity. The current study created scales on the TSI according to these strategies using a development sample of 107 severely traumatized patients. Validation of all TSI feigning scales was then performed with a second independent sample of 71 severely traumatized patients using a mixed simulation design. Results found support for each scale's convergent validity with SIRS primary scales ($M rs = .52$) and discriminant validity with measures of defensiveness on the SIRS ($M rs = -.07$) and TSI ($M rs = -.19$). Each scale also produced expectedly mild to moderate relationships with SADS-C clinical scales ($M rs = .32$) and the SCID-IV PTSD module ($M rs = -.02$). Support for their criterion validity was only moderate ($M ds = .69$) when comparing the scores of genuine patients to those simulating disability. Potential explanations for this trend were reviewed, including (a) the impact of comorbidity, (b) the restrictions associated with creating embedded feigning scales, and (c) the influence of simulator knowledge in analogue designs. Limitations of the study and future avenues of research were discussed.

Copyright 2011

by

Joshua W. Payne

ACKNOWLEDGEMENTS

I would like to sincerely thank the individuals who assisted me with this project including my committee members, the colleagues on my research team who helped collect data, and also Joshua Laborde of Riverstick Technology Partners who provided exceptional technical assistance. I also owe special gratitude to my research mentor Dick Rogers for his many thoughtful suggestions and guidance throughout this project and during the course of my graduate studies. I want to extend my most heartfelt appreciation, though, to my wife and best friend Heather. I cannot express to you enough how much your patience, understanding, and support has meant to me.

TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	x
Chapter	
1. INTRODUCTION	1
Comorbid PTSD: A Unique Constellation?.....	4
Evaluating Survivors of Trauma.....	7
Feigning: An Overview.....	9
Types of Feigning	11
<i>DSM-IV-TR</i> Classifications of Feigning	12
Malingering.....	13
Factitious Disorder.....	14
Feigned Trauma	16
Evaluations of Feigned Traumatic Stress	18
The <i>DSM-IV-TR</i> and Feigned Trauma.....	19
Standardized Methods for the Evaluation of Feigned Trauma	20
General Multiscale Inventories and Feigned Trauma.....	21
Structured Interviews and Feigned Trauma.....	22
Focused Trauma Measures and the Assessment of Feigning	23
Summary.....	25
Detection Strategies and Feigned Trauma	26

Amplified Presentations.....	28
Selectivity of Symptoms.....	28
Symptom Severity.....	29
Unlikely Presentations	30
Rare Symptoms.....	30
Quasi-Rare Symptoms	32
Symptom Combinations.....	33
Current Study.....	33
Research Questions and Hypotheses	34
Supplementary Question and Hypothesis	35
2. METHOD	36
Design.....	36
Participants.....	36
Measures	37
Trauma Symptom Inventory (TSI)	38
Structured Interview of Reported Symptoms (SIRS)	39
Schedule of Affective Disorders and Schizophrenia–Change Version (SADS-C).....	39
Structured Clinical Interview for <i>DSM-IV</i> Disorders: PTSD Module (SCID-PTSD).....	40
Revised-Civilian Mississippi Scale for Posttraumatic Symptoms (R-CMS)	40
Dissociative Experiences Scale (DES)	41
Procedure	41
First Administration.....	42

Second Administration.....	42
Development and Validation Samples.....	45
Exclusions of Invalid Protocols	45
3. RESULTS	46
Sample Exclusions Based on Manipulation Checks.....	46
Final Sample Description.....	47
Demographic Background	47
Patient Psychopathology.....	47
Scale Development	53
Unlikely Presentation Scales.....	53
TSI Rare Symptoms Scale (TSI-RS)	54
TSI Symptom Combination Scale (TSI-SC)	56
Amplified Presentation Scales	59
TSI Selectivity of Symptoms Scale (TSI-SEL)	59
TSI Severity of Symptoms Scale (TSI-SEV).....	60
Feigned Presentations of Psychopathology	61
Research Question 1	64
Convergent Validity.....	65
Discriminant Validity.....	67
Research Question 2	71
Hypothesis 1.....	71
Hypothesis 2.....	72
Research Question 3	75

Hypothesis 3.....	75
Stability and Reliability	77
Research Question 4	79
Classification of Severely Traumatized Patients with Initial Cut scores	80
Identifying Likely Feigning	82
Identifying Likely Genuine Responding.....	83
Supplementary Analysis	85
Hypothesis 4.....	85
4. DISCUSSION.....	91
Genuine Responding: The TSI and Severely Traumatized Patients.....	96
Trauma-Related Comorbidity and Amplified Presentations.....	98
Unlikely Presentations of Severely Traumatized Patients	101
Summary of Genuine Response Patterns	105
Discriminating Severe Trauma from Simulated Disability	106
Clinical Application of the TSI Feigning Scales	111
Limitations and Future Directions	112
Conclusion	117
APPENDIXES	118
REFERENCES	126

LIST OF TABLES

	Page
1. <i>DSM-IV-TR</i> Diagnostic Criteria for Posttraumatic Stress Disorder	3
2. Diagnostic Criteria for Disorders of Extreme Stress, Not Otherwise Specified.....	6
3. <i>DSM-IV-TR</i> Malingering Guidelines	13
4. Common Features of Factitious Presentations by Hospitalized Patients	15
5. Differential Considerations for the Evaluation of False Symptoms	19
6. Summary of Detection Strategies for Identification of Feigned Mental Disorders	27
7. Measures Administered During First and Second Administrations	44
8. Demographics for Development and Validation Samples.....	49
9. Clinical Characteristics of the Development Sample and the Validation Sample	51
10. TSI Clinical Scale Scores in the Development, Validation, and Total Samples	52
11. Endorsement Frequencies of ATR and TSI-RS Items in the Development Sample	55
12. Endorsement Frequencies of the TSI-SC Item-Clusters in the Development Sample	58
13. Developmental Sample Patients and the Experimental TSI Feigning Scales.....	61
14. Reports of Psychopathology by Patients in the Validation Sample.....	62
15. TSI Clinical Scale Scores in the Validation Sample.....	63
16. TSI Feigning Scales and the SIRS: Convergent Validity with Patient Simulators	66
17. TSI Feigning Scales and Psychopathology: Discriminant Correlations with Control Patients.....	68
18. Summary of TSI Feigning Scales Discriminant Validity with Severely Traumatized Patients.....	70
19. TSI-ATR Scores for Independent Groups for Groups of Severely Traumatized Patients.....	72

20. F Ratios and Cohen's ds for TSI Feigning Scales and Severely Traumatized Patients.....	73
21. Experimental TSI Feigning Scale Scores for Groups of Severely Traumatized Patients.....	74
22. Detecting the Change in Response Style of Patients Instructed to Simulate Disability	76
23. Test-Retest Reliability and Scale Stability of TSI Feigning Scales with Genuine Patients ..	78
24. Utility of TSI Feigning Scales' Initial Cut Scores with Severely Traumatized Patients	81
25. Rule-In Cut Scores for Identifying Likely Feigning with Severely Traumatized Patients...	83
26. Rule-Out Cut scores for Identifying Genuine Responding with Severely Traumatized Patients.....	84
27. ANOVA Results for the Effect of Psychosis and Dissociation on the TSI Feigning Scales	86
28. ANOVA Results for Effects of Co-occurring Psychosis and Dissociation on the TSI Feigning Scales	88
29. False Positives Rates of Patients with and without Co-occurring Hallucinations and Dissociation.....	89
30. Effect Sizes for Analogue Studies of Feigned Trauma.....	107

LIST OF FIGURES

	Page
1. STARD flowchart detailing sample assignment and exclusions	48

CHAPTER 1

INTRODUCTION

Exposure to traumatic events is a common human experience. Current estimates reveal that nearly 60% of the U.S. population will personally experience at least one traumatic event during their lifetime. One-third of the population will experience multiple traumas (Kessler et al., 1995). However, trauma exposure does not automatically lead to resultant impairment. As an example, results from a large epidemiological study found that only 25% of individuals who experience traumatic events later developed a mental disorder due to their experience (Green & Kaltman, 2004). This disparity underscores the importance of employing accurate and reliable assessments methods when evaluating survivors of trauma.

Traumatic exposure can be harmful in many ways. Physical injuries, social dysfunction and psychological impairment are among the most frequently reported adverse effects of trauma. Psychological damages can range from short-term emotional distress to more chronic maladjustment, such as dysregulated affects, personality changes, and altered interpersonal processes (Wilson, 2004). A variety of psychological conditions such as depression, anxiety, and substance abuse are often found within populations of trauma survivors (Green & Kaltman, 2003; Kessler et al., 1995). Of these conditions, posttraumatic stress disorder (PTSD) is the most commonly recognized diagnosis resulting from trauma exposure.

Posttraumatic stress disorder was first acknowledged as a psychological disorder in the third edition of the *Diagnostic and Statistical Manual (DSM-III; APA, 1980)*. However, recognition of posttraumatic symptoms is not a recent discovery. Out-dated terms such as “nervous shock,” “soldier’s heart,” and “traumatic neurosis” have been used in the past to describe the unique emotional difficulties experienced by survivors of traumatic events (Trimble,

1981). Historically, *DSM-I* categorized posttraumatic symptoms under the rubric of “gross stress reactions” (APA, 1952), while *DSM-II* described them as one example of a situational disorder (APA, 1968). Currently, the *DSM-IV-TR* (APA, 2000) conceptualizes PTSD into four broad constellations of symptoms. They consist of the following: (a) exposure to the traumatic event, (b) re-experiencing of the event, (c) avoidance, and (d) increased arousal. An individual must meet criteria within each cluster of symptoms to attain a diagnosis of PTSD. Table 1 provides the current *DSM*'s diagnostic requirements.

Mental injuries from trauma are not isolated to symptoms of PTSD. According to the International Society for Traumatic Stress over 80% of PTSD patients suffer from additional comorbid conditions including depression, phobias, anxiety, dissociation, and somatization (Foa, Keane, & Friedman, 2000). Similarly, the *DSM-IV-TR* (APA, 2000, p. 465) notes that individuals with PTSD also may have associated disorders that include: major depressive disorder, substance-related disorders, panic disorder, agoraphobia, obsessive-compulsive disorder, generalized anxiety disorder, social phobia, specific phobia, and bipolar disorder. Dissociative disorders are also commonly found within populations of trauma survivors (Ross, Duffy, & Ellason, 2002; van der Hart, Nijenhuis, & Steele, 2005). In fact, a recent meta-analysis performed by Ozer, Best, Lipsey, and Weiss (2003) found that peritraumatic dissociation was the strongest predictor of later PTSD development.

In addition to Axis I disorders, high rates of Axis II personality disorders have also been noted within trauma samples. For example, Southwick and colleagues (1993) reported rates of PTSD-Axis II comorbidity approximating 70%. Cluster B disorders, especially borderline personality disorder (Classen, Pain, & Field, 2006; Heffernan & Cloitre, 2000; Herman, 1992) appear to be the most common Axis II disorder with PTSD.

Table 1

DSM-IV-TR Diagnostic Criteria for Posttraumatic Stress Disorder

A. The person has been exposed to a traumatic event in which both of the following were present:

- 1) The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others
- 2) The person's response involved intense fear, helplessness, or horror

B. The traumatic event is persistently re-experienced in one (or more) of the following ways:

- 1) Recurrent and intrusive distressing recollections of the event, including images thoughts, or perceptions
- 2) Recurrent distressing dreams of the event
- 3) Acting or feelings as if the traumatic event were reoccurring
- 4) Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event
- 5) Physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

- 1) Efforts to avoid thoughts, feelings, or conversations associated with the trauma
- 2) Efforts to avoid activities, places, or people that arouse recollections of the trauma
- 3) Inability to recall an important aspect of the trauma
- 4) Markedly diminished interest or participation in significant activities
- 5) Feeling detachment or estrangement from others
- 6) Restricted range of affect (e.g. unable to have loving feelings)
- 7) Sense of a foreshortened future (does not expect to have a career, marriage, children, or a normal life span)

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two of the following:

-
- 1) Difficulty falling asleep

 - 2) Irritability or outbursts of anger

 - 3) Difficulty concentrating

 - 4) Hypervigilance

 - 5) Exaggerated startle response
-

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than one month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning

Source: DSM-IV-TR (APA, 2000, pp. 467-468). PTSD can also be delineated as Acute (< 3 mos), Chronic (> 3 mos) or as Delayed Onset (symptoms appear at least 6 months after stressor).

Comorbid PTSD: A Unique Constellation?

High PTSD comorbidity rates have led some researchers to hypothesize the existence of a complex trauma syndrome. Herman (1992) and others (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005) have conceptualized PTSD comorbidity as a unique clinical construct and used terms such as complex PTSD (Herman, 1992), developmental trauma disorder (van der Kolk, 2005), and disorder of extreme stress (Pelcovitz, van der Kolk, Roth, Mandel, Kaplan, & Resnick, 1997) to describe an extreme posttraumatic condition. Herman specifically described “a complex posttraumatic syndrome observed in survivors of prolonged, repeated victimization (Herman, 1992, p. 92).” Her complex PTSD syndrome is broadly composed of seven constellations of symptoms not addressed by PTSD symptomatology. In addition to traditional PTSD symptoms, these symptom clusters are thought to best represent common difficulties experienced by individuals suffering from extreme traumatic stress. During the *DSM-IV* field trials for PTSD, these symptoms were formally referred to as a disorder of extreme stress, not otherwise specified (DESNOS; Kilpatrick et al., 1998). DESNOS symptoms include the following groups: (a) problems with affect regulation, (b) periodic loss of attention and consciousness, (c) distortions in self-perceptions, (d) distortions in perceptions of a perpetrator, (e) interpersonal problems arising after the event, (f) somatization, (g) and alterations in systems of meaning. Table 2 provides a more detailed summary of DESNOS diagnostic criteria.

Is DESNOS a separate construct from PTSD? Concordance rates of approximately 95% obtained from both treatment seeking and community samples reveal that when DESNOS criteria are met, PTSD is also likely present (Pelcovitz, et al., 1997; Roth et. al, 1997). However, this relationship is asymmetrical. Despite a substantial agreement rate when DESNOS is present, at least 30% of individuals with PTSD never develop DESNOS (Roth et al., 1997).

These findings have lead researchers to disagree about whether DESNOS is a discrete construct from PTSD or a specific subtype of PTSD (van der Kolk et al., 2005). Unexpectedly, one study reported that approximately 25% of their DESNOS sample did not have a history of PTSD (Ford, 1999). If replicated, this finding provides preliminary support for DESNOS's distinction as a unique clinical syndrome.

General consensus is that both DESNOS and PTSD are maladaptive responses to traumatic exposure (see Kilpatrick, 2005). Most clinicians would also agree that DESNOS depicts a more severe stress reaction than PTSD alone. However, the etiological difference between DESNOS and PTSD is less clear. Van der Kolk (1996) reported a link between traumatic exposures during childhood to later development of DESNOS symptoms. In comparison, Herman (1992) based her etiological understanding of complex PTSD upon trauma involving interpersonal violence. Finally, Green and colleagues (2000) found that the experience of multiple traumatic events contributes to the development of DESNOS symptoms. Regardless, it is clear that survivors of traumatic events, especially those diagnosed with PTSD, frequently experience comorbid DESNOS symptoms.

Despite its absence in *DSM-IV* nomenclature, the contribution of DESNOS symptom presentations was evident during the development of the *DSM-IV*. The contributions of Roth et al. (1997) ultimately led to DESNOS symptoms being designated as associated features of PTSD in *DSM-IV* and its successor *DSM-IV-TR* (APA, 2000, p. 465). Clinical and academic interest in DESNOS has increased rapidly in the last decade. The creation of a complex trauma taskforce by the International Society for Traumatic Stress Studies (ISTSS; 2000), and the dedication of a special issue in the *Journal of Traumatic Stress* (van der Kolk & Courtois, 2005) are excellent examples of the increased attention complex trauma has received in the field of traumatology.

Table 2

Diagnostic Criteria for Disorders of Extreme Stress, Not Otherwise Specified

- I. Alterations in Regulation of Affect and Impulses (A and one of B-F required)
 - a. Affect regulation
 - b. Modulation of anger
 - c. Self-destructive behavior
 - d. Suicidal preoccupation
 - e. Modulation of sexual involvement
 - f. Excessive risk taking

- II. Alterations in Attention or Consciousness (A or B required)
 - a. Amnesia
 - b. Transient dissociative episodes and depersonalization

- III. Alterations in Self-Perception
 - a. Ineffectiveness
 - b. Permanent damage
 - c. Guilt and responsibility
 - d. Shame
 - e. Nobody can understand
 - f. Minimizing

- IV. Alterations in Perception of the Perpetrator (Not Required)
 - a. Adopting distorted beliefs
 - b. Idealization of the perpetrator
 - c. Preoccupation with hurting perpetrator

- V. Alterations in Relationships with Others (One of A-C)
 - a. Inability to trust
 - b. Revictimization
 - c. Victimizing others

- VI. Somatization (Two of A-E required)
 - a. Digestive system
 - b. Chronic pain
 - c. Cardiopulmonary symptoms
 - d. Conversion symptoms
 - e. Sexual symptoms

- VII. Alterations in Systems of Meaning (One of A-B required)
 - a. Despair and hopelessness
 - b. Loss of previously sustaining beliefs

Note. Information summarized from Pelcovitz et al. (1997).

Further, a *PsychInfo* search of the keywords "complex PTSD" and "disorders of extreme stress" resulted in over 30 published scholarly contributions in the past decade.

Studies have reported the presence of complex trauma symptoms in samples of adult survivors of sexual abuse (Mclean & Gallup, 2003), female and male offenders (Spitzer, Chevalier, Gillner, Freyberger, & Barnow, 2006), Holocaust survivors (Kellermann, 1999), veterans with combat exposure (Ford, 1999), refugees (de Jong, Komproe, Spinazzola, van der Kolk, & van Ommeren, 2005), and those exposed to interpersonal violence (Ford, Stockton, Kaltman, & Green, 2000). Cluster analysis of trauma populations has also revealed the presence of two unique symptom groupings that correspond to simple and complex PTSD (Taylor, Asmundson, & Carleton, 2005). Together, these studies provide empirical support for a complex trauma syndrome that is a result of traumatic exposure.

In summary, posttraumatic responses to traumatic events should be considered as a prolonged stress syndrome that affects many different areas of psychological functioning. This exposure can lead to the development of many different symptoms of psychopathology, often beyond that of traditional *DSM-IV-TR* criterion for PTSD. This consideration is especially important when evaluating survivors of trauma (Wilson & Moran, 2004).

Evaluating Survivors of Trauma

Since the recognition of posttraumatic stress disorder by the American Psychiatric Association in the *DSM-III* (APA, 1980) increased attention has been paid to accurately assessing and treating individuals exposed to trauma. The common presence of comorbid diagnoses with PTSD creates the need for comprehensive evaluations. A variety of methods are commonly used when evaluating survivors of trauma including: (a) a collection of collateral reports and documentation about the traumatic event, (b) direct observation of client behavior,

(c) clinical interviewing that focuses upon functioning prior to and after the event, (d) administration of psycho-physiological procedures, and (e) the use of psychological testing.

Psychological tests are widely used in evaluations of trauma (Keane, Buckley, & Miller, 2004; see also Simon, 2003). General diagnostic interviews, such as the Structured Clinical Interview of *DSM-IV* Disorders (SCID-IV; First, Spitzer, Williams, & Gibbon, 1997), and multiscale inventories (e.g., MMPI-2 and PAI) are often employed in evaluations of trauma victims. The scope of these generalized instruments allows for adequate coverage of potential comorbid conditions. The use of targeted psychological measures is also common in evaluations of trauma (Simon, 2003). Focused structured interviews for assessing trauma, such as the Clinician Administered PTSD Scale (CAPS; Blake et al., 1990), provide an opportunity for clinicians to collect more refined information on the presence and severity of trauma-related symptoms. There are also a multitude of trauma-focused self-report instruments available to clinicians including event checklists, such as the Stressful Life Events Screening Questionnaire (SLESQ; Goodman et al., 1998) or the Traumatic Events Questionnaire (TEQ; Vrana & Lauterbach, 1994). Disorder specific questionnaires include the Posttraumatic Stress Scale (PSS; Foa, Riggs, Dancu, & Rothbaum, 1993), the Detailed Assessment of Posttraumatic Stress (DAPS; Briere, 2001), and the Civilian Mississippi Scale for PTSD (Vreven, Gudanowski, King, & King, 1995).

One multiscale inventory, namely the Trauma Symptom Inventory (TSI; Briere, 1995), assesses posttraumatic symptoms and also other trauma related psychopathology. Accordingly, the TSI provides standardized clinical data about the presence and severity of trauma symptoms beyond that of simple PTSD. Specifically, the TSI manual states that it was developed to “provide important and relatively unique information on the short and long-term sequale of

traumatic events" (Briere, 1995, p. 47). The TSI possesses (a) 10 clinical scales that assess trauma-relevant psychopathology and (b) three validity scales that assess different styles of responding. The TSI's comprehensive coverage and presence of validity scales sets it apart from other trauma focused self-report measures. Due to its inclusion of symptoms beyond that of PTSD, the TSI may also be particularly helpful when evaluating patients with complex trauma.

In summary, the evaluation of individuals who have experienced traumatic events is a complicated endeavor. The wide range of emotional consequences experienced by survivors of trauma creates the need for clinicians to use a comprehensive evaluation strategy. This need has led to the availability of a large number of specialized psychological tests for trauma including event checklists, focused symptom questionnaires, multiscale inventories, and structured interviews. Many assessment procedures, though, rely heavily upon client self-reports (Keane et al., 2004; Koch, O'Neil, & Douglas, 2005). Despite this reliance, most instruments completely neglect the measurement of response styles. This omission may leave trauma evaluations particularly vulnerable to clients' feigning psychological symptoms without detection.

Feigning: An Overview

The evaluation of psychopathology relies mostly on the self-report of clients. Correspondingly, the accuracy of evaluations is largely contingent upon genuine clinical disclosures. As a result many mental health professionals often assume that clients provide honest, accurate, and complete clinical information (Burgess & McMillan, 2001). However, most individuals engage in a variety of different response styles during a typical evaluation (Rogers, 2008a). It is not uncommon for clients to minimize undesirable traits, withhold embarrassing information, or even exaggerate a symptom's impact on their functioning. It is the extent and clinical relevance of these distortions that can have a seriously detrimental effect on

the accuracy of conclusions in an evaluation. Response styles are particularly relevant to evaluations of trauma where clients may: (a) minimize the presence of psychopathology prior to the trauma, (b) withhold unrelated factors that may contribute to their impairment (e.g., past traumas), and/or (c) exaggerate the level of functional impairment resulting from the trauma.

Rogers (1997) has proposed that clients can respond to clinical inquires during an evaluation in four basic response styles: honest, random-irrelevant, defensive, and feigning. Acknowledging the complexity of intentional distortions, Rogers further noted that clients may distort their symptoms to greater or lesser degrees within these categories, which has been supported in several recent taxometric studies of feigned mental disorders (Walters et al., 2008) and feigned cognitive impairment (Walters et al., 2009).

Greene (2000) has also provided a conceptual framework of client response styles. According to his bipolarity hypothesis, a client's style of responding during an evaluation can be considered along a continuum of distortion ranging from "faking good" (i.e., defensiveness) on one end of the spectrum to "faking bad" (i.e., feigning) at the other. Green's hypothetical relationship between feigning and defensiveness, though, has been largely uninvestigated. In fact, Rogers, Sewell, Vitacco and Martin (1998) reported preliminary evidence contrary to Green's hypothesis of bipolarity. They found measures of feigned mental disorders and defensiveness on the MMPI-2 to be largely independent of one another in a meta-analysis of more than 65 empirical studies. To date no other empirical study has directly contrasted the relationship between feigned and defensive responding by clients. Regardless of the model used to conceptualize response style, it is apparent that clinicians should consider both the manner and magnitude of potential distortions when performing evaluations of clients.

Types of Feigning

Most clinical and academic attention on patient response styles has focused upon feigned responding of clients (Rogers, 2008a). As observed by Rogers and Payne (2006), the act of intentionally distorting symptoms in a pathological direction has been referred to by many different terms. Malingering, exaggeration, over-endorsement, factitious, fake-bad, feigning, sub-optimum performance, fabrication, and dissimulation are some of the labels popularly used to describe purposeful overly pathologized distortions. However, many of these terms carry overtly pejorative connotations (e.g., fake-bad) or are misleading (e.g., sub-optimum performance). Others refer to only one type of distortion (e.g., exaggeration and fabrication) or rely heavily upon motivation that cannot be reliably assessed (i.e., malingering and factitious disorders). Due to these limitations, Rogers and Payne suggested that researchers and clinicians use the term "feigning" to describe overly pathologized distortions.

Feigning of all information by a client is rare during an evaluation. Most often, a client's clinical presentation is a complex mixture of honest, non-disclosed, minimized, exaggerated, and/or fabricated symptomatology (Rogers, 2008a). Additionally, feigners can also deceive evaluators about their symptom's qualitative impacts (e.g., unable to work). Resnick, West, and Payne (2008) described three, non-exclusive, types of feigning that may be utilized by patients during the course of an evaluation: (a) pure feigning, (b) partial feigning, and (c) false imputation. According to Resnick et al., pure feigning occurs when an individual consistently reports symptoms they do not have. Pure feigning is not confined to legitimate symptoms. The fabrication of absurd or seemingly impossible symptoms has also been observed (Rogers, Bagby, & Dickens, 1992, Rogers, Sewell, & Gillard, 2010).

Feigners may also engage in what Resnick et al. (2008) termed partial feigning. Partial feigning refers to the marked exaggeration of genuine symptoms in an attempt to look more impaired to examiners. Several psychological tests have successfully relied upon feigners' exaggeration of symptoms to identify them as malingerers (see Rogers, 2008a).

Resnick et al.'s (2008) final category of feigning is the false imputation of symptoms. False imputation refers to true psychological symptoms that an individual intentionally ascribes an inaccurate source. Attention has primarily focused upon the false imputation of trauma symptoms and has neglected other psychological conditions. The direct cause-effect relationship of PTSD lends itself well to false attributions. For example, a trauma client may falsely attribute flashbacks to a recent car accident instead of past abuse. Interestingly, the literature regarding false imputation of symptoms has been limited to theory only (Resnick, 1997; Resnick et al., 2008). Currently, no strategies are explicitly designed to detect the false imputation of symptoms by patients. In fact, the detection of patients engaging in false imputation is near impossible in the absence of a thoroughly documented psychiatric history or other reliable collateral sources.

DSM-IV-TR Classifications of Feigning

Clinical practice often requires diagnostic determinations by mental health professionals. These determinations include decisions about differential diagnoses as well as classifications of feigning. The *DSM-IV-TR* (APA, 2000) offers one diagnosis (factitious disorder) and one clinical condition (malingering) regarding client feigning of psychological symptoms. Differential consideration between these related feigning conditions relies heavily upon the determination of client motivations.

Malingering

Malingering is considered a “V code” in the *DSM-IV-TR*. This designation requires clinicians to make a dichotomous determination, similar to that of *DSM-IV-TR* disorders, about the presence or absence of a condition (i.e., malingering versus not malingering). According to *DSM-IV-TR* (APA, 2000, p. 739), malingering is defined as: “The intentional production of false or grossly exaggerated physical or psychological symptoms, motivated by external incentives such as avoiding military duty, avoiding work, obtaining financial compensation, evading criminal prosecution, or obtaining drugs.”

DSM-IV-TR's concept of malingering relies heavily upon the presence of external incentives as the motivation for feigning. However, malingerers may possess complex motivations consisting of both internal and external incentives that lead them to feign symptoms. This formulation can be contrasted with factitious disorder (FD) that relies explicitly upon the presence of internal incentives to understand client feigning. As expected, the *DSM-IV-TR*'s conception of malingering as a V code does not include any formal inclusion or exclusion criteria, however, it does provide a list of suggestions to be used to guide a clinician's suspicion about possible malingering. Table 3 presents the suggestions provided by the *DSM-IV-TR*.

Table 3

DSM-IV-TR Malingering Guidelines

Malingering should be strongly suspected in any of the following combinations:

1. Medicolegal contexts of presentation (e.g., the person is referred by an attorney to the clinician for examination).
 2. Marked discrepancy between the person's claimed stress or disability and objective findings.
 3. Lack of cooperation during the diagnostic evaluation and in complying with the prescribed treatment regimen.
 4. The presence of antisocial personality disorder.
-

Source: DSM-IV-TR (APA, 2000, p. 739).

The prevalence of malingering in clinical practice is greatly dependant upon the context of the evaluation. According to survey data obtained from over 500 forensic psychologists and other practitioners, it is estimated that malingering occurs in approximately 7% of non-forensic referrals (Rogers, Sewell, & Goldstein, 1994) but this rate more than doubles (17%) within criminal forensic examinations. While reliable estimates of malingering in civil forensic evaluations are not available, the omnipresent incentive to obtain tangible gains, such as disability benefits or money from a personal injury claim, clearly make considerations of malingering an overriding concern in these evaluations.

Factitious Disorder

Factitious disorder is a recognized mental disorder in the *DSM-IV-TR* (APA, 2000). Contrary to malingering, the etiology of FD presumes that client feigning is a direct expression of psychopathology. Rogers (1997) emphasized the key difference between FD and malingering clearly when he contrasted the motivation of factitious feigning as pathogenic and motivations of malingerers as more antisocial. As a mental disorder, the *DSM-IV-TR* provides explicit criterion for clinicians rendering diagnostic conclusions, which include: (a) engagement in the intentional feigning of symptoms, (b) the motivation to feign is to assume a sick role, and (c) external incentives for feigning are absent. The *DSM-IV-TR* also provides several examples of common presentations observed of inpatients with FD. These descriptions are provided in Table 4.

Table 4

Common Features of Factitious Presentations by Hospitalized Patients

1. Atypical or dramatic presentation that is not due to a genuine condition/disorder.
 2. Symptoms that are only present when the individual is being observed.
 3. Production of fantastic lies or stories.
 4. Disruptive behavior when hospitalized.
 5. Extensive knowledge of medical terms and hospital routines
 6. Covert use of substances.
 7. Evidence of multiple treatment interventions.
 8. Extensive history of traveling different places to receive treatment.
 9. Few visitors while hospitalized.
 10. Fluctuating clinical course of symptoms.
 11. Rapid development “new” pathology when initial diagnosis proves to be negative.
-

Note. Summarized from *DSM-IV-TR* (APA, 2000, p. 516).

The quintessential internal motivation of factitious patients is the attainment of a sick role or “patient” social status. But what exactly is a sick role? Parson’s (1951) described the patient role as a social engagement with others by an individual striving to attain four primary goals: (a) sanctioned withdrawal from duties and expectations due to illness, (b) exemption of responsibility due to illness, (c) engagement in treatment to become healthy, and (d) active seeking of competent treatment for illness. Strikingly, conceptualization of the sick role has gone largely unchanged since Parson’s description over 50 years ago. Although some have criticized Parson’s original conception because it ignores the influence of societal factors such culture and ethnicity (Shilling, 2002) his

model is still widely accepted and is often cited today as a key reference in research focusing upon patient-physician relationships (Williams, 2005).

Considering the well-recognized stigma associated with illness, especially mental disorders (Corrigan & O'Shaughnessy, 2007), why would someone want to appear sick? What do FD patients gain from assuming a sick role? Hamilton and Janata (1997) believe that identification with the sick role may serve to complement a deficient self-concept and even bolster self-esteem in patients. Hamilton and colleagues (Feldman, Hamilton, & Deemer, 2001b; Hamilton, Deemer, & Janata, 2003) believe that FD patients strive to gain positive benefits through feigning such as: (a) appearing intelligent and knowledgeable about illness, (b) feeling unique and special by presenting rare symptoms to professionals, and (c) experiencing vicarious boosts in self-esteem from interacting with health professionals. Similarly, Cunien (1997) noted that the sick role might provide opportunities for patients to passively conflict with authority, fulfill dependency needs, be submissive to treatment, or gain feelings of control over past trauma. Resnick (1997) also highlighted the potential relationship between traumatic exposure and FD when he concluded that some combat veterans may feign symptoms to gain sympathy, attention, or even admiration of their peers.

Feigned Trauma

The imperfect relationship between trauma and corresponding impairment often leads to questions regarding the legitimacy of symptom claims. Accordingly, trauma-related litigation (e.g., personal injury and disability claims) has increased since *DSM-III's* addition of PTSD (Shuman, 2003). In response to this litigation boom, the assessment of potential feigning in evaluations of trauma has become standard practice for many forensic clinicians (Simon, 2003; Wilson & Moran, 2004).

The prevalence of feigned trauma symptoms has yet to be firmly established in clinical and forensic contexts. Three factors have contributed to the lack of accurate prevalence estimates for feigned trauma. First, studies estimating the base-rates of both malingering and factitious disorders do not specify the occurrence of feigned trauma symptoms. Second, psychological symptoms of trauma can encompass a variety of different domains including mood, anxiety, personality, psychosis, and cognitive dysfunction. Estimates that do not consider all domains may greatly underestimate the true rate of feigned traumatic effects. Third, most studies provide estimates of feigning based upon the presence of elevated scores on psychological tests. Validity scales are often reliable measures of suspected but not definite feigning. Keeping these limitations in mind, prevalence estimates relevant to feigned trauma are reviewed.

As noted earlier, malingering is estimated to occur in 7% of non-forensic referrals and in approximately 17% of criminal forensic evaluations (Rogers et al., 1994). Although not a pervasive concern for criminal forensic evaluations, there are opportunities for patients to feign trauma symptoms within criminal forensic settings. Appelbaum and colleagues (1993) reported that a small percentage of defendants enter insanity pleas due to a primary diagnosis of PTSD. Additionally, the effects of trauma (particularly child abuse) are often considered mitigating factors during sentencing proceedings of tried offenders (Cunningham & Reidy, 2001). The presence of feigned trauma, though, may be a more relevant concern for clinicians performing civil forensic evaluations of psychological injury or disability.

Lees-Haley (1986, p. 31) noted the prominence of feigned trauma in civil forensic evaluations over two decades ago when he stated, "with the steady growth of awards for intangible injuries, it behooves attorneys and courts to be aware of an increase in exposure to

malingering.” Since that time, several studies appear to support this assertion. Frueh et al. (2000) found MMPI-2 validity scale elevations in approximately 20% of disability evaluations within the Veterans Administration. Similarly, Rogers, Payne, Berry, and Granacher (2009) estimated base-rates of feigning between 16% and 30% in a large continuous sampling of approximately 600 disability evaluations at a forensic evaluation center.

Disentangling the accurate rates of feigned trauma from existing studies will undoubtedly remain problematic. Current studies are often too broad (e.g., general malingering or feigned anxiety) or too specific (i.e., malingered PTSD only) to render accurate estimates of feigned traumatic impairment. Regardless of established base-rates, the occurrence of feigned traumatic stress is substantial. Clearly, clinicians need to consider the potential for feigned presentations when evaluating the psychological effects of traumatic experiences, particularly within civil forensic settings.

Evaluations of Feigned Traumatic Stress

Psychological evaluations of traumatic effects are largely contingent upon a client’s perception of personal experiences such as intrusive thoughts, perceptions of fear, and avoidance behaviors. Therefore, most assessment procedures rely heavily upon a client’s self-report. This reliance leaves trauma evaluations especially vulnerable to client feigning.

Evaluations of feigned trauma can be complicated by a number of factors including the genuine occurrence of atypical symptoms, multiple comorbid disorders, and the experience of erratic clinical presentations. Unfortunately the diffuse, extreme, and variable clinical profiles of many trauma patients are strikingly similar to the clinical presentations of some feigners that are sometimes nonselective, exaggerated, and inconsistent.

The evaluation of feigning with traumatized patients can also be complicated by non-conscious symptom distortions. Psychogenic distortions are common among traumatized patients, most prominently those associated with comorbid somatoform disorders. Clearly clinical decisions that rely largely upon the assessment of a client's non-conscious motivation to distort symptoms are vulnerable to errors. The *DSM-IV-TR* openly acknowledges the potential for misclassification of psychogenic presentations as feigning when it warns clinicians of differential classifications between somatoform disorders, factitious disorders, and malingering (APA, 2000, p. 465). Table 5 summarizes the diagnostic considerations evaluators must perform when making classifications of feigned trauma.

Table 5

Differential Considerations for the Evaluation of False Symptoms

Condition	Motivation	Primary Gain	Distortions
Malingering	Conscious	External	Voluntary
Factitious Disorders	Conscious	Internal	Voluntary
Somatoform Disorders	Non-Conscious	Internal	Involuntary

Note. Primary gain is emphasized because patients who are malingering may also experience less prominent internal gains.

The DSM-IV-TR and Feigned Trauma

Misuse of the *DSM-IV-TR*'s suggested guidelines as clinical criteria for malingering can lead to erroneous determinations in evaluations of trauma. Prominently, several of *DSM-IV-TR* guidelines are particularly vulnerable to false-positive errors when applied during evaluations of trauma survivors. For example, trauma patients are often hesitant to discuss trauma-related events during evaluations and they typically engage in some form of experiential avoidance

during treatment (Bryant et al., 2007). For trauma patients, these uncooperative behaviors are not suggestive of malingering but instead represent genuine expressions of psychopathology. Comorbid diagnoses of APD are also common among trauma survivors, particularly combat veterans (Koenan, 1999). When coupling these characteristics within a medico-legal context many trauma patients satisfy three of four *DSM-IV-TR* malingering guidelines.

Standardized Methods for the Evaluation of Feigned Trauma

There is increased risk for errors in the classification of feigning during trauma evaluations. Most notably, mental health providers assessing for feigned trauma may be particularly vulnerable to the fundamental attribution error (FAE). The FAE occurs when behaviors are falsely attributed to enduring states such as personality characteristics (Jones & Harris, 1967). In evaluations of genuine PTSD, disagreeable and uncooperative clinical presentations are common. In these cases, classic symptoms such as traumatic avoidance, hypervigilance, or displays of emotional instability may erroneously lead clinicians to conclude similarly negative conclusions about these examinees (e.g. feigning). Considering the high comorbidity rates of PTSD and Cluster B personality disorders, the influences of FAE may be particularly evident in a substantial number of feigned trauma evaluations.

Because the risks of classification errors are prominent in evaluations of feigned trauma the use of standardized procedures, such as psychological tests, is of paramount importance. By asking uniform questions and employing consistent administration and scoring procedures, standardized methods may minimize the harmful biases that can influence clinical determinations during evaluations of feigned trauma.

Psychological tests represent the most common standardized methods used in evaluations of feigned trauma. However, many trauma measures do not provide any scales to assess

response styles. In a review of trauma measures commonly used during forensic evaluations, Guriel and Fremouw (2003) observed that many popular checklists, questionnaires, and interviews lack scales that assess client response styles. Accordingly, symptoms on these inventories can be easily feigned with little risk of detection. As an example, Burgess and McMillan (2001) found 94% of students successfully feigned the effects of trauma on the Posttraumatic Symptom Scale (PSS; Foa et al., 1993); they met *DSM-IV* diagnostic criteria for PTSD. Similarly, Lees-Haley and Dunn (1994) found students could successfully feign trauma on a self-report questionnaire. In their study, students successfully feigned symptoms of PTSD on a comprehensive checklist of *DSM-III-R* symptoms. These two studies illustrate the ease with which trauma symptoms can be feigned without detection on tests that do not consider the response styles of patients.

General Multiscale Inventories and Feigned Trauma

Multiscale inventories are commonly used during evaluations of feigned trauma. According to Elhai, Gray, Kashdan, and Franklin (2005), the Minnesota Multiphasic Personality Inventory, Second Edition (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989), and the Personality Assessment Inventory (PAI; Morey, 2007), are the most common multiscale inventories in evaluations of feigned PTSD. Their popularity is likely due to the possession of embedded scales that measure both feigning and trauma-related psychopathology.

Resnick et al. (2008) recently performed a comprehensive literature review of malingered PTSD and psychological measures. They found that the vast majority of empirical studies on malingered PTSD focused upon the MMPI-2 and PAI. What did these studies reveal? Most prominently, they found that genuine trauma patients scored highly on validity scales of both measures. Several researchers (Kirz, Drescher, Klein, Gusman, & Schwartz, 2001; Wolf et al.,

2008) also reported that trauma patients also obtain high elevations on the many clinical scales of these instruments. For example, Kirz and colleagues noted that trauma patients attained substantial elevations on 8 of the 10 traditional clinical scales of the MMPI-2 (M elevation = 74T). Not surprisingly, malingerers also score highly on validity scales and attain many clinical elevations on these instruments (Greene, 2000; Morey, 2007). Thus, discrimination between genuine trauma patients and feigners is a difficult task for evaluators using these instruments.

Despite a general trend of negative findings, Resnick and colleagues (2008) discovered that three validity scales were effective at detecting feigned PTSD. These scales consisted of the MMPI-2's Infrequent Psychopathology scale (Fp; Arbisi & Ben-Porath, 1995) and Dissimulation scale (Ds; Gough, 1954), and the PAI's Negative Impression scale (NIM; Morey, 2007). Compared to the other feigning scales, Fp, Ds, and NIM were better able to discriminate between genuine PTSD patients and feigners. They also were influenced less by the presence of trauma-related psychopathology, averaging lower elevations for patients with PTSD compared to other validity scales.

Structured Interviews and Feigned Trauma

Structured interviews are widely used for the assessment of trauma related symptomatology. However, there are currently no structured interviews that evaluate both post-traumatic symptoms and feigning. Two structured interviews are available for the assessment of response styles: the Structured Interview of Reported Symptoms (SIRS; Rogers, Bagby et al., 1992) and the Miller Forensic Assessment of Symptoms Test (M-FAST; Miller, 2001).

The SIRS is a focused structured interview designed specifically to assess feigning and related response styles. Despite consistent reports of strong psychometric properties in a variety of different clinical settings (Rogers, 2008a), very few studies have focused on the SIRS

effectiveness in evaluations of feigned trauma. An early study by Rogers, Kropp, Bagby and Dickens (1992) demonstrated that SIRS primary scales were able to successfully discriminate between PTSD simulators and a mixed clinical sample of inpatients. Eakin (2005) compared a group of PTSD simulators to a group of students meeting criteria for PTSD as assessed by the CAPS. This study found marked differences on the SIRS RS, BL, and RO primary scales when comparing feigners and students with PTSD. In a large sample of examinees with PTSD undergoing civil forensic evaluations for disability and personal injury, Rogers, Payne, Berry, and Grannacher (2009) found low SIRS scales with scores in the honest range for seven of the eight primary scales. These patients scored much lower on SIRS scales ($M d = 1.94$) than probable feigners. Interestingly, primary scales utilizing an amplified presentation strategy ($M d = 2.26$) discriminated better than those employing unlikely patterns ($M d = 1.63$), suggesting that amplified scales may be particularly effective in evaluations of trauma-related symptoms.

The M-FAST is a brief structured interview designed to screen for potential feigning. Support for the M-FAST's ability to detect individuals feigning psychological disorders has been promising (Gureil, Yanez, & Fremouw, 2004; Jackson, Rogers, & Sewell, 2005; Miller, 2001). Regarding trauma, two studies (Guriel & Fremouw, 2003; Guriel et al., 2004) have provided evidence of the M-FAST's ability to successfully detect student simulators of PTSD. However, no study has investigated how genuine PTSD patients respond to M-FAST scales. Considering the general trend for high elevations to occur on validity scales by PTSD patients, the M-FAST needs to be examined for its discriminant validity (i.e., feigned vs. genuine trauma).

Focused Trauma Measures and the Assessment of Feigning

Only two trauma-focused measures possess scales designed to assess client response styles. They are the Detailed Assessment of Posttraumatic Symptoms (DAPS; Briere, 2001) and

the Trauma Symptom Inventory (TSI; Briere, 1995). The DAPS is a self-report measure that assesses symptoms specific to *DSM-IV* PTSD and acute stress disorder (ASD). It also possesses the Negative Bias Scale (NBS) for assessing feigned PTSD. Despite strong convergent validity between the clinical scales of the DAPS and scores on the CAPS, much less is known about the NBS. Estimates of convergent validity are moderate with the MMPI-2 F scale ($r = .58$), PAI NIM scale ($r = .55$), and TSI ATR scale ($r = .53$). However, the NBS scale has never been studied with a simulation or known-groups design to assess its utility at classifying genuine patients and feigners.

The TSI (Briere, 1995) also assesses trauma-related psychopathology and response styles. Of its three validity scales, the ATR scale is most relevant to the assessment of feigning. Constructed during the second stage of test development, ATR items were created rationally based upon the author's judgment of bizarreness and social deviance. Further, Briere noted that ATR items are intended to measure "motivated over-endorsement of unusual items or psychotic experiences similar to that of the MMPI F scale (p. 33)." While Briere did not provide data on the criterion validity of ATR, he did summarize its convergent validity; moderate correlations were observed between ATR and the MMPI-2's F scale ($r = .50$) and the PAI's NIM scale ($r = .52$). Five studies have reported the psychometric properties of the ATR scale (Edens, Otto, & Dwyer, 1998; Efendov, Sellbom, & Bagby, 2008; Elhai et al., 2005; Guriel et al., 2004; Rosen et al., 2006).

Only two studies (Efendov et al., 2008; Elhai et al., 2005) have evaluated ATR's ability to detect feigning. Elhai and colleagues found mild ATR elevations ($M = 61.60$, $SD = 13.01$) in a genuine sample of 47 outpatient survivors of violent crime. Unfortunately, ATR's ability to discriminate between genuine and feigned PTSD was only marginal ($d = .47$). As recommended

in several previous TSI studies (Edens et al., 1998; Guriel et al., 2004), a cut score of $T > 61$ was applied and ATR was able to identify 65% of feigners correctly. However, a false positive classification rate of 34% was unacceptably high. The TSI manual (Briere, 1995) recommends using a more conservative cut score of $T \geq 90$ to protect against misclassification of malingering. When applying this conservative cut score, Elhai et al. reported a false positive rate of less than 5%. Unfortunately, additional utility estimates were not reported. However, it is very likely that the sensitivity of ATR would suffer greatly as a consequence of this conservative cut score, resulting in many feigners being undetected. In line with this point, Efendov et al. observed poor sensitivity (.34) when using the recommended cut score of $T \geq 90$ to identify feigned PTSD. While slightly higher elevations were observed ($M = 64.85$, $SD = 17.63$; $d = .20$) than in Elhai's sample, ATR was able to better discriminate ($d = .76$) genuine PTSD from simulated PTSD. However, this ability decreased dramatically ($d = .14$), when simulators were coached about the presence of validity scales, suggesting that ATR is ineffective when simulators are sophisticated in their feigning. In comparing the two studies, Efendov et al.'s coached simulators of PTSD scored higher on ATR than Elhai et al.'s coached simulators ($d = .50$). This discrepancy can be explained by the level of training for simulators, which was considerably greater in the latter study (i.e., viewed worksheets, case vignettes, and an informational video).

Summary

The evaluation of posttraumatic stress relies heavily upon client self-reports. This reliance leaves evaluations highly vulnerable to client feigning of trauma symptoms. As a complication, many feigning scales on psychological tests are markedly elevated when utilized with genuinely traumatized patients. On a positive note, several scales have demonstrated good

utility for assessing feigned PTSD. The following section examines several detection strategies that have proven useful in evaluations of feigned trauma.

Detection Strategies and Feigned Trauma

It is standard practice for test developers to operationally define their target construct during the initial stages of scale development (Devellis, 2003). This consideration is thought to aid in the identification of key characteristics during item creation and prevent construct drift from occurring. Feigning scales can also rely upon a defining concept during scale development. However, these concepts differ slightly from traditional theories that identify core characteristics of latent psychological constructs. Instead, conceptual bases for the measurement of feigning focus primarily upon a rationale to identify feigned responding. For example, Lanyon (1997) characterized feigning scales as accuracy of knowledge tests. He focused upon the content of items on validity scales and their ability to adequately address the concept being feigned (e.g., feigned psychosis). Rogers (2008b) referred to the core principles underlying feigning scales as detection strategies. Accordingly, he defined a detection strategy (p. 16) as a conceptually-based method for “differentiating a specific response style (e.g., malingering or defensiveness) from other response styles (e.g., honest responding).”

Feigning scales commonly assess one of three general domains: feigned mental disorders, feigned cognitive impairment, or feigned medical conditions (Rogers, 2008b). Relevant to the current study, Rogers summarized detection strategies used for the detection of feigned mental disorders. Based largely upon factor analytic findings from the SIRS (see Rogers, Jackson, Sewell, & Salekin, 2005), he organized these detection strategies into two broad categories: (a) amplified presentations and (b) unlikely presentations. Table 6 provides a summary and brief description of these strategies.

Table 6

Summary of Detection Strategies for Identification of Feigned Mental Disorders

Detection Strategy	Description of Strategy
<i>Rare Symptoms*</i>	Relies upon the assumption that malingerers are unlikely to recognize which symptoms occur very infrequently among genuine patients.
<i>Symptom Combinations*</i>	Relies upon the assumption that malingerers are unlikely to recognize that some psychological symptoms do not typically occur together.
<i>Improbable or Absurd Symptoms*</i>	Utilizes endorsement of extremely bizarre items to measure feigning. These items are fantastic in quality and are not generally recognized as legitimate mental health symptoms.
<i>Unlikely Patterns of Pathology*</i>	Relies upon the idea that certain patterns of psychopathology are not likely to be experienced by psychiatric patients.
<i>Obvious Symptoms^</i>	Relies upon the endorsement of very blatant symptoms of mental illness at high frequencies to identify feigners.
<i>Subtle Symptoms^</i>	Relies upon the endorsement of genuine psychological symptoms that have been determined to be less recognizable as indicators of mental disorders to identify feigners.
<i>Severity of Symptoms^</i>	Relies upon the assumption that feigners will report a large number of symptoms as extreme or unbearable.
<i>Selectivity of Symptoms^</i>	Relies upon the assumption that feigners will report a large array of psychological symptoms, larger than that of even the most impaired clinical patients.
<i>Reported vs. Observed Symptoms^</i>	Relies upon the observation of an individual's clinical presentation and the correspondence with their self-report of symptoms. A report of symptoms that are more impaired than what is observed indicates feigning on RO scales.
<i>Erroneous Stereotypes^</i>	Relies upon common misperceptions about psychological symptoms. Individuals that agree with many of these misassumptions about mental disorders are likely to be feigning.

Note. *Indicates an unlikely symptom strategy. ^Indicates an amplified symptom strategy.

Amplified Presentations

The gross exaggeration of symptoms is a cardinal feature of individuals malingering psychopathology (APA, 2000). The term exaggeration implies that a genuine symptom is present. Amplified presentation strategies capitalize on the excessiveness of feigned clinical presentations. They identify feigners via markedly high frequencies, durations, or intensity of reported symptoms. Five specific detection strategies rely upon amplified presentations: (a) symptom selectivity, (b) symptom severity, (c) erroneous stereotypes, (d) obvious and subtle symptoms, and (e) reported versus observed symptoms. Two of these strategies (symptom selectivity and symptom severity) are easily adapted to existing trauma-focused measures with preliminary support for their ability to assess feigned trauma.

Selectivity of Symptoms

Rogers (1984, 2008) has suggested that feigners may be non-selective in their endorsement of psychological symptoms in an attempt to appear globally impaired. This indiscriminant endorsement differs from genuine patients that commonly report only the psychopathology that they currently experience. Symptom selectivity is a detection strategy that relies on the assumption that feigners will report a large array of psychological symptoms, much larger than the most impaired patients.

Currently, only a few psychological tests possess feigning scales that rely upon the selectivity of symptoms detection strategy: the SIRS Selectivity Scale and the Schedule of Affective Disorders and Schizophrenia (SADS; Spitzer & Endicott, 1978) Overendorment of Symptoms Scale (Rogers, 1997, Ustad, 1998). These feigning scales assess a variety of different symptoms and therefore reflect endorsement of symptoms across a number of different disorders.

Large effect sizes have been reported for these scales in a number of different settings when discriminating between feigners and mentally disordered patients (Rogers, 2001, 2008).

Utility of the selectivity of symptoms strategy in evaluations of feigned trauma also appears promising. Rogers, Kropp et al. (1992) found that correctional patients asked to simulate PTSD scored significantly higher ($M = 18.00$; $d = 1.72$) on the SIRS SEL scale than a sample of mixed clinical inpatients ($M = 6.76$). Likewise, Eakin (2005) also found the SIRS Selectivity Scale to be useful when discriminating between protocols of feigned PTSD and students meeting criteria for PTSD (Cohen's $d = 1.09$).

Symptom Severity

Symptom severity is an amplified detection strategy that relies upon the assumption that feigners will report a much larger number of symptoms as extreme or unbearable than genuine clinical patients (Rogers, 1984). In contrast to symptom selectivity's focus upon breadth as a strategy for detecting feigning, symptom severity focuses on the intensity of symptom reporting to identify potential malingerers.

The SIRS Severity Scale (SEV), the MMPI-2 LW scale, and the SADS Symptom Severity scale (Rogers, 1997; Ustad, 1998) rely upon symptom severity as a detection strategy to detect feigning. These scales have produced large effect sizes when comparing feigners to genuine patients (Rogers et al., 2003; Rogers, 2008a). To date, only a few studies have investigated symptom severity strategy in evaluations of feigned trauma (Eakin, 2005; Porter, Peace, & Emmett, 2007; Rogers, Kropp et al., 1992). Porter et al. found that individuals feigning PTSD reported more extreme emotional distress on the Revised Impact of Events Scale (IES-R; Weiss & Marmar, 1997) than genuine trauma survivors. Similarly, Rogers et al. found PTSD simulators to score highly ($M = 14.13$) on the SIRS SEV scale, which was remarkably higher (d

= 1.59) than a group of inpatients. Eakin (2005) also found that PTSD simulators scored highly on the SIRS SEV scale. Specifically, the SEV scale was effective at discriminating between these feigners and students with PTSD ($d = 1.08$). Based on these findings, the symptom severity detection strategy may be useful in evaluations of feigned trauma.

Unlikely Presentations

The false production of symptoms is likely the most prototypical feature of individuals that malingering psychopathology (APA, 2000). Resnick et al. (2008, p. 111) affirmed this perspective when describing feigners who completely fabricate symptoms as “pure malingerers.” Detection strategies that rely upon unlikely presentations are characterized by atypical symptoms and unlikely symptom patterns that are not usually found in genuine populations. Unlikely presentation strategies include the identification of: (a) rare symptoms, (b) improbable symptoms, (c) unusual symptom combinations, and (d) unlikely patterns of psychopathology. The rare symptom and symptom combination strategies have demonstrated preliminary support for their utility at assessing feigned PTSD. They can also be readily operationalized on existing trauma-focused measures.

Rare Symptoms

The rare symptom detection strategy is the most frequently employed detection strategy on psychological tests (Rogers, 2008a). This strategy relies upon the assumption that feigners are unlikely to recognize which symptoms occur very infrequently among genuine patients. Malingerers typically report high numbers of rare symptoms in an attempt to look very impaired (Rogers, 1984). It is their infrequent endorsement in clinical populations and not the item content per se that leads items to be included on rare symptoms scales. Rare symptom scales routinely demonstrate large effect sizes when discriminating between feigned and legitimate

protocols (see Rogers, 2008a). Additionally, they often produce low scores when administered to genuine patients (Arbisi & Ben-Porath, 1995; Rogers, 2008a; Rogers et al., 2003).

Rare symptoms scales are effective in evaluations of feigned trauma. Resnick and colleagues (2008) summarized 12 studies that investigated feigned PTSD with the MMPI-2 and the PAI. In this review rare symptom scales (MMPI-2 Fp, Fptsd and PAI NIM) were found to be very effective at discriminating between feigning and genuine PTSD groups. Cohen's *ds* for these three scales averaged between .85 and 1.25. Across the eight available studies (Bury & Bagby, 2002; Eakin et al., 2004; Elhai et al., 2002; Elhai et al., 2004; Elhai, Gold, Frueh, & Gold, 2000; Elhai, Gold, Sellers, & Dorfman, 2001; Marshall & Bagby, 2006; Wetter et al., 1993), average elevations for Fp were moderately high ($M = 66.61$, $SD = 19.75$) for genuine patients, but on average simulators scored much higher ($M = 89.74$, $SD = 23.85$; $M ds = 1.24$). Similar results were reported for the Fptsd scale. Two studies of Fptsd (Elhai et al., 2004; Marshall & Bagby) produced moderately large effect sizes ($M ds = 1.07$).

Five PAI studies (Eakin, 2005; Eakin, Weathers, Benson, Anderson, & Funderburk, 2006; Calhoun, Earnst, Tucker, Kirby, & Beckham, 2000; Liljequest, Kinder, & Schinka, 1998; Scragg, Borr, & Mendham, 2006), investigated NIM, PAI's rare symptom scale. Collectively, they demonstrated a moderate level of discriminability between genuine and feigned PTSD ($M d = .85$). Importantly, NIM produced relatively low average elevations ($M = 58.60$) for most patients with genuine PTSD.

Two studies (Eakin, 2005; Rogers, Kropp et al., 1992) of the SIRS RS scale have demonstrated potential utility within evaluations of feigned trauma. In the earlier study, Rogers et al. found SIRS RS scores for PTSD simulators were higher ($M = 5.47$; $d = 1.40$), when compared to a diagnostically mixed sample of genuine inpatients ($M = 1.60$). Eakin found the

SIRS RS scale to be useful when discriminating feigned protocols from those completed by students meeting criteria for PTSD ($d = 1.12$). Average elevations for Eakin's genuine PTSD sample were more than three standard deviations lower than standard cut scores for probable feigning ($RS > 4$).

Quasi-Rare Symptoms

Rare symptom scales are based on the infrequent endorsement of psychopathology in clinical samples. The term “quasi-rare” has been used to describe scales based upon infrequent endorsement of symptoms in unimpaired populations (Rogers, 2008a). Quasi-rare scales are confounded as measures of feigning because increasing item endorsement may reflect either genuine or feigned psychopathology. The MMPI-2's traditional infrequency scales (i.e., F and Fb) and the TSI's ATR scale are examples of quasi-rare feigning scales.

Resnick et al. (2008) found eight MMPI-2 studies that investigated the effectiveness of quasi-rare scales and feigned trauma. They found the F and Fb scales to be effective at discriminating between feigned and genuine PTSD protocols ($M d = 1.07$). However, presumably genuine patients with PTSD scored generally high on these quasi-rare scales. They averaged approximately 85T for F and 83T for Fb. The danger of misclassifying genuine PTSD patients as feigners is very real, especially when considering their *SDs* (22.33 and 23.83 respectively). Based on *SDs*, a significant proportion of patients with genuine PTSD will likely exceed 100T on these scales and may be erroneously categorized as feigners.

The Trauma Symptom Inventory's ATR scale uses a quasi-rare detection strategy to assess feigning. As noted earlier, moderate ATR elevations ($M = 63.22$, $SD = 15.32$) have been observed in outpatient settings (Efendov et al., 2008; Elhai et al., 2005;). Its ability to discriminate genuine PTSD patients and feigners has ranged from mild to moderate ($M ds = .61$).

Symptom Combinations

The Symptom combinations detection strategy relies upon the assumption that malingerers are unlikely to recognize that specific psychological symptoms do not typically occur together. Even naïve feigners can recognize some common psychological symptoms. However, the unlikely combination of two common symptoms is much more difficult to discern. The SIRS (Rogers, Bagby et al., 1992) and SADS (Rogers, 1997; Ustad, 1998) possess symptom combination feigning scales. These scales have been able to successfully discriminate between genuine and feigned protocols (see Rogers, 2008a).

Symptom combination scales are effective for evaluations of feigned trauma. Rogers, Kropp et al. (1992) found the SIRS SC scale to produce significantly higher ($d = 1.12$) elevations for PTSD simulators than a diagnostically mixed sample. Eakin (2005) also found that the SIRS SC scale was able to discriminate between feigned and genuine PTSD groups ($d = 1.04$). Average elevations for his PTSD sample ($M = .70$, $SD = 1.10$) were well below the SIRS standard cut score for probable feigning ($SC > 6$).

Current Study

Despite an extensive literature on the assessment of malingered traumatic stress, little attention has focused on severely traumatized patients. This de-emphasis is highly problematic considering the substantial potential for genuine but severely traumatized patients to be mistakenly classified as malingering. The current study focuses on the Trauma Symptom Inventory, which is the only measure to assess both complex traumatic reactions and patient response styles. While previous studies of feigned trauma utilize college and outpatient samples, research has omitted severely traumatized patients. As a consequence, clinicians evaluating

extreme traumatic reactions with the TSI have no data on its effectiveness in discriminating between genuine and feigned responding.

The current study is a component of an ongoing research program that investigates the response styles of severely traumatized patients. The primary goals of this study include: (a) investigate ATR's effectiveness for identifying honest and feigned response styles within a sample of severely traumatized patients, (b) develop new feigning scales for the TSI that operationalize empirically supported detection strategies, and (c) perform validation of these scales with severely traumatized patients. These goals are addressed with five research questions and accompanying hypotheses.

Research Questions and Hypotheses

RQ1. Do the TSI feigning scales demonstrate adequate convergent and discriminant validity?

RQ2. Are the TSI feigning scales effective at differentiating feigned disability from genuine impairment using independent samples of severely traumatized patients?

H1. Simulators will score significantly higher on the ATR scale than genuine patients, yielding at least moderate effect sizes ($d \geq .75$).

H2. Simulators will score significantly higher than genuine patients on each of the experimental TSI feigning scales; comparisons will yield at least moderate effect sizes ($d \geq .75$).

RQ3. Do the TSI feigning scales detect within-subject changes in response style when simulators are asked to feign disability?

H3. Simulators will score higher in the malingering condition than in the standard (i.e., genuine) condition.

RQ4. Do TSI feigning scales correctly classify feigned and genuine response styles?

Supplementary Question and Hypothesis

SQ1. Are elevations on the TSI feigning scales affected by symptoms of dissociation and psychosis?

H4. Patients reporting psychosis and dissociation on the SADS-C will score significantly higher on each of the TSI feigning scales than patients not reporting psychosis and dissociation.

CHAPTER 2

METHOD

Prior to data collection, administrative approval for the study was obtained from the director of the Trauma Treatment Program at Timberlawn Mental Health System. In addition, ethical approval from the University of North Texas Institutional Review Board was granted on August 25, 2005. A copy of the IRB approved consent form is attached as Appendix A. The study received continued approval from both agencies throughout data collection, which last approximately three years and ended on June 7, 2008.

Design

The current study employed a mixed simulation design to investigate the response styles of severely traumatized patients. Two independent samples of patients were used to perform between-groups and within-subject comparisons of genuine and feigned responding. Between-group comparisons were performed to broadly investigate the functioning of each scale across representative clinical groups of genuine trauma patients and trauma patients simulating disability. Within-subject comparisons of the study provided a more refined focus upon each scale's ability to reflect changes in response style (i.e., genuine to feign, genuine to genuine) among traumatized patients.

Participants

Participants were recruited from the Psychological Trauma Unit of Timberlawn Mental Health System. The Psychological Trauma Unit specializes in the treatment of severe posttraumatic states, which often includes patients experiencing comorbid dissociative disorders. Patients on the unit have frequently experienced multiple hospitalizations due to trauma-related psychopathology, which includes severe dissociation, recurrent suicide attempts, and psychotic

symptoms. Most patients have extensive trauma histories composed of repeated victimization and abuse. Many are receiving mental disability benefits at the time of their hospitalization.

Patients admitted to the unit receive approximately two weeks of intensive inpatient treatment. Typical treatment regimes include individual and group psychotherapy as well as psychiatric medications. Following their hospitalization, many patients continue treatment through a “day-patient” program offered within the unit. Day-patients continue to receive the same treatments as inpatients, but receive evening furloughs to reside in the community. As a result, patients within the trauma unit vary from inpatient to day-patient status.

Measures

The current study is a major component of a research program evaluating severe trauma and response styles. Research protocols contain a number of psychological tests including global measures of psychopathology, trauma-relevant questionnaires, focused measures of PTSD symptoms, and several tests of response style. Measures administered within research protocols but not examined in the current study included: the Dissociative Disorders Interview Schedule Self-Report Version (DDIS-SR; Ross, Heber, & Anderson, 1990), the SIRS Trauma and Disability Scales (SIRS-TDS; Rogers, 2005), and the Adjustment Questionnaire (AQ; Radley & Green, 1987). The current study used data collected from the following measures for analyses: the Trauma Symptom Inventory (TSI), the Structured Interview of Reported Symptoms (SIRS), the Schedule of Affective Disorders and Schizophrenia-Change Version (SADS-C), the Structured Clinical Interview of *DSM-IV* Disorders-PTSD Module (SCID-PTSD), the Revised Civilian Mississippi Scale for Posttraumatic Symptoms (R-CMS), and the Dissociative Experiences Scale. These measures are described further in the subsequent sections.

Trauma Symptom Inventory (TSI)

The TSI (Briere, 1995) is a 100-item, multiscale, trauma measure that is designed to assess both trauma and its associated effects on functioning. It is composed of 10 clinical scales: Anxious Arousal (AA), Depression, (D), Anger/Irritability (AI), Intrusive Experiences (IE), Defensive Avoidance (DA), Dissociation (DIS), Sexual Concerns (SXC), Dysfunctional Sexual Behavior (DSB), Impaired Self-Reference (ISR), and Tension Reduction Behaviors (TRB). Internal consistency for the clinical scales have ranged from adequate to excellent with alphas ranging from .74 to .91 (Briere, 1995). In the TSI manual, Briere (1995) reported strong convergent relationships for the TSI's clinical scales with corresponding scales of Anxiety ($r = .75$), Depression ($r = .82$), and Hostility ($r = .77$) on the Brief Symptom Inventory (Derogatis & Spencer, 1982). Additionally, the TSI Defensive Avoidance ($r = .68$), and Intrusive Experiences scales ($r = .73$) also demonstrated convergent relationships with corresponding scales of the Symptom Checklist-90. Regarding the effects of trauma, Briere found PTSD patients scored high on clinical scales of the TSI ($M = 67.03$). As evidence of discriminant validity, patients with a trauma history scored significantly higher ($M d = .81$) than non-traumatized patients.

The TSI also possesses three validity scales that measure atypical responding (ATR), inconsistent responding (INC), and defensiveness (RL). The ATR scale was created to detect “unusual phenomena or seemingly psychotic experiences” and is often employed as a scale to detect feigning (Briere, 1995, p. 11). Briere reported adequate internal consistency for ATR when administered to college students and a large sample of Navy recruits (both alphas = .75). A detailed review of ATR's effectiveness within evaluations of feigned trauma was provided earlier in the Introduction.

Structured Interview of Reported Symptoms (SIRS)

The SIRS (Rogers, Bagby et al., 1992) is a 172-item structured interview for the assessment of feigning and related response styles. The SIRS is organized into 8 primary and 5 supplementary scales. Acceptable internal consistency for SIRS primary scales has been consistently reported across a number of different settings (.77 to .92; for a summary see Rogers, 2008a). Inter-rater reliability for primary scales has also been excellent (median $r_s > .95$; see Rogers, 2001). The SIRS has been validated with both simulation designs and known-group comparisons within inpatient, outpatient, and correctional settings (see Rogers, 2008a). For discriminant validity, its primary scales have demonstrated very large effect sizes when comparing feigners from genuine responders ($M d = 1.74$). In addressing potential traumatic effects, Rogers, Payne, Berry et al. (2009) found that SIRS protocols of PTSD patients were comparable to patients with other common diagnoses such as anxiety disorders or major depression.

Schedule of Affective Disorders and Schizophrenia—Change Version (SADS-C)

The SADS-C (Spitzer & Endicott, 1978) is a brief semi-structured interview for assessing the presence and severity of key Axis I symptoms. It contains a Global Assessment Scale (GAS) that parallels the *DSM-IV-TR*'s (APA, 2000) Global Assessment of Functioning (GAF) scale and clinical scales assessing symptoms of depression, mania, and psychosis. Because symptoms of anxiety are a prominent aspect of trauma presentations, the five SADS-C items addressing anxiety symptoms (i.e., worry, somatic anxiety, psychic anxiety, obsessions and compulsions, and phobias) were incorporated into a new clinical scale, SADS-C Anxiety.

The SADS-C has consistently demonstrated good internal consistency for its clinical scales (M alphas = .81) and excellent inter-rater reliability (M ICC = .84) across studies using

correctional (Ustad, 1998) and inpatient samples (Endicott, Cohen, Nee, Fleiss, & Sarantakos, 1981). Clinical scales have also demonstrated strong convergent and discriminant validity. Johnson, Magaro, and Stern (1986) found the SADS-C Depression scale correlated highly with both the Beck Depression Inventory (.81) and the Hamilton Rating Scale for Depression (.96). They also reported strong relationships between the SADS-C Mania scale and the Bech-Rafaelson Mania scale (.89) and the SADS-C Psychosis scale with the New Haven Schizophrenia Index (.86). Compared to scores from an unimpaired sample of hospital staff, very large effect sizes were found for patients with depression (SADS-C Depression: $d = 1.87$), schizophrenia (SADS-C Psychosis: $d = 1.43$) and bipolar disorder (SADS-C Mania: $d = 3.39$).

Structured Clinical Interview for DSM-IV Disorders: PTSD Module (SCID-PTSD)

The SCID-PTSD module is a component of the Structured Clinical Interview of *DSM-IV* Disorders (SCID; First, Spitzer, Williams, & Gibbon, 1997). This component assesses *DSM-IV* PTSD criteria and summarizes the occurrence of lifetime Criterion A traumatic exposures. Hyer, Summer, Boyd, Litaker, and Boudewyns (1996) reported moderately high diagnostic agreement ($M kappa = .75$) between determinations based upon the SCID-PTSD and the Clinician Administered PTSD scale (CAPS; Blake et al., 1990).

Revised-Civilian Mississippi Scale for Posttraumatic Symptoms (R-CMS)

The R-CMS (Lauderbach et al., 1997) is a 39-item self-report questionnaire that provides a composite score reflecting the extent of PTSD symptomatology a respondent is experiencing. It is a revision to the 35 item Civilian Mississippi Scale for PTSD (Vreven, Gudanowski, King, & King, 1995), which did not adequately address all symptoms of PTSD. The R-CMS demonstrated excellent internal consistency (Cronbach's $\alpha = .90$) within a large sample of students with traumatic histories (Lauderbach et al.). R-CMS total scores have also displayed

predicted relationships with reports of childhood sexual abuse and adult physical abuse (Kemp, Green, Hovanitz, & Rawlings, 1995).

Dissociative Experiences Scale (DES)

The DES (Bernstein-Carlson & Putnam, 1986) is a 28 item self-report questionnaire that assesses a variety of normal and pathological dissociative experiences. Questions are rated as percentages (0%-100%) reflecting the amount of time each symptom is present. A total score is obtained by averaging the sum of all items. Van Ljzendoorn and Schuengel (1996) performed a meta-analysis of 26 DES studies and observed excellent internal reliability ($M r = .93$) among the 16 studies that reported alpha coefficients. They also found the DES total score consistently correlated ($M r = .67$) with eight different measures of dissociation.

Procedure

All patients on the Psychological Trauma Unit were initially eligible to participate in the study. To obtain the most representative sample of patients, exclusion criteria were minimal. Only volunteers unable or unwilling to provide informed consent were excused from participation. These patients were thanked for their interest and, when indicated, hospital staff was immediately alerted regarding their acute condition.

Consecutive sampling of patient volunteers occurred for a continuous period of nearly three years beginning September 7, 2005 and ending June 7, 2008. To recruit participants, graduate research assistants made announcements every Friday morning prior to a general assembly meeting on the unit. During these announcements, research assistants briefly described the study and recruited any interested patients. Volunteers were then briefed individually regarding the nature and extent of their potential involvement in the study.

Informed consent forms were individually reviewed with participants prior to the administration of first administration protocols. Consent forms are provided in Appendix A. Researchers reviewed the form's content with each participant, describing the methods, potential risks, and benefits associated with participation in the study. Patients were also informed of their right to withdraw from the study at any time.

First Administration

Prior to the administration of first administration protocols, patients were asked to put forth their best effort and answer questions on the measures honestly and accurately. The SADS-C was administered first to build rapport and to assess key Axis I symptoms. The SCID-PTSD, which addresses sensitive issues regarding traumatic events, was administered after rapport was established. The SIRS measures were administered next, followed by the Adjustment Questionnaire. After the administration of structured interviews, three self-report questionnaires (i.e., TSI, R-CMS, and the DES) were completed by patients in a counterbalanced order. As a research measure, a self-report version of the DDIS was administered last in the protocol. The administration time for first administration protocols lasted approximately three hours.

Second Administration

After one week, patients available to complete a second protocol were randomly assigned to an experimental condition (i.e., Malingering or Control). Experimental conditions were presented and explained to participants prior to beginning the second administration. To avoid confirmatory bias, a second researcher who was masked to the results of the first administration and unaware of the assigned experimental condition, completed the second administration protocol. Appendixes B and C have the specific instructions given for the experimental and control conditions. A summary of the conditions is provided below.

1. *Malingering Condition.* Patients were given a realistic scenario and asked to role-play being totally disabled. Specifically, they were instructed to simulate a severe mental disorder that prevented them from maintaining any employment. So they would understand the importance of the study, simulators were informed that millions of healthcare dollars are wasted on fraudulent claims that limit the resources available to treat genuine patients. They were offered a \$10 incentive for successfully maintaining a feigned response style.
2. *Control Condition.* Patients were asked to remain honest and forthcoming in their responses to the measures. They were informed that genuine patients are sometimes dismissed by mental health professionals as being unreliable because of misconceptions about changes in symptoms. Patients were encouraged to report their symptoms accurately so that information could be collected regarding the nature of genuine symptom changes in patients. Control patients were instructed to do their best and offered a \$10 incentive for successfully maintaining an honest response style.

To facilitate consistent role-playing throughout the protocol, experimental instructions were reviewed by patients midway through the second administration (prior to administration of the SIRS). Ancillary measures were not administered because they provided only descriptive characteristics that were recorded in the first administration. Omitted measures included the AQ, the R-CMS, the DES, and the DDIS-SR. The order of second administration protocols was as follows: the SADS-C, the SCID-PTSD, review of instructions, the SIRS, the SIRS Trauma and Disability Scales, and the TSI. Table 7 outlines the measures and order of administration for first and second administration protocols.

Table 7

Measures Administered During First and Second Administrations

Order	First Administration	Second Administration
First	SADS-C	SADS-C
	SCID-PTSD Module	SCID-PTSD Module
	SIRS	SIRS
	SIRS-TDS	SIRS-TDS
	AQ	-
	TSI ^a	TSI
	R-CMS ^a	-
	DES ^a	-
	DDIS-SR	-
Last	-	Debriefing Interview

Note. SADS-C = Schedule for Affective Disorders and Schizophrenia-Change Version; SCID-PTSD = Structured Clinical Interview for *DSM-IV* Disorders-PTSD Module; SIRS = Structured Interview of Reported Symptoms; SIRS-TDS = Structured Interview of Reported Symptoms-Trauma and Disability Scales; AQ = Adjustment Questionnaire; TSI = Trauma Symptom Inventory; R-CMS = Revised-Civilian Mississippi Scale for PTSD; DES = Dissociative Experiences Scale; DDIS-SR = Dissociative Disorders Interview Schedule Self-Report.

^a Counterbalanced measures.

Rogers and Cruise (1998) recommended that researchers conducting simulation studies assess their participants' compliance with instructions via manipulation checks. To assess their memory, participants in the current study were asked to paraphrase their instructions at the start

of the second administration. As a manipulation check, they were asked to recall the directions and describe their amount of effort after completing the second administration. For supplementary analysis, patients were also asked if they believed they successfully completed either the experimental (i.e., simulate disability) or control (i.e., remain honest) conditions. Questions in the manipulation check are reproduced in Appendix D. Including the debriefing interview, second administrations lasted about two hours.

Development and Validation Samples

Two independent samples of data were used for the development and validation of TSI feigning scales. First, the development sample is collected from traumatized patients using first administration protocols. These patients completed protocols on one occasion according to standard instructions. Second, the validation sample is composed of patients that were available to complete both first administration and second administration protocols. Validation sample patients completed protocols according to standard and experimental conditions.

Exclusions of Invalid Protocols

A main objective of the current study was to investigate genuine and feigned presentations of severely traumatized patients on the TSI. Therefore, patients providing other patterns of responding (i.e., inconsistent and irrelevant response styles) were removed from analyses. Accordingly, three exclusion criteria were implemented to rule out inconsistent and irrelevant TSI protocols: (a) produced elevations on the TSI INC scale (i.e., $\geq 75T$) within the first administration, (b) were not able to recall their instructions during the manipulation check of the second administration, or (c) indicated that they did not follow the instructions provided to them during the second administration. As described in the TSI manual (Briere, 1995), T scores ≥ 75 on INC scale were considered indicative of an inconsistent response pattern.

CHAPTER 3

RESULTS

One hundred ninety-three patients participated in the current study. Patients belonged to one of two samples. The development sample consists of 114 patients that completed first administrations only. The validation sample consists of 79 entirely different patients that completed both first and second administration protocols on successive Fridays.

Sample Exclusions Based on Manipulation Checks

Patients presenting an inconsistent response style were eliminated from subsequent analyses. Accordingly, eight protocols (or 4.1% of the total sample) were eliminated due to elevations on the TSI Inconsistency scale (i.e., T score ≥ 75). Although more were excluded from the development sample ($n = 7$) than the validation sample ($n = 1$), the rate of these exclusions did not differ statistically, $X^2(1, N = 107) = 2.79, p = .09$. Thirty-eight patients assigned to simulate disability (malingering condition) and 40 asked to answer honestly (control condition) produced consistent TSI protocols during both administrations.

As part of the manipulation checks, patients were also excluded based upon their lack of memory or effort during the debriefing interview. Six patients in the validation sample were unable to recall their instructions correctly. Of the remaining 72 protocols, only one participant reported a poor effort for the simulation condition. Therefore, a total of seven participants (9.0%) were excluded from analyses based upon their non-compliance with experimental instructions. These exclusions did not differ statistically, $X^2(1, N = 78) .09, p = .77$, between control ($n = 3$) and malingering conditions ($n = 4$).

Final Sample Description

The final sample is composed of protocols from 178 patients that were used for subsequent analyses. Figure 2 provides a STARD Flowchart that summarizes sample assignment and the previously noted exclusions. The final development sample consists of 107 patients. The final validation sample consists of 71 patients that completed both first and second administration protocols (34 assigned to Malingering and 37 assigned to Control).

Demographic Background

Across both samples, patients were predominantly middle age ($M = 40.31$, $SD = 11.24$), female ($n = 149$ or 83.7%), and European American ($n = 151$ or 84.8%). African Americans were the largest minority group represented in the sample ($n = 14$ or 7.9%). Unlike most patient samples, participants in this study were highly educated; almost all were high school graduates (98.3%) and three-quarters of all participants ($n = 136$) completed at least one year of higher education. One-third of the sample ($n = 52$) were college graduates and twenty-six of these patients (14.6% of the total sample) also possessed a graduate degree. Development and validation samples did not differ significantly on any demographic variables. Table 8 provides demographic characteristics of each sample.

Patient Psychopathology

Patients of the study were severely impaired in their psychological functioning (M GAS = 36.44, $SD = 8.86$). Most participants were inpatients ($n = 170$ or 95.5%), although a small number ($n = 8$) had recently transitioned from inpatient to day-patient status. Nearly one-half (45.5%) of patients were receiving mental health disability benefits at the time of interviewing. All patients reported a history of exposure to trauma that met Criterion A for PTSD. Due to missing data on the SCID, PTSD diagnosis was not available for seven cases.

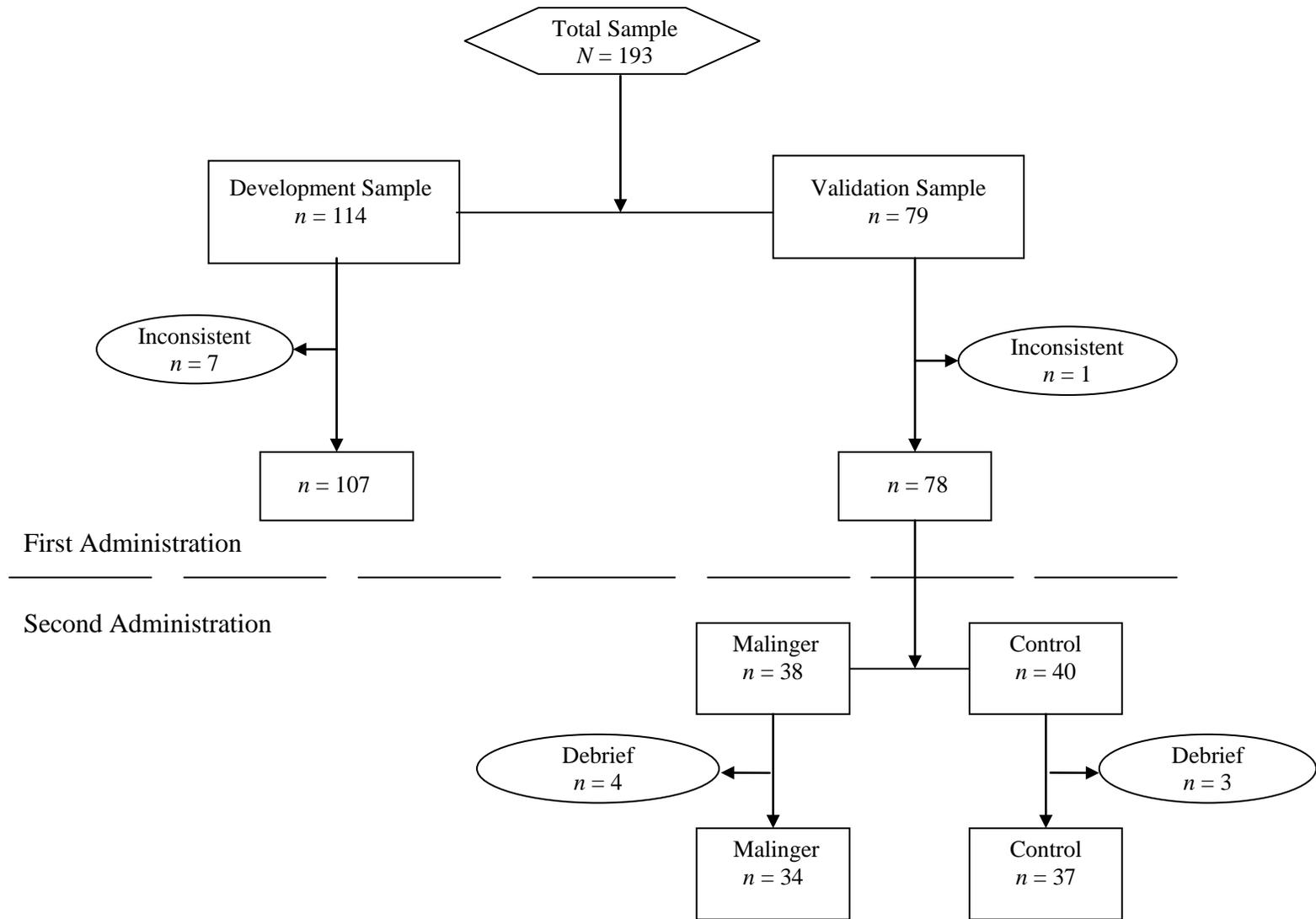


Figure 1. STARD flowchart detailing sample assignment and exclusions.

Table 8

Demographics for Development and Validation Samples

	Development (<i>n</i> = 107)	Validation (<i>n</i> = 71)	Total (<i>n</i> = 178)	Proportion of Total	X^2
Gender					1.02
Male	15	14	29	16.3%	
Female	92	57	149	83.7%	
Ethnicity ^a					.57
European American	89	62	151	84.8%	
African American	9	5	14	7.9%	
Latin American	7	1	5	2.8%	
Other	2	3	8	4.5%	
Hospital Status ^b					-
Inpatient	100	70	170	95.5%	
Day Patient	7	1	8	4.5%	
Work-Related Disability					.05
Yes	47	33	80	49.7%	
No	49	32	81	50.3%	

Note. Cases pending disability determinations were excluded from Disability totals. All X^2 values are non-significant.

^a Several cells were too small to calculate X^2 , this X^2 compares only European Americans to a composite of the other three groups.

^b Two cells were too small to calculate X^2 ; a Fischer's exact test was non-significant.

Of the remaining 171 cases only one patient in the validation sample (assigned to malingering condition) did not meet full criteria for PTSD; this patient fell short by only one symptom of posttraumatic arousal for meeting PTSD criteria during the standard administration.

Repeated exposure to traumatic events was common among patients in the study ($M = 3.65$, $SD = 1.90$). About three-quarters of the sample (77.8%) reported a history of three or more separate traumatic experiences, whereas relatively few (19 or 10.7%) disclosed only one event. Most patients (88.2%) gave accounts involving a history of physical abuse. A notable minority ($n = 29$ or 16.3 %) reported being in automobile accidents involving severe injury and/or death.

Overall, patients achieved high scores on most measures of psychopathology. Table 9 provides the average scores for participants in the development sample, validation sample, and the combined total sample. While standardized scores are not available for SADS-C clinical scales, the frequent endorsement of critical items on each scale indicated patients in both samples were experiencing severe levels of psychopathology. For example, nearly all patients in the study reported clinical levels of depression ($n = 173$ or 97.2%) and worry ($n = 156$ or 87.6%). Furthermore, most patients ($n = 155$ or 87.0%) acknowledged suicidal ideation in the past month, and more than one-third ($n = 64$ or 36.0%) disclosed recent hallucinations.

On average, patients also described severe levels of dissociation and posttraumatic stress. Average scores ($M = 15.69$) on the SCID-PTSD module approached its ceiling, indicating that most patients in the study were experiencing many *DSM-IV* symptoms of PTSD. DES scores ($M = 30.57$) were also high and similar to those obtained by patients with PTSD ($M = 32.01$) reported in van Ljzendoorn and Schuengel's (1996) meta-analysis of the DES. Similarly, patients scored in the mild to moderately impaired range on many clinical scales of the TSI (M elevation = 65.88, $SD = 11.86$). A great majority ($n = 165$ or 92.7%) of patients obtained elevations (i.e., ≥ 65) on at least two clinical scales, and 55.6% ($n = 99$) of the Total Sample achieved elevations on five or more of the 10 clinical scales.

Table 9

Clinical Characteristics of the Development Sample and the Validation Sample

	Development		Validation		Total		<i>F</i>	<i>d</i>
	<i>(n = 107)</i>		<i>(n = 71)</i>		<i>(N = 178)</i>			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Separate Traumas	3.53	1.71	3.83	2.14	3.65	1.90	1.06	-.16
PTSD Symptoms ^a	16.29	2.29	15.52	3.37	15.98	2.79	3.10	.28
R-CMS Total	116.69	16.62	115.31	12.92	116.12	15.16	.34	.09
DES Total	30.36	19.95	30.85	18.42	30.57	19.27	.03	-.03
SADS-C Depression	47.06	8.54	47.63	9.65	47.29	8.98	.18	-.06
SADS-C Mania	11.98	7.52	11.32	7.52	11.72	7.51	.33	.09
SADS-C Anxiety	19.67	4.87	20.17	4.52	19.87	4.73	.47	-.11
SADS-C Psychosis	14.69	3.94	13.82	4.00	14.34	3.98	2.07	.22
SADS-C GAS	35.93	9.27	37.22	8.20	36.44	8.86	.87	-.15

Note. Traumas and PTSD symptoms retrieved from the SCID-IV PTSD module. All comparisons between the development sample and validation sample yielded non-significant *F* values.

^a Due to missing data seven cases were excluded from these analyses. Samples sizes for these comparisons were Development Sample (*n* = 102), Validation Sample (*n* = 69), and Total Sample (*N* = 171).

The highest average elevations were observed on the TSI's Depression (*M* = 71.61), Intrusive Experiences (*M* = 69.94), Dissociation (*M* = 69.28), and Tension Reduction Behavior (*M* = 69.52) scales (see Table 10). While the lowest average elevations were observed on the

Dysfunctional Sexual Behavior scale ($M = 59.61$), these scores were still very similar to those (M elevation = 61.40; $d = .12$) achieved by PTSD patients in the TSI's standardization sample (see Briere, 1995).

Table 10

TSI Clinical Scale Scores in the Development, Validation, and Total Samples

Scale	Development ($n = 107$)		Validation ($n = 71$)		Total ($N = 178$)		F	d
	M	SD	M	SD	M	SD		
AA	67.19	9.12	64.80	8.56	66.24	8.95	3.09	.27
D	71.91	7.83	71.15	7.17	71.61	7.56	.42	.10
AI	63.00	11.49	58.87	9.98	61.35	11.07	6.10*	.38
IE	69.62	11.65	70.43	10.20	69.94	11.08	.23	-.07
DA	64.68	9.87	66.48	8.94	65.40	9.53	1.52	-.19
DIS	69.89	12.85	68.37	12.16	69.28	12.57	.62	.12
SXC	61.64	14.08	60.03	13.24	61.00	13.74	.59	.12
DSB	61.09	18.88	56.30	17.18	59.18	18.33	2.96	.26
ISR	66.02	9.96	64.10	9.11	65.25	9.65	1.71	.20
TRB	71.61	17.38	66.37	13.61	69.52	16.15	4.59*	.33

Note. AA = Anxious Arousal; D = Depression; AI = Anger/Irritability; DA = Defensive Avoidance; DIS = Dissociation; SXC = Sexual Concerns; DSB = Dysfunctional Sexual Behavior; ISR = Impaired Self-Reference; TRB = Tension Reduction Behaviors.

*Indicates significant at the $p < .05$ level.

The development and validation samples reported strikingly similar presentations of psychopathology (see Table 9 and Table 10). The difference between the two criterion groups was consistently small for all measures (d 's ranged from $-.16$ to $.38$; $M d = |.17|$). As noted in Table 10, only the TSI's Anger/Irritability and Tension Reduction Behaviors clinical scales reached statistical significance, but the mean differences on these scales were small (i.e., approximately one full item difference) and not clinically meaningful.

Scale Development

A major component of this study is the creation of new TSI feigning scales. As with other multiscale inventories, feigning scales were created within the measure. The following sections describe the procedures used for creating feigning scales on the TSI that operationalized both unlikely and amplified detection strategies.

Unlikely Presentation Scales

Unlikely presentation scales have been created through a variety of different methodologies. These techniques have included rational item creation (Briere, 1995; Miller, 2001; Rogers, 1988), observation of item frequency (Arbisi & Ben-Porath, 1995; Elhai et al., 2002; Wygant, Ben-Porath, & Arbisi, 2004), and the application of multivariate statistical procedures (Bacchioni & Bagby, 2006; Rogers et al., 1996). While item creation cannot be used with an existing measure, frequency observation and statistical analyses are readily employable. Among these methods, frequency analysis has consistently produced the most effective feigned trauma scales (Resnick et al., 2008).

The current study used TSI item endorsements in the development sample to create unlikely presentation scales. The TSI Rare Symptom (TSI-RS) and the TSI Symptom Combination (TSI-SC) scales were developed by selecting items that considered varying rates of

patient endorsements. TSI items are rated on a scale from “0” to “3;” zero reflects symptoms that are “never” experienced by a respondent and a three indicates that the symptom is “often” experienced. For the purposes of creating the unlikely presentation scales, item scores were dichotomized to reflect the presence or absence of psychopathology. Accordingly, TSI items scored “0” were considered not endorsed by a respondent and items scored greater than zero (i.e., ≥ 1) were classified as endorsed.

TSI Rare Symptoms Scale (TSI-RS)

The selection of rare items for inclusion in feigning scales has varied considerably across psychological tests. On general measures of psychopathology, maximum endorsement rates for the selection of rare items have ranged from 5% (Rogers, 1997; Ustad, 1998) to 25% (Wygant et al., 2004) in clinical populations. For this study, Wygant et al.’s criterion (i.e., < 25% endorsement for inclusion) was used for selection of rare TSI items. Accordingly, items scored as a zero by more than 75% of the development sample were retained in the TSI-RS scale.

Analysis of item frequencies in the development sample revealed very few TSI items were scored as a zero at such high rates. Only four of the 100 TSI items met the < 25% endorsement criterion for inclusion in TSI-RS scale. Interestingly, these items were also included on ATR, the TSI’s original over-reporting scale. As would be expected, however, the four TSI-RS items were endorsed considerably less frequently (M item endorsement = 18.0%) than the other items (M item endorsement = 41.8%) included on ATR. Table 11 presents the endorsement frequencies of each item included on the TSI-RS and ATR scales.

Table 11

Endorsement Frequencies of ATR and TSI-RS Items in the Development Sample

Item Number	Frequency	ATR	TSI-RS
96	11.2	X	X
82	17.8	X	X
99	19.6	X	X
92	23.4	X	X
60	29.0	X	
21	30.8	X	
65	31.8	X	
79	35.5	X	
43	51.5	X	
86	72.0	X	

Note. ATR = Atypical Response Scale. TSI-RS = Rare Symptoms Scale. Frequency is presented as the percentage of patients in the development sample exceeding the cut score of “0.” An “X” indicates that the item is included on the scale.

Despite the severe levels of impairment experienced by development sample patients, average elevations on TSI-RS were consistently very low ($M = 1.48$, $SD = 2.39$). Further evidence of TSI-RS's successful operationalization of the rare symptoms strategy was the finding

that 57.9% of patients (62 of 107) obtained a zero on the scale and 82.2% (88 of 107) endorsed one item or less.

As expected with a brief scale (Devillis, 2003), TSI-RS's internal consistency was only moderate (Cronbach's $\alpha = .62$). Item homogeneity was also moderate; all inter-item correlations were positive and in the expected range ($r_s .10$ to $.44$; $M r = .29$). On the other hand, the limited variability in TSI-RS scores within the development sample ($SD = 2.39$) contributed to a relatively modest SEM (1.47), which is considerably less than one full item endorsement on the scale (i.e., 3.00).

Because trauma patients often score highly on feigning scales, Resnick et al. (2008) suggested the use of normative-based cut scores that are established by selecting 1 or 2 SD 's above the mean scores found with genuine trauma patients. Following this recommendation, an initial TSI-RS cut score was selected based on a $M + 1 SD$ rule for severely traumatized patients in the development sample. Applying the M (i.e., 1.48) and SD (i.e., 2.39) resulted in a score of 3.87. Therefore, a cut score of TSI-RS ≥ 4 was selected to identify feigning.

TSI Symptom Combination Scale (TSI-SC)

The symptom combination detection strategy uses a sophisticated rationale to assess unlikely presentations of patients. Unlike the rare symptoms strategy, which relies simply on the report of uncommon symptoms to identify feigning, the symptom combinations strategy relies upon the endorsement of rare combinations of *commonly* experienced symptoms to identify feigning. Thus, a distinguishing feature of symptom combination scales are their explicit use of frequently endorsed items to create unlikely symptom combinations.

Rogers (1997) was the first investigator to create an embedded symptom combinations scale for an existing psychological test, the Schedule for Affective Disorders and Schizophrenia

(SADS; Spitzer & Endicott, 1978). To operationalize the symptom combination strategy on the SADS, he first identified commonly experienced SADS items (i.e., $\geq 30\%$ sample endorsement) in a heterogeneous sample of schizophrenic patients, forensic mental health patients, and jail detainees. Second, from the pool of commonly endorsed SADS items he selected unlikely symptom pairings (i.e., $\leq 10\%$ of patients reported both symptoms). The final SADS symptom combination scale identified feigning by counting the number of these uncommon symptom pairs that a patient endorsed.

In the current study, a similar multi-step approach was used to operationalize the symptom combinations strategy on the TSI. As a first step, commonly endorsed TSI items (i.e., scored greater than zero) were identified in the development sample. Due to the relatively high endorsement rate ($\leq 25\%$) used to identify rare items for the TSI-RS scale, a considerably higher threshold ($\geq 50\%$) was selected to identify commonly endorsed TSI items; a total of 76 TSI items met this criterion. Next, these common items were grouped into all possible two and three-item combinations. This rendered 2,850 unique two-item clusters and 70,300 three-item clusters.

Unlikely combinations were selected by identifying the clusters that were rarely endorsed (i.e., all items in the cluster scored greater than zero) by patients in the development sample. While no two or three-item clusters met the stringent criterion (i.e., $\leq 10\%$) used by Rogers (1997) during development of the SADS symptom combination scale, a higher threshold (i.e., $\leq 20\%$) identified 16 rare three-item clusters. These three-item clusters were retained as single items of the TSI-SC scale and are presented in Table 12. Therefore, the final TSI-SC scale counts the number of rare three item-clusters that a patient endorses all three symptoms.

Table 12

Endorsement Frequencies of the TSI-SC Item-Clusters in the Development Sample

Cluster	Items	Frequency
1	10, 19, 45	19.6
2	10, 19, 48	19.6
3	10, 43, 77	18.7
4	10, 94, 97	19.6
5	19, 26, 48	18.7
6	19, 33, 43	16.8
7	26, 45, 48	18.7
8	26, 48, 75	18.7
9	33, 43, 48	17.7
10	33, 43, 75	19.6
11	33, 43, 78	18.7
12	43, 45, 48	19.6
13	43, 48, 75	19.6
14	43, 48, 77	18.7
15	43, 75, 77	19.6
16	43, 75, 78	19.6

Note. Frequency is presented as the percentage of patients in the development sample that exceed the cut score of “0” on all three items in the cluster.

In line with its operationalization of an unlikely presentation detection strategy, average TSI-SC scores within the development sample were low ($M = 3.05$, $SD = 4.53$), particularly when considering the scale’s ceiling of 16. Similar to TSI-RS, approximately half ($n = 49$ or

45.8%) of the development sample did not endorse any items on the TSI-SC scale and 73.8% ($n = 79$) of patients scored within the scale's first quartile (i.e. ≤ 4). Paralleling the methodology used to select a cut score for TSI-RS, a TSI-SC cut score was selected based upon the average scores of traumatized patients in the development sample ($M + 1 SD$ or $3.05 + 4.56 = 7.61$). This approach resulted in a cut score of $TSI-SC \geq 8$ to identify feigning.

Estimates of internal consistency and scale homogeneity were encouraging for the TSI-SC scale. Internal consistency was excellent (Cronbach's $\alpha = .94$) and inter-item correlations were all within an acceptable range (.19 to .85; $M r = .49$), reflecting good scale homogeneity.

Amplified Presentation Scales

As outlined in the Introduction, amplified detection strategies rely upon the frequency and intensity of symptom reports to identify feigning. Accordingly, the TSI's amplified presentation scales measure the breadth of item endorsements (i.e., selectivity) and extent items are endorsed as severe. Development of the TSI Selectivity of Symptoms scale (TSI-SEL) and the TSI Severity of Symptoms scale (TSI-SEV) are detailed in the following sections.

TSI Selectivity of Symptoms Scale (TSI-SEL)

The TSI-SEL scale reflects the total number of TSI items a respondent endorses with a score of "1" or higher (i.e., symptom is present) on the entire test. In a straightforward manner, items are counted in a dichotomous (i.e., "0" for not endorsed, \geq "1" for endorsed) fashion.

TSI-SEL scale's internal consistency was excellent (Cronbach's $\alpha = .95$), but this estimate was likely effected to a great degree by the large number of items (100) contained within the scale. Analysis of TSI-SEL's inter-item correlations revealed a great amount of heterogeneity within the scale. Inter-item r s varied considerably (r s ranged from $-.22$ to $.89$) and

many negative correlations were observed. TSI-SEL's heterogeneity, though, is not surprising when considering the scale includes items from 10 clinical scales and the validity scale, ATR.

Average TSI-SEL scores ($M = 70.02$, $SD = 15.32$) indicate that development sample patients reported many symptoms on the TSI. Contrary to the low scale scores obtained on the unlikely presentation scales, developmental sample patients routinely obtained high scores on TSI-SEL. For example, 94.4% of patients ($n = 101$) endorsed 50 or more of the 100 TSI items, while only three patients (2.8% of sample) endorsed fewer than 40 TSI items. Based upon average patient scores ($M + 1 SD$ or $70.02 + 15.32 = 85.34$) a cut score of $TSI-SEL \geq 86$ was selected to identify feigning.

TSI Severity of Symptoms Scale (TSI-SEV)

Contrary to the breadth of symptom reporting that is reflected by TSI-SEL, the TSI-SEV scale measures the amount of extreme severity (i.e., symptom is "often" experienced) a respondent is reporting on the TSI. This is accomplished by counting the number of items that are endorsed at the maximum value. Therefore, the TSI-SEV score is a simple tally of the items that were endorsed as a "3."

Similar to TSI-SEL, the TSI-SEV scale is composed of all items contained within the TSI. As would be expected of a scale that contains 100 items, Cronbach's alpha was high (.95). Like TSI-SEL, the TSI-SEV scale evidenced great heterogeneity by producing a wide range (r_s - .22 to .79) of both positive and negative inter-item correlations.

Compared to the high scores obtained on TSI-SEL, severely traumatized patients in the honest condition obtained moderately low scores ($M = 36.89$, $SD = 18.61$) on TSI-SEV. For example, 80.4% ($n = 86$) of patients in the development sample scored less than 50 on TSI-SEV. The most remarkable finding, though, was that only five patients (4.7% of sample) scored in the

highest quartile (i.e., ≥ 75) on TSI-SEV, indicating that very few severely traumatized patients reported a majority of their symptoms to occur often. Table 13 provides a summary of scale characteristics for the created TSI feigning scales.

Table 13

Developmental Sample Patients and the Experimental TSI Feigning Scales

Scale	<i>M</i>	<i>SD</i>	α	<i>M</i> Inter-item <i>r</i>	<i>SEM</i>	Cut Score
TSI-RS	1.48	2.39	.62	.29	1.47	≥ 4
TSI-SC	3.05	4.56	.94	.49	1.12	≥ 8
TSI-SEL	70.02	15.32	.95	.17	3.43	≥ 86
TSI-SEV	36.89	18.61	.95	.17	4.16	≥ 56

Note. ($n = 107$). α = Cronbach's alpha coefficient. *SEM* = Standard Error of Measurement. Cut scores were selected based on a $M + 1 SD$ rule.

Feigned Presentations of Psychopathology

Consistent with the instructions to feign a severely disabling mental disorder, patient simulators achieved markedly impaired scores on measures of psychopathology. For example, average ratings on the SADS-C global impairment scale, GAS, reflected severe levels of impairment ($M = 34.67$, $SD = 4.14$). Similarly, average scores for the simulation condition were in the clinical range (i.e., > 65) on 9 of the 10 TSI clinical scales (M elevation = 70.34, SD 13.46). The average scores obtained by patient simulators on measures of psychopathology are provided in Table 14 and Table 15.

Table 14

Reports of Psychopathology by Patients in the Validation Sample

	First Administration		Second Administration									
	Standard		Control		Malingers				<i>F1</i>	<i>F2</i>	<i>d1</i>	<i>d2</i>
	<i>(n = 71)</i>		<i>(n = 37)</i>		<i>(n = 34)</i>							
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F1</i>	<i>F2</i>	<i>d1</i>	<i>d2</i>		
Traumas	3.83	2.14	3.81	1.94	3.13	2.47	.48	1.68	-.13	-.31		
PTSD ^a	15.42	3.44	15.43	3.23	15.77	3.37	2.07	.69	.36	.20		
Depression	47.63	9.65	45.08	9.83	53.15	8.19	3.65	13.99**	.48	.89		
Mania	11.32	7.52	9.57	6.63	11.74	7.77	1.71	1.61	-.08	.30		
Anxiety	20.17	4.52	19.51	4.09	22.94	4.79	13.29**	10.58**	.63	.77		
Psychosis	13.82	4.00	14.24	3.70	16.24	4.55	7.21*	4.16*	.49	.48		
Overall Impairment	37.22	8.20	40.24	8.93	34.67	4.14	.17	11.04**	-.34	.79		

Note. Traumas and PTSD Symptoms retrieved from the SCID-IV PTSD module. Depression, Mania, Anxiety, Psychosis and Overall Impairment scores obtained from clinical scales of the SADS-C. *F1* = Standard vs. Malingers; these within-subject comparisons only utilized patients assigned to the malingers condition. *F2* = Control vs. Malingers. To allow uniform comparisons and avoid the potential for overestimates in the within-subject comparisons, all effect size calculations used Cohen's standard formula based upon pooled standard deviations.

^a Due to missing data, three cases assigned to the malingers condition were excluded from analyses. Samples sizes for these comparisons were Standard (*n* = 68), Control (*n* = 37), and Malingers (*N* = 31).

**p* < .05 and ** *p* < .01.

Despite their non-specific instructions to feign a severely disabling condition, simulators increased some scores more than others. For example, simulators increased SADS-C Anxiety scale to a much greater extent (*d* = .63) than other SADS-C clinical scales (*M d* = .30). A similar trend was observed on the TSI. In contrast to the small effect size (*d* = .19) for the TSI Depression scale, the largest effect sizes were observed for TSI clinical scales assessing anxiety-

related issues including Anxious Arousal ($d = .74$), Anger/Irritability ($d = .71$), and Tension Reduction Behavior ($d = .83$).

Table 15

TSI Clinical Scale Scores in the Validation Sample

Scale	First Administration		Second Administration				<i>F1</i>	<i>F2</i>	<i>d1</i>	<i>d2</i>
	Standard (<i>n</i> = 71)		Control (<i>n</i> = 37)		Malingering (<i>n</i> = 34)					
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
AA	64.80	8.56	63.57	9.80	70.82	7.40	24.23**	12.21**	.74	.83
D	71.15	7.17	69.84	8.55	74.41	5.64	.89	6.94**	.19	.63
AI	58.87	9.98	55.22	13.74	67.88	10.32	18.95**	19.00**	.71	1.04
IE	70.43	10.20	69.19	11.06	75.35	9.79	10.31**	6.13*	.48	.59
DA	66.48	8.94	65.92	7.59	67.62	12.89	.09	.47	.06	.16
DIS	68.37	12.16	66.46	12.38	72.59	13.38	3.57	4.02*	.30	.48
SXC	60.03	13.24	58.11	14.48	65.29	15.25	4.40*	4.14*	.33	.48
DSB	56.30	17.18	56.38	19.17	67.21	23.22	9.14**	4.62*	.49	.51
ISR	64.10	9.11	53.76	21.10	64.24	18.52	.21	4.91*	-.10	.53
TRB	66.37	13.61	66.08	14.16	82.12	18.25	29.76**	17.27**	.83	.99

Note. AA = Anxious Arousal; D = Depression; AI = Anger/Irritability; DA = Defensive Avoidance; DIS = Dissociation; SXC = Sexual Concerns; DSB = Dysfunctional Sexual Behavior; ISR = Impaired Self-Reference; TRB = Tension Reduction Behaviors. *F1* = Standard vs. Malingering; these comparisons only utilized patients assigned to the malingering condition. *F2* = Control vs. Malingering. To allow uniform comparisons and avoid the potential for overestimates in the within-subject comparisons, all effect size calculations used Cohen's standard formula based upon pooled standard deviations.

* $p < .05$ and ** $p < .01$.

Unexpectedly, simulators did not significantly change their scores from the standard administration of two scales: the TSI's Defensive Avoidance (TSI-DA) and Impaired Self-Reference (TSI-ISR) scales. Specifically, the TSI-DA scale produced a negligible effect size ($d = .06$), which was likely affected by its inclusion of several items directly addressing the denial of symptomatology (e.g., "Not letting yourself feel bad..."). A slight trend was observed for simulators toward decreased scores ($d = -.10$) on the Impaired Self-Reference scale. This counterintuitive trend may suggest that simulators did not feel that items addressing issues of self-confidence and identity confusion were cardinal features of feigned disability.

Although not central to the current research, patients in the control condition produced similar clinical profiles during first and second administrations. Virtually no overall differences were found between administrations ($M d = -.04$).

Research Question 1

The first research question focused upon the convergent and discriminant validity of the TSI feigning scales. According to Campbell and Fiske (1959), a scale's convergent and discriminant validity can be tested by directly comparing the relationships with other measures of similar and dissimilar constructs. For these purposes, correlations were calculated with measures of feigning, defensiveness, and psychopathology. To establish convergent validity correlations were calculated between each of the TSI feigning scales and individual SIRS feigning scales; moderate to large positive correlations were predicted. Because of the tendency for genuine patients to produce very low scores (e.g., zero) on feigning scales, only the scores of patient simulators (i.e., malingering condition) were used for these analyses.

As primary evidence of their discriminant validity, it was predicted that each of TSI feigning scales would produce negative relationships with measures of defensiveness. Since

feigning and defensiveness are not mutually exclusive, meaning that feigners can present mixed response styles that also may include defensiveness (see Rogers, 2008a) correlations between the TSI feigning scales and measures of defensiveness were only predicted to be small. To remain consistent with convergent correlations, these analyses were calculated with scores of simulators.

Finally, the remaining analyses focused upon the expectedly discriminant relationships between the TSI feigning scales and measures of psychopathology. Since TSI items assess a broad array of trauma-related psychopathology, the TSI feigning scales were expected to produce moderate positive correlations with scales of the SCID-PTSD and SADS-C. These correlations were expected to be smaller than the convergent correlations produced with SIRS feigning scales. Because simulators were expected to score highly on measures of psychopathology and feigning as a product of their simulation, only the scores of genuine patients (i.e., control condition) were used to calculate discriminant correlations with measures of psychopathology.

Convergent Validity

Overall, the TSI feigning scales demonstrated strong convergent validity with SIRS scales. As hypothesized, moderate to large positive correlations ($M r_s = .52$; see Table 16) were obtained between the TSI feigning scales and the SIRS primary scales; large correlations were also consistently produced with the SIRS Total score ($M r = .69$). In general, equally strong relationships were obtained with the TSI's unlikely presentation scales ($M r_s = .53$) and amplified presentation scales ($M r_s = .51$). Expectedly, the TSI's unlikely presentation scales produced their larger average correlations ($M r = .60$) with SIRS unlikely presentation scales than the SIRS amplified scales ($M r = .43$). In contrast, the TSI amplified presentation scales

produced almost identical average correlations with the SIRS unlikely ($M r = .51$) and amplified ($M r = .50$) scales.

Table 16

TSI Feigning Scales and the SIRS: Convergent Validity with Patient Simulators

TSI Feigning Scales					
SIRS Scale	TSI-ATR	TSI-RS	TSI-SC	TSI-SEL	TSI-SEV
RS	.72*	.69*	.67*	.56*	.55*
SC	.67*	.65*	.60*	.57*	.58*
IA	.73*	.72*	.58*	.53*	.56*
RO	.58*	.55*	.34	.29	.47*
BL	.59*	.56*	.49*	.51*	.52*
SU	.28	.25	.31	.41*	.45*
SEL	.47*	.42	.46*	.51*	.52*
SEV	.51*	.48*	.44*	.53*	.57*
<i>Average</i>	.57	.54	.49	.49	.53
Total	.76*	.72*	.64*	.61*	.69*
DS ^a	-.08	-.04	-.14	-.02	-.08
TSI RL	-.15	-.17	-.21	-.25	-.18

Note. ($n = 34$). RS = SIRS Rare Symptoms; SC = SIRS Symptom Combinations; IA = SIRS Improbable or Absurd Symptoms; RO = SIRS Reported vs. Observed Symptoms; BL = SIRS Blatant Symptoms; SU = SIRS Subtle Symptoms; SEL = SIRS Symptom Selectivity; SEV = SIRS Symptom Severity; DS = SIRS Defensive Symptoms; Total = SIRS Total.; TSI-RL = TSI Response Level Scale.

^a For purposes of the table, the SIRS DS scale was re-scored so increases in DS scores reflect increases in defensiveness.

* To balance concerns about Type 1 and Type 2 errors, $p < .05$ is considered a non-significant trend, whereas $p < .01$ is considered significant.

A few unexpected relationships also surfaced between the TSI and SIRS feigning scales. First, relationships with the SIRS Subtle Symptoms scale were weaker ($M r = .34$) than predicted, particularly TSI's unlikely scales. All three unlikely presentation scales produced small ($r s < .35$) and non-significant correlations with SIRS SU, which may be a reflection of their divergent detection strategies; SIRS SU uses common symptoms to measure feigning and the TSI unlikely presentation scales rely upon very uncommon clinical characteristics. Second, although individual TSI feigning scales produced strong relationships with their analogous SIRS scale (e.g. TSI-RS and SIRS-RS) none evidenced their strongest relationships with the SIRS scale relying upon the same detection strategy. For example, TSI-SEL produced its largest correlation with the SIRS Symptom Combinations Scale (.57), and a less strong, albeit only slightly weaker relationship (.51) with SIRS-SEL. Altogether these inter-correlations suggest that the TSI feigning scales and SIRS primary scales assess very similar constructs, regardless of the specific detection strategies employed.

In a similar vein, inter-correlations among the TSI feigning scales were also expectedly strong ($M r s = .74$; range .63 to .94). While not a focus of the current study, these relationships suggested that each of the TSI feigning scales measure comparable constructs.

Discriminant Validity

In support of their discriminant validity (see Table 17), each of the TSI feigning scales consistently produced negative correlations with measures of defensiveness on the SIRS ($M r s = -.07$) and the TSI ($M r s = -.19$). While in the right direction, these correlations were small and non-significant. Nonetheless, a consistent pattern shows the expected divergence from convergent correlations ($M r s = -.11$ versus $M r s = .52$); it provides strong support for the discriminant validity of each TSI feigning scale when used with severely traumatized patients.

Table 17

TSI Feigning Scales and Psychopathology: Discriminant Correlations with Control Patients

	Feigning Scales					<i>Average</i>
	TSI-ATR	TSI-RS	TSI-SC	TSI-SEL	TSI-SEV	
PTSD Symptoms	.06	.08	-.22	.09	-.12	-.02
SADS-C Depression	.43	.27	.30	.35	.43	.36
SADS-C Mania	.01	-.10	-.25	-.06	-.04	-.09
SADS-C Anxiety	.56*	.48*	.34	.52*	.54*	.49
SADS-C Psychosis	.59*	.56*	.44*	.38	.53*	.50
<i>Average</i>	.33	.26	.12	.26	.27	
SADS-C GAS ^a	.34	.17	.08	.36	.31	.25

Note. ($n = 37$). PTSD symptoms obtained from SCID-IV PTSD module. SADS-C = Schedule of Affective Disorders and Schizophrenia-Change Version.

^a Lower SADS-C GAS scores reflect more impairment but were reverse scored for the purposes of this table.

*To balance concerns about Type 1 and Type 2 errors, $p < .05$ is considered a non-significant trend, whereas $p < .01$ is considered significant.

Overall, correlations between the TSI feigning scales and measures of psychopathology were modest ($M r_s = .25$) and, as predicted, lower than correlations produced with the SIRS primary scales ($M r_s = .52$). Correlations with measures of psychopathology are provided in Table 17. When considering the high rates of PTSD and mood disorders commonly experienced by severely traumatized patients, it is encouraging to find that TSI feigning scales have negligible negative correlations with PTSD ($M r = -.02$), mania ($M r = -.09$), and a modest correlation with depression ($M r = .36$). Moreover, consistently small correlations ($M r = .25$)

with the SAD-C's GAS scale indicated that each of the TSI feigning scales possess a relatively modest relationship with overall psychological impairment. In contrast, moderate correlations were produced for the SADS-C clinical scales measuring Anxiety ($M rs = .49$) and Psychosis ($M rs = .50$); these relationships are expected when considering that the TSI feigning scales measure uncommon presentations of trauma-related psychopathology.

As further evidence of their discriminant validity, the magnitude of each TSI feigning scale's convergent correlations were compared to the magnitude of their discriminant correlations with measures of psychopathology. Specifically, convergent correlations for scales employing the same detection strategy (e.g., TSI-RS and SIRS-RS), were expected to be larger than the discriminant correlations with scales of the SADS-C and SCID-PTSD (e.g., TSI-RS and SADS-C Depression).

Overall, results of convergent-discriminant comparisons provided support for the discriminant validity of each TSI feigning scale. Scales employing the same detection strategy repeatedly obtained larger correlations than the discriminant correlations produced with measures of psychopathology. Of the 25 convergent-discriminant comparisons (five for each scale), only one comparison (i.e., 5.0%) violated this assumption; the TSI-SEL scale produced roughly equivalent relationships with SIRS SEL scale (.51) and SADS-C Anxiety scale (.52), which indicated that the TSI-SEL scale measures a construct that is similarly related to both the experience of anxiety symptoms and breadth of symptom endorsements. The remaining convergent-discriminant comparisons provided clear support for the discriminant validity of each TSI feigning scale by demonstrating stronger relationships with their underlying detection strategy than with measures of psychopathology.

A positive trend was also demonstrated when making broad convergent-discriminant comparisons across detection strategy domains. As summarized in Table 18, very few violations ($M = 8.0\%$) were made when using convergent correlations from the same detection strategy domain (e.g., TSI Unlikely vs. SIRS Unlikely) to make discriminant comparisons. For example, TSI-RS largest discriminant correlation (TSI-RS and SADS-C Psychosis = .56) was smaller than three of the four convergent correlations it produced with the SIRS unlikely presentation scales (SIRS IA = .72, SIRS RS = .69, SIRS SC = .65, SIRS RO = .55). As expected, convergent correlations using different domains (e.g., TSI Unlikely vs. SIRS Amplified) produced more comparison violations (M violation = 23.0%). Taken together, these results support the discriminant validity of the TSI's broad measurement of unlikely and amplified domains.

Table 18

Summary of TSI Feigning Scales Discriminant Validity with Severely Traumatized Patients

	M Convergent r_s		M Discriminant r_s	Comparison Violations	
	SIRS Unlikely	SIRS Amplified	Clinical Scales	SIRS Unlikely	SIRS Amplified
TSI Unlikely					
ATR	.68	.46	.33	5.0%	35.0%
RS	.65	.43	.26	5.0%	25.0%
SC	.55	.43	.12	5.0%	10.0%
TSI Amplified					
SEL	.49	.49	.26	15.0%	15.0%
SEV	.54	.52	.27	30.0%	10.0%

Note. SIRS Unlikely = RS, SC, IA, and RO scales. SIRS Amplified = BL, SU, SEL, and SEV scales. Clinical Scales include SCID-PTSD Total and SADS-C Depression, Mania, Anxiety, and Psychosis clinical scales. Comparison Violations = the percentage of divergent correlations that were larger than convergent correlations.

In summary, each of the TSI feigning scales demonstrated support for their convergent and discriminant validity with severely traumatized patients. Strong convergent correlations were consistently produced with SIRS scales and very modest negative correlations were found with measures of defensiveness on the TSI and SIRS. Finally, comparatively smaller correlations with measures of psychopathology were routinely observed, which provided additional support for their discriminant validity in evaluations involving severe trauma.

Research Question 2

The second research question focused upon the ability of each TSI feigning scale to discriminate between independent groups of genuine trauma and feigned disability. Based upon the criteria suggested by Rogers (2008a), it was hypothesized that each scale would demonstrate robust effect sizes (e.g., Cohen's $d_s \geq .75$) by having simulators score higher than genuine patients on each of the TSI's feigning scales.

Hypothesis 1: Simulators will score significantly higher on the ATR scale than genuine patients, yielding at least moderate effect sizes ($d \geq .75$).

As hypothesized, simulators scored significantly higher than genuine patients on the ATR scale (see Table 19); effect sizes were larger for the control condition ($d = .82$) than the development sample ($d = .65$). These overall differences ($M d = .74$) nearly meet the threshold criterion suggested by Rogers (i.e., $\geq .75$). Thus, ATR consistently demonstrated an ability to discriminate between groups of genuine and simulating patients.

The effectiveness of the relatively high cut score (i.e., $ATR \geq 90$) for feigning was evaluated. Although simulators often produced moderately high scores on ATR ($M = 80.97$, $SD = 17.08$), less than one-third (29.4%) met or exceeded the cut score of $ATR \geq 90$. Encouragingly, few severely traumatized patients in the genuine condition were misclassified as

feigning by scoring above $ATR \geq 90$ (false positives = 8.4%). This finding is consistent with Briere's objective to minimize false positive classifications by implementing a high ATR cutoff.

Table 19

TSI-ATR Scores for Independent Groups for Groups of Severely Traumatized Patients

Group	<i>N</i>	<i>M</i>	<i>SD</i>	% \geq cut
Development Sample	107	67.36	18.49	14.0
Validation Sample	71	61.31	14.56	5.6
Control Condition	37	62.43	17.28	5.4
Malingering Condition	34	80.97	27.08	29.4

Note. ATR Scores are reflected as age and gender corrected T-scores. % \geq cut = percent of cases scoring above TSI manual suggested cut score for feigning (≥ 90).

Although not hypothesized, ATR scores were not expected to vary significantly among genuine groups. This assumption was only partially supported. While development sample patients consistently scored slightly higher than validation sample patients in the first ($d = .27$) and second (i.e., Control; $d = .36$) administrations, only the comparison between development sample and Control patients reached statistical significance, $F(1, 176) = 5.38, p = .02$. However, this difference has little clinical significance; the *M* difference = 4.93T equated to less than one raw point difference on the scale, indicating ATR scores were very similar among honest groups.

Hypothesis 2: Simulators will score significantly higher than genuine patients on each of the experimental TSI feigning scales; comparisons will yield at least moderate effect sizes ($d \geq .75$).

As hypothesized, simulators scored significantly higher than genuine patients on each of the TSI's experimental feigning scales ($M d = .66$). Averages and differences between genuine

and simulation groups are provided in Table 20 and Table 21. Overall, amplified scales ($M d = .72$) outperformed the unlikely scales ($M d = .60$), which was due in large part to the strong performance of the TSI-SEV scale ($M d = .91$). Only TSI-SEV achieved a robust difference between genuine and simulation groups. The Malingers versus Control comparison for TSI-SEV yielded a large effect size ($d = 1.16$). TSI-RS achieved moderate group discrimination by producing effect sizes ($M ds = .70$) that approached predicted levels. In contrast, both TSI-SC and TSI-SEL produced effect sizes that were more modest ($M ds = .52$) in magnitude.

Table 20

F Ratios and Cohen's ds for TSI Feigning Scales and Severely Traumatized Patients

Scale	Group Comparison	<i>F</i>	<i>p</i>	<i>D</i>
TSI-ATR	Malingers vs. Control	12.02	< .01	.82
	Malingers vs. Development	10.99	< .01	.65
TSI-RS	Malingers vs. Control	8.11	< .01	.68
	Malingers vs. Development	13.26	< .01	.72
TSI-SC	Malingers vs. Control	5.00	.03	.51
	Malingers vs. Development	6.44	.01	.50
TSI-SEL	Malingers vs. Control	6.80	.01	.62
	Malingers vs. Development	4.79	.03	.43
TSI-SEV	Malingers vs. Control	23.82	< .01	1.16
	Malingers vs. Development	10.73	< .01	.65

Note. Development = development sample ($n = 107$), Control = control condition of validation sample ($n = 37$), and Malingers = malingers condition of validation sample ($n = 34$).

Table 21

Experimental TSI Feigning Scale Scores for Groups of Severely Traumatized Patients

Scale	Group	<i>n</i>	<i>M</i>	<i>SD</i>	<i>% ≥ cut</i>
TSI-RS	Development Sample	107	1.48	2.39	15.0
	Validation Sample	71	.86	1.53	5.6
	Control Condition	37	1.27	2.43	8.1
	Malingering Condition	34	3.59	4.26	38.2
TSI-SC	Development Sample	107	3.05	4.53	6.5
	Validation Sample	71	3.24	4.30	14.1
	Control Condition	37	2.86	4.50	8.5
	Malingering Condition	34	5.44	5.52	26.5
TSI-SEL	Development Sample	107	70.01	15.32	16.8
	Validation Sample	71	67.90	12.33	2.8
	Control Condition	37	67.68	15.54	5.4
	Malingering Condition	34	76.29	11.84	20.6
TSI-SEV	Development Sample	107	36.89	18.61	16.8
	Validation Sample	71	31.18	15.54	7.0
	Control Condition	37	26.08	18.86	5.4
	Malingering Condition	34	49.32	21.26	32.4

Note. Development sample and validation sample protocols were collected from first administrations. Control condition and malingering condition protocols were collected from second administrations. $\% \geq \text{cut}$ = percentage of cases scoring at or above cut score for feigning; TSI-RS ≥ 4 , TSI-SC ≥ 8 , TSI-SEL ≥ 86 , TSI-SEV ≥ 56 .

A contributing factor in the diminished discriminability of the experimental TSI scales was the tendency for some simulators to score very low on the unlikely presentation scales. For example, 44.1% of simulators (15 of 34) produced scores of zero on TSI-RS and 32.4% (11 of 34) scored zero or one on TSI-SC. Regarding elevated scores, only 38.2% of simulators met or exceeded the cut score for TSI-RS (i.e., ≥ 4), and even fewer simulators (26.5%) scored at or above the threshold set for TSI-SC (≥ 8). Based upon these results, it appears that the extensive knowledge of trauma-related psychopathology may have led to more sophisticated feigning of disability on the TSI, by the majority of simulators, who avoided detection on unlikely scales.

Consistent with the nature of amplified scales, genuine patients scored in the moderately high range ($M = 68.53$, $SD = 14.40$) on the TSI-SEL scale. These scores reduced discriminability because simulators did not score much higher on the TSI-SEL ($M = 76.29$, $SD = 11.84$). Finally, while not hypothesized, independent groups of genuine patients produced very similar scores ($M d = .19$) on the TSI's experimental feigning scales. Only TSI-SEV and TSI-RS, evidenced statistical differences between genuine groups and, like ATR, the magnitude of these differences were consistently small ($M d = .32$) and not clinically meaningful.

Research Question 3

The third research question focused upon the ability of each TSI feigning scale to detect within-subject changes in response style. For the TSI feigning scales to be effective, scores were expected to increase when patients were asked to feign disability during the second administration experimental condition. In contrast, scores were expected to remain relatively unchanged when patients were asked to be honest.

Hypothesis 3: Simulators will score significantly higher at Time 2 (malingering condition), compared to their Time 1 first administration (standard-genuine) score.

In support of Hypothesis 3, simulators obtained much higher scores ($M d = .71$) on all of the TSI feigning scales under feigning than honest conditions (see Table 22). In general, the amplified ($M d = .73$) and unlikely ($M d = .70$) scales were equivalent. The most robust within-subject discrimination was evidenced by the two unlikely presentation scales employing the rare symptoms strategy; specifically, the TSI-ATR ($d = .84$) and TSI-RS ($d = .83$). However, the TSI-SEV scale ($d = .79$) produced nearly comparable results.

Table 22

Detecting the Change in Response Style of Patients Instructed to Simulate Disability

Scale	Time 1 – Standard			Time 2 – Malingering			F	d
	r	M	SD	M	SD	$M \Delta$		
TSI-ATR	.53**	62.59	15.01	80.97	27.08	18.38	22.72**	.84
TSI-RS	.51**	.88	1.74	3.59	4.26	3.09	18.29**	.83
TSI-SC	.48**	3.26	4.51	5.44	5.52	2.18	5.97*	.43
TSI-SEL	.61**	67.91	13.21	76.29	11.84	8.38	19.04**	.67
TSI-SEV	.61**	34.35	16.29	49.32	21.26	14.97	25.86**	.79

Note. Only patients assigned to the malingering condition ($n = 34$) were used in these analyses. Time 1 – Standard = Genuine protocols completed according to standard instructions during the first administration. Time 2 – Control = Feigned protocols completed by simulators during the second administration. TSI-ATR scores are reflected as age and gender corrected T-scores. TSI-ATR = Atypical Response Scale, TSI-RS = Rare Symptoms Scale, TSI-SC = Symptom Combinations Scale, TSI-SEL = Selectivity of Symptoms Scale, TSI-SEV = Severity of Symptoms Scale. d = Standard Cohen's formula using pooled standard deviation.

* $p < .05$, ** $p < .01$.

The TSI-SEL and TSI-SC scales again demonstrated the weakest discriminability of the TSI feigning scales with only moderate effect sizes ($M d = .55$) indicating poorer discriminability than the other TSI feigning scales.

Overall, the results of within-subject comparisons suggest that patient simulators were sophisticated in their feigning of disability. Instead of simple indiscriminant endorsement of trauma-related symptoms (e.g., TSI-SEL), simulators choose to increase the severity of their self-reports (TSI-SEV $M \Delta = 14.97$), which routinely included increases (e.g., TSI-RS $M \Delta = 3.09$) in their report of rare symptoms.

Stability and Reliability

Results were also encouraging with regard to the stability of the TSI feigning scales. Very small effect sizes ($M d = .03$) were consistently produced for Time 1 and Time 2 comparisons of genuine patients (see Table 23). The average change in scores was small for all of the scales ($M \Delta = -.01$), and only TSI-SEV evidenced an average change that was greater than two raw points ($M \Delta = 2.13$).

Under standard (honest) conditions, test-retest reliability of the TSI feigning scales was moderately successful, especially when considering the severe levels of impairment experienced by patients in the study. For example, the amplified presentation scales consistently produced acceptable test-retest correlations (both $\geq .70$) between Time 1 and Time 2 scores. While the unlikely presentation scales produced somewhat weaker test-retest correlations ($M rs = .55$), these diminished estimates were affected by the restricted range and floor effect. For example, approximately half of genuine patients attained scores of zero on TSI-RS (19 of 37; 51.4%) and TSI-SC (16 of 37; 43.2%) during both the first and second administration.

Table 23

Test-Retest Reliability and Scale Stability of TSI Feigning Scales with Genuine Patients

Scale	Time 1- Standard			Time 2 – Control			$M \Delta$	F	D
	R	M	SD	M	SD				
TSI-ATR	.54*	60.14	14.23	62.43	17.28	2.30	.87	.14	
TSI-RS	.59*	.84	1.34	1.27	2.43	.43	1.79	.20	
TSI-SC	.53*	3.22	4.17	2.86	4.50	-.35	.19	-.08	
TSI-SEL	.73*	67.89	11.64	67.68	15.54	-.22	.02	-.01	
TSI-SEV	.70*	28.27	14.43	26.08	18.86	-2.19	.95	-.10	

Note. Only patients assigned to the control condition ($n = 37$) were used in these analyses. Time 1 – Standard = Genuine protocols completed in standard fashion during the first administration. Time 2 – Control = Genuine protocols completed during the second administration where patients were instructed to be honest. TSI-ATR scores are reflected as age and gender corrected T-scores. TSI-ATR = Atypical Response Scale, TSI-RS = Rare Symptoms Scale, TSI-SC = Symptom Combinations Scale, TSI-SEL = Selectivity of Symptoms Scale, TSI-SEV = Severity of Symptoms Scale. d = Standard Cohen's formula using pooled standard deviation.

* $p < .01$.

Concordance rates between first and second administrations were calculated to obtain a more accurate estimate regarding the consistency of the unlikely scales. Specifically, concordance rates were calculated by comparing the absolute difference of one full item endorsement (i.e., ± 3 for TSI- RS and ATR; ± 1 for TSI-SC) on each scale across administrations. For example, if a patient achieved a TSI-SC score of 1 for the first administration and a 2 for the second administration, the scores were considered in agreement.

The rare symptom scales evidenced excellent agreement across administrations for genuine conditions: 94.6% on TSI-RS, and 91.9% on the ATR. In contrast, the TSI-SC scale

produced substantially weaker agreement (56.8%) between first and second administrations. However, when applying slightly more liberal criteria (absolute difference of ± 3), the concordance rate improved to a more respectable rate of 70.3% agreement. The modest fluctuations on in TSI-SC scores, though, is not surprising given the framework of the TSI-SC scale. Because the TSI-SC scale is composed of clusters that require unanimous endorsement of three commonly experienced symptoms, even subtle changes in a patient's condition can lead to substantive changes in cluster endorsements. The overlap of several items across TSI-SC clusters likely added to this effect. Given the variable nature of trauma symptoms, which sometimes include sudden increases and decreases in severity during treatment (see Resick & Schnicke, 1992), the modest fluctuations on the TSI-SC scale in the current study are understandable.

In summary, results of the study provide support for the stability and reliability of the TSI's feigning scales with severely traumatized patients. Small and non-significant changes were observed for the scores of genuine patients between Time 1 and Time 2. Acceptable test-retest correlations were demonstrated by the amplified presentation scales and good concordance rates were produced by the unlikely presentation scales.

Research Question 4

The final research question focused on the effectiveness of for the TSI feigning scales. Utility estimates were calculated for each scale based on the second administration of the validation sample (i.e., experimental condition). First, utility estimates were calculated using the cut score for ATR recommended in the TSI manual (≥ 90). Second, the cut scores that were selected for the experimental scales to minimize misclassifications of genuine patients were tested. Thus, each scale was expected to demonstrate outstanding specificity (i.e., $\geq .90$) but

only low to moderate sensitivity. Following these analyses, optimum cut scores were selected for each of the TSI feigning scales based upon clinical decisions to rule-in likely cases of feigning or rule-out patients who are likely responding honestly.

Classification of Severely Traumatized Patients with Initial Cut scores

As developed, very few genuine patients met or exceeded the initial cut scores on the TSI feigning scales. As noted in Table 24, TSI-SC was not able to achieve a specificity of .90 because of the distribution of scores. Despite this, specificity was high for each of the TSI feigning scales ($M = .92$), resulting in modest rates ($M = 7.8\%$) of false-positive classifications. Only the TSI-SC scale had significant problems with false positives at 16.2%. As further evidence of their accuracy with genuine protocols, 78.4% of Control patients scored below suggested cut scores on all five of the TSI feigning scales. Only a small but concerning percentage (10.8%) elevated more than one of the feigning scales. Together, these results provide moderate to good evidence for the hypothesis that relatively few traumatized patients would score above initial cut scores on TSI feigning scales.

High specificity was achieved at the expense of sensitivity. The sensitivity rates were modest for all of the feigning scales ($M = .29$) and resulted in many false-negative (i.e., missed feigning) determinations. For example, while TSI-RS evidenced the strongest sensitivity of all of the TSI feigning scales, its suggested cut score ($TSI-RS \geq 4$) identified only 38.2% of simulators. TSI-SEL's suggested cut score ($TSI-SEL \geq 86$) demonstrated the worst sensitivity (.21) of all of the scales and failed to identify almost 80% of simulators. Moreover, use of multiple detection strategies provided only modest improvement in the sensitivity of the TSI feigning scales. About half (52.9%) avoided detection on all five scales. As expected, high standards of specificity reduced the overall effectiveness of these cut scores.

Table 24

Utility of TSI Feigning Scales' Initial Cut Scores with Severely Traumatized Patients

Scale	Cut Score	SEN	SPEC	PPP	NPP	OCC
TSI-ATR	$\geq 90^a$.29	.95	.83	.59	.63
TSI-RS	≥ 4	.38	.92	.81	.62	.66
TSI-SC	≥ 8	.27	.84	.60	.55	.56
TSI-SEL	≥ 86	.21	.95	.78	.57	.59
TSI-SEV	≥ 56	.32	.95	.85	.60	.65
Any	-	.47	.78	.67	.62	.63

Note. Honest protocols ($n = 37$) = validation sample control condition. Feigning protocols ($n = 34$) = validation sample malingering condition. SEN = Sensitivity, SPEC = Specificity, PPP = Positive Predictive Power, NPP = Negative Predictive Power, OCC = Overall Correct Classification. Any = considers an elevation on any of the scales as evidence of feigning.

^a ATR scores reflect age and gender corrected T scores.

Each of the TSI feigning scale's modest sensitivity naturally affected negative predictive power (NPP), which was low and surprisingly consistent across all of the scales (NPP range .55 to .62). Regardless of the TSI feigning scale used, approximately 40% of scores of simulators were missed. However, positive predictive power (PPP) was moderately good, especially for TSI-SEV and TSI-RS with both estimates exceeding .80. In contrast, the TSI-SC scale evidenced the weakest PPP (.60) with 40% likelihood of a false-alarm error (i.e., $1 - \text{PPP}$).

Overall, the application of initial cut scores proved to be ineffective for each of the TSI feigning scales. While genuine patients rarely scored above these cut scores, neither did many simulators. Limitations in each scale's predictive power underscored the need for selection of more effective cut scores for each of the TSI feigning scales. The following sections describe the rationale used for selecting new cut scores that functioned according to a clinical decision model that either identified likely feigners (i.e., rule-in) or identified likely genuine patients (i.e., rule-out). The classification properties of these rule-in and rule-out cut scores are described in the following sections.

Identifying Likely Feigning

When making the critical determination of feigning, it is clinically preferable to miss more simulators than misclassify more genuine patients. Following this rationale, optimum cut scores for ruling-in cases of likely feigning were selected for each of the TSI feigning scales. These cut scores were identified by selecting the cut score that maximized each scale's PPP and specificity. Accordingly, because very few genuine patients scored above these conservative benchmarks, elevations above each scale's rule-in (feigning) cut score provide clinicians with strong evidence of a feigned TSI protocol.

As noted in Table 25, rule-in cut scores for each of the TSI feigning scales were very effective at accurately classifying severely traumatized patients (i.e., very high specificities) for each detection strategy. As planned, the cut scores had low sensitivity ($M = .23$) but outstanding specificity ($M = .97$). The false positive rates ranged from 3% to 5%. Remarkably, specificity remained strong even when considering all five scales. Most importantly PPP was consistently excellent. Aside from TSI-SC's moderate PPP (.75), cut scores were excellent on the other four

scales. Overall, these results indicate that TSI feigning scales—except for TSI-SC—yield very promising results for classifying feigning.

Table 25

Rule-In Cut Scores for Identifying Likely Feigning with Severely Traumatized Patients

Scale	Cut Score	SEN	SPEC	PPP	NPP	OCC
TSI-ATR	≥ 100 ^a	.24	.97	.89	.58	.62
TSI-RS	≥ 8	.24	.97	.89	.58	.62
TSI-SC	≥ 13	.18	.95	.75	.56	.58
TSI-SEL	≥ 86	.21	.97	.88	.57	.61
TSI-SEV	≥ 59	.27	.97	.90	.59	.63
Any	-	.38	.89	.77	.61	.65

Note. Honest protocols ($n = 37$) = validation sample control condition. Feigning protocols ($n = 34$) = validation sample malingering condition. SEN = Sensitivity, SPEC = Specificity, PPP = Positive Predictive Power, NPP = Negative Predictive Power, OCC = Overall Correct Classification. Any = considers an elevation on any of the scales as evidence of feigning.

^a ATR scores reflect age and gender corrected T-scores.

Identifying Likely Genuine Responding

Severely traumatized patients often produce spuriously high scores on psychological tests that raise suspicions about potential feigning. As a consequence, clinicians assessing severely traumatized patients are routinely faced with making the decision to presume that these extreme self-reports are genuine or expend additional time and resources to further evaluate the presence of feigning. TSI rule-out cut scores were selected for each of the feigning scales. To capitalize

on their ability to identify cases that are likely to be genuine, cut scores were selected for each scale that maximized NPP and sensitivity. Utility estimates based upon these rule-out cut scores are provided in Table 26.

Table 26

Rule-Out Cut scores for Identifying Genuine Responding with Severely Traumatized Patients

Scale	Cut score	SEN	SPEC	PPP	NPP	OCC
TSI-ATR ^a	≤ 48	1.00	.03	.49	1.00	.49
TSI-RS	= 0	1.00	.43	.62	1.00	.70
TSI-SC	= 0	1.00	.43	.62	1.00	.70
TSI-SEL	≤ 56	1.00	.22	.54	1.00	.59
TSI-SEV	≤ 12	1.00	.24	.55	1.00	.61

Note. Honest protocols ($n = 37$) = validation sample control condition. Feigning protocols ($n = 34$) = validation sample malingering condition. SEN = Sensitivity, SPEC = Specificity, PPP = Positive Predictive Power, NPP = Negative Predictive Power, OCC = Overall Correct Classification.

^a ATR scores reflect age and gender corrected T-scores.

Overall, scores below rule-out cut scores provided strong evidence of a genuine TSI protocol. In line with the rationale used for their selection, no simulators scored below each scale's rule-out cut score (all NPPs = 1.00). Unlike rule-in cut scores, which demonstrated similar classification properties across all of the scales, the unlikely scales were more adept at identifying genuine responding (M specificity = .43) than the amplified (M specificity = .23) scales. A surprising finding was TSI-RS's superiority over ATR, which classified only one genuine patient correctly (specificity = .03) when applying its optimum rule-out cut score $ATR \leq 47$. It appears that ATR's less-rigorous operationalization of the rare symptoms strategy appears

to have decreased its effectiveness at ruling-out genuine patients. As expected because of their development, traumatized patients also rarely scored low on amplified scales.

Supplementary Analysis

A prominent issue in the validation of feigning scales is the impact psychopathology may have upon the feigning scores of patients. With severely traumatized patients, a particular concern is the potential effect of intermittent but severe psychotic and dissociative symptoms, such as hallucinations and dissociation. Because a small but substantial number of trauma patients experience these symptoms, a critical issue is whether these symptoms lead to higher scores of feigning measures. In line with that concern, Briere (1995) cautioned clinicians that hallucinations or dissociation could lead to misclassifications of genuine trauma patients on the ATR scale. However, no published study to date has investigated this concern. It was hypothesized that patients in the current study with hallucinations (i.e., score ≥ 3 on SADS-C item 242) and clinical levels of depersonalization/derealization (i.e., score ≥ 3 on SADS-C item 246) would have higher scores under the honest condition on each of the TSI feigning scales than patients without these symptoms. To investigate this hypothesis the following analyses used data from genuine protocols collected during the first administration (i.e. standard instructions) of the validation sample.

Hypothesis 4: Patients reporting psychosis and dissociation on the SADS-C will score significantly higher on each of the TSI feigning scales than patients not reporting psychosis and dissociation.

Psychotic and dissociative symptoms were commonly experienced by validation sample patients. Altogether, 56.3% reported at least one symptom, with dissociation being reported more often (49.3%) than hallucinations (38.0%). As a reflection of their generally severe levels of impairment, more than half (22 of 40; 55.0%) experienced both hallucinations and

dissociative symptoms, while fewer acknowledged only dissociation (32.5%) or only hallucinations (12.5%). A separate one-way ANOVA focusing on the absence or presence of each symptom was calculated for each scale.

As summarized in Table 27, psychotic and dissociative symptoms had a profound impact on all of the TSI feigning scales.

Table 27

ANOVA Results for the Effect of Psychosis and Dissociation on the TSI Feigning Scales

Scale	Symptom	Absent		Present		<i>F</i>	<i>d</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
TSI-ATR	Hallucinations	55.18	9.10	71.30	16.32	28.59**	1.31
	Dissociation	55.36	8.45	67.43	16.94	14.56**	.91
TSI-RS	Hallucinations	0.36	0.92	1.67	1.96	14.40**	.93
	Dissociation	0.33	0.93	1.40	1.83	9.65**	.74
TSI-SC	Hallucinations	1.73	3.63	5.70	4.23	17.68**	1.03
	Dissociation	1.08	2.30	5.46	4.77	24.47**	1.18
TSI-SEL	Hallucinations	62.89	12.16	76.07	7.27	25.98**	1.25
	Dissociation	61.08	12.15	74.91	7.82	32.33**	1.35
TSI-SEV	Hallucinations	27.55	12.32	37.11	18.45	6.87*	.64
	Dissociation	26.64	12.28	35.86	17.25	6.76*	.62

Note. Hallucinations (SADS-C item 242) and dissociation (SADS-C item 246) reflect clinical levels (i.e., scores ≥ 3). Hallucinations Absent ($n = 44$) Hallucinations Present ($n = 27$), Dissociation Absent ($n = 36$), Dissociation Present ($n = 35$). *d* = Standard Cohen's formula using pooled standard deviation. Positive *d* values reflect greater scores when symptoms are present.

* $p < .05$, ** $p < .01$.

On average, much higher ($M ds = 1.00$) scores were produced for patients with these symptoms. Overall, the effects of hallucinations ($M d = 1.03$) and dissociation ($M d = .96$) were similarly robust across most of the scales. The sole exception being the TSI-SEV scale, which demonstrated moderate but consistently smaller ($M d = .63$) effect sizes than the other TSI feigning scales ($M ds = 1.09$). Based upon these results, the severity of symptoms strategy appears to be less affected by confounding effects of hallucinations and dissociations.

The presence of hallucinations and dissociation had a similar impact on each of the TSI feigning scales. Effect sizes within each scale were similar (M difference = .17) when contrasting the presence/absence of hallucinations versus dissociation. Only the ATR scale evidenced a noticeable trend toward higher scores when comparing the main effect for hallucinations ($d = 1.31$) to that of dissociation ($d = .91$), but a closer analysis of mean ATR elevations revealed the average score of patients reporting hallucinations ($M = 71.30T$) was only one raw point higher than those reporting dissociation ($M = 67.43T$).

An important caveat to these analyses was the observation that a majority of patients reporting psychotic and dissociative symptoms in the study experienced both symptoms. It is very likely that the co-occurrence of both hallucinations and dissociation contributed, at least in part, to the robust main effects observed for each of the separate ANOVAs. To investigate this hypothesis, the scores of patients reporting both symptoms were compared to those experiencing neither. Expectedly, the scores of patients without psychotic and dissociative symptoms were consistently low; their average scores for each scale were the lowest observed in the study. Furthermore, in line with the idea that the combination of both symptoms could lead to more robust effects, each TSI feigning scale produced very large effect sizes ($M ds = 1.38$),

which were noticeably larger than the main effects observed for isolated ANOVA's ($M ds = 1.00$). These results are provided in Table 28.

Table 28

ANOVA Results for Effects of Co-occurring Psychosis and Dissociation on the TSI Feigning Scales

Scale	Both Absent		Both Present		<i>F</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
TSI-ATR	53.35	7.19	72.09	18.00	27.59*	1.46
TSI-RS	.26	.86	1.86	2.05	15.21*	1.09
TSI-SC	.26	.82	5.59	4.64	39.48*	1.75
TSI-SEL	58.45	10.92	75.77	7.93	40.19*	1.78
TSI-SEV	25.52	11.42	37.91	19.14	8.68*	.82

Note. Hallucinations (item 242) and dissociation (item 246) were recoded to reflect clinical presence (i.e., scores ≥ 3) of symptoms on respective SADS-C items. Both Absent ($n = 31$) = neither hallucinations nor dissociation present. Both Present ($n = 22$) = co-occurrence of hallucinations and dissociation. *d* = Standard Cohen's formula using pooled standard deviation. Positive *d* values reflect greater scores when symptoms are present.

* $p < .01$.

Although the effects of psychotic and dissociative symptoms routinely led to higher scores on each of the TSI feigning scales, very few ($M FP = .06$) traumatized patients reporting psychotic and dissociative symptoms scored above the rule-in cut scores of each scale. As highlighted in Table 29 this finding remained true even when considering only patients reporting both hallucinations and dissociation ($M FP = .08$). While it was noteworthy that few false-positive classifications were obtained by patients reporting both hallucinations and dissociation,

the extremely low false-positive rates demonstrated among all patient groups indicated that severely traumatized patients, regardless of the presence of hallucinations and/or dissociation, rarely score above rule-in cut scores.

Table 29

False Positive Rates of Patients with and without Co-occurring Hallucinations and Dissociation

Scale	Genuine Protocols	% Above Rule-In Cut score
ATR \geq 100 ^a	All Patients	.04
	Patients w/ any Acute Symptom	.08
	Patients w/ Hallucinations and Dissociation	.14
	Patients w/o Hallucinations and Dissociation	.00
RS \geq 8	All Patients	.00
	Patients w/ any Acute Symptom	.00
	Patients w/ Hallucinations and Dissociation	.00
	Patients w/o Hallucinations and Dissociation	.00
SC \geq 13	All Patients	.04
	Patients w/ any Acute Symptom	.08
	Patients w/ Hallucinations and Dissociation	.09
	Patients w/o Hallucinations and Dissociation	.00
SEL \geq 86	All Patients	.03
	Patients w/ any Acute Symptom	.05
	Patients w/ Hallucinations and Dissociation	.09
	Patients w/o Hallucinations and Dissociation	.00
SEV \geq 59	All Patients	.04
	Patients w/ any Acute Symptom	.08
	Patients w/ Hallucinations and Dissociation	.09
	Patients w/o Hallucinations and Dissociation	.00

Note. Standard (i.e., genuine) protocols from the first administration of the validation sample were used for analyses. All Patients ($n = 71$). Patients w/ Any Acute Symptom ($n = 40$). Patients w/ Hallucinations and Dissociation ($n = 22$) include all protocols completed by patients reporting both hallucinations and dissociation on the SADS-C. Patients w/o Hallucinations and Dissociation ($n = 31$) include all protocols completed by patients that did not report either hallucinations or dissociation on the SADS-C.

^a ATR \geq 90 evidenced very similar false positive rates and only misclassified one more patient than ATR \geq 100; All Patients = .06, Patients w/ any Acute Symptom = .10, Patients w/ Hallucinations and Dissociation = .18, Patients w/o Hallucinations and Dissociation = .00.

Clearly, future studies that possess adequate representation of acute psychopathology would be beneficial to understanding the isolated influence of hallucinations and dissociation. Based upon the results available in this study, each of the TSI feigning scales appear to be influenced by the experience of psychotic and dissociative symptoms. These confounding effects, though, were diminished by the implementation of high rule-in cut scores, which led to very few false positive errors among severely traumatized patients who also reported psychotic and dissociative symptoms.

CHAPTER 4

DISCUSSION

Posttraumatic stress is a prominent cause of disability in the United States affecting millions of Americans each year. A report released by MetLife Group (Leopold, 2003), one of the country's largest private insurance companies, identified PTSD as a leading cause of both short-term and long-term disability claims. The U.S. Veteran's Administration also has identified posttraumatic stress as a leading cause of disability; according to a recent report (Department of Veterans Affairs, 2010) PTSD is the second most prevalent disability among service-connected veterans. Beyond work-related difficulties, posttraumatic stress can also be a contributing factor in deficits of social functioning. For example, Cook, Riggs, Thompson, Coyne, and Sheikh (2004) found posttraumatic avoidance and emotional numbing contributed prominently to marital distress in combat veterans. Moreover, relationship problems are not isolated to only combat PTSD. Taft, Vogt, Mechanic, and Resick (2007) found posttraumatic irritability was the strongest predictor of aggression within a sample of 338 women seeking counseling for relationship problems. Overall, these observations highlight the substantial impacts of posttraumatic stress and underscore its common link to impaired functioning encountered by many individuals.

Traumatic experience does not necessarily lead to psychological impairment. Individuals exposed to life threatening events can experience variable effects including no distress, short-term maladjustment, or long-term impairments. As a salient example, 56.0% of individuals in the National Comorbidity Study (Kessler et al., 1995) experienced at least one traumatic event, but only 7.8% met criteria for PTSD. There is also no prototypical exposure that leads to posttraumatic symptoms. PTSD has been observed in survivors of brief, albeit life threatening,

events such as motor vehicle accidents (Yasan, Guzel, Tamam, & Ozkan, 2009) and also among survivors of more prolonged and/or repeated exposures. For example, Resick, Kilpatrick, Dansky, Saunders, and Best (1993) sampled 4,008 women and found a 31% prevalence rate for PTSD among survivors of repeated sexual assault. Nevertheless, it is commonly accepted that the type of trauma is less important than the severity of the experience (Resick & Calhoun, 2001). Accordingly, individuals with more extensive trauma histories tend to experience more severe and pervasive trauma-related impairments.

A growing number of investigations (Briere, Kaltman, & Green, 2008; Cloitre et al., 2009; Vasterling et al., 2010; Yehuda et al., 1995) have highlighted the surmounting impact of repeated traumatic exposure. For instance, Yehuda et al. (1995) found the severity of PTSD symptoms in holocaust survivors, particularly avoidance symptoms, was related to the presence of multiple stressful events. Similarly, Briere et al. (2008) found a significant relationship between the scope of traumatic experience and the complexity of psychopathology reported in a large sample of 2,453 college students. Specifically, they observed the number of clinical elevations on the TSI (i.e., $T \geq 65$) increased as the number of traumatic exposures increased on the Stressful Life Events Screening Questionnaire (SLESQ; Goodman, Cocoran, Turner, Yuan, & Green, 1998). Building upon these results, Cloitre and colleagues (2009) found the number of childhood adversities (i.e., sexual abuse, physical abuse, emotional abuse, neglect, and abandonment) experienced by patients with adult PTSD were significantly associated (OR = 1.17) with the number of clinical elevations they obtained on measures of posttraumatic stress, depression, dissociation, anger, mood regulation, and interpersonal dysfunction. Interestingly, they did not find this relationship with PTSD patients who only experienced abuse in adulthood. These results were consistent with van der Kolk's (2005) developmental trauma hypothesis,

which proposes individuals with extensive childhood trauma are at increased risk of having complex PTSD due to the repeated disruptions during development. On the other hand, because child abuse is known to increase the likelihood of later trauma exposure (Classen, Palesh, & Aggarwal, 2005), this explanation may be confounded by the fact that individuals with a history of childhood abuse simply have more extensive trauma histories that span both childhood and adulthood.

Within the spectrum of stress reactions, complex trauma exemplifies an extreme response both in the intensity of the impairment and breadth of symptomatology (Herman, 1992). In addition to classic symptoms of PTSD, these severely traumatized patients also commonly experience other prominent symptoms of depression, anxiety, somatization, and dissociation (Ford et al., 2000; Green et al., 2000; Herman, 1992; Kilpatrick et al., 1998; Mclean & Gallup, 2003; Pelcovitz et al., 1997; van der Kolk, 1996). Trauma-related hallucinations are also sometimes experienced by severely traumatized patients (Moskowiz, Schafer, & Dorahy, 2008), particularly when individuals have a history of childhood abuse (Seedat, Stein, Oosthuizen, Emsley, & Stein, 2003).

The clinical presentation of patients with complex trauma is often atypical because of its intensity of impairment and range of reported symptoms. First, due to their widespread experience of psychopathology patients experiencing complex trauma likely meet criteria for multiple comorbid conditions (van der Kolk, 2005). Second, patients with complex trauma tend to report more severe symptoms. For example, Ford and Smith (2007) found outpatients with complex PTSD (meeting the criteria proposed by Pelcovitz et al., 1997) consistently scored much higher ($M ds = .64$) than patients with simple PTSD on each of the subscales of the CAPS as well as the Beck Depression Inventory ($d = .76$). Likewise, Ehring and Quack (2010) found

individuals with a history of chronic childhood abuse tended to endorse items on the Impact of Events Scale-Revised (IES-R; Weiss & Marmar, 2007) at a much greater severity level ($M = 3.11$, $SD = .63$; $d = 1.79$) than individuals with a history of non-interpersonal trauma that occurred at any point in their life ($M = 1.94$, $SD = .68$). Unfortunately, very extensive endorsement of symptoms and the tendency to report an unusually high number of severe symptoms are also hallmark indicators of malingering (Rogers, 2008a). For example, Rogers, Payne, Berry et al. (2009) found SIRS scales that capitalized upon the identification of non-selective responding (SIRS SEL $d = 2.03$) and amplified symptom severity (SIRS SEV $d = 2.40$) produced very large effect sizes when discriminating between civil litigants feigning mental disorders and those presumed to be honest. Taken together, evaluators assessing the legitimacy of traumatogenic claims are faced with a difficult task because genuine but complex trauma and feigned trauma are both characterized by widespread and often severe symptom reports.

Evaluations of trauma are typically limited in that a majority of psychological tests do not simultaneously assess both feigning and trauma-related impairment. First, many trauma instruments have a narrow focus on only posttraumatic stress (Wilson & Keane, 2004). This limited coverage leaves clinicians vulnerable to missed diagnoses, particularly in the case of complex trauma. Guriel and Fremouw (2003) similarly pointed out that most trauma-focused tests also do not contain measures of feigning, which leaves them susceptible to patient distortions without detection. On the other hand, many general psychological tests sacrifice precision for scope and fail to adequately address posttraumatic psychopathology. As pointed out by Briere (1995), most general tests focus upon only one or two posttraumatic constructs and overlook more characterological effects, such as those experienced by survivors of childhood

abuse. Moreover, because general tests are not focused upon the effects of trauma per se, their validity scales do not necessarily provide clinicians with information about feigned trauma.

Briere (1995) created the TSI in recognition of the limitations of existing psychological tests. He sought to evaluate impairments in patients with genuine complex trauma and differentiate them from feigners of PTSD and other trauma reactions. This thorough and focused approach to the evaluation of trauma symptoms was a major advancement in trauma assessment. Its importance is likely a contributing factor in the growing popularity of the TSI among trauma researchers (Elhai, Grey, Kashdan, & Franklin, 2005) and forensic clinicians (Guriel & Freemouw, 2003; Wilson & Moran, 2004).

One notable drawback of the TSI, though, is that its assessment of feigning relies explicitly upon the endorsement of quasi-rare symptoms with the ATR scale. A growing number of studies (Edens et al., 1998; Efendov et al., 2008; Elhai et al., 2005; Rosen et al., 2006) have demonstrated weaknesses in ATR's effectiveness in outpatient settings. Prior to the current study, there were no investigations of its utility in evaluations of severe trauma. As a result clinicians using the TSI to evaluate severely traumatized patients have been limited in their ability to discriminating genuine from feigned responding. The current study extended the scope of the TSI's assessment of feigning to include scales assessing both amplified and unlikely presentation domains. It also added to existing literature on the ATR scale by examining its properties with severely traumatized patients.

The following sections discuss results of the current study. First, a review of genuine trauma response patterns is performed with a particular focus upon the implications of complex trauma on specific detection strategies. Second, the ability of the TSI feigning scales to distinguish complex trauma from feigned disability is discussed. Recommended clinical

applications of the TSI feigning scales are then offered. Finally, limitations of the current study and future avenues of research are highlighted.

Genuine Responding: The TSI and Severely Traumatized Patients

It is widely acknowledged that traumatized patients experience a broad array of psychopathology. Estimates from the National Comorbidity Study (Kessler et al., 1995) indicate that approximately two-thirds of patients with PTSD also meet criteria for two or more additional mental disorders. Because they excluded inpatients and considered only a third of the possible Axis I diagnoses, PTSD comorbidity is likely to be even higher than they reported. As a reflection of their typically extensive and severe impairments, traumatized patients frequently obtain pervasively elevated profiles on psychological tests. For example, in a study of 1,098 combat veterans with PTSD, Wolf et al. (2008) found the average scores on all of the MMPI-2's clinical scales (excluding scales 5 and 0) were in the clinically elevated range (i.e., $T \geq 65$). Likewise, similarly pervasive MMPI-2 profiles were also reported by Kirz and colleagues (2001) who found comparable scores between independent groups of sexual assault survivors and combat veterans with PTSD. Results across studies were very similar regardless of trauma type. In both studies PTSD patients tended to score the highest on scales 2 and 8 ($M_s \geq 80T$) indicating that the most severe symptoms of PTSD patients, regardless of the type of exposure, tended to be related to depression and bizarre perceptual experiences.

As expected, severely traumatized patients in the honest conditions of the current study achieved high scores on a majority of the TSI's clinical scales. Nearly all patients ($n = 165$ or 92.7%) achieved multiple elevations and average scores for the total sample were in the clinical range (i.e., ≥ 65) for at least seven of the 10 scales. Moreover, the occurrence of comorbid clinical conditions was clearly evident on the TSI with marked elevations on the Depression (M

= 71.61, $SD = 7.56$) and Dissociation ($M = 69.28$, $SD = 12.57$) scales. Extreme elevations, though, were only common on the Depression scale. Nearly one-quarter of genuine patients (40 of 178; 22.5%) in the study obtained scores at its ceiling (i.e., $T = 78$ for females, $T = 84$ for males). In comparison, extreme scores were very rare ($M = 3.4\%$) among the other clinical scales. These results indicated that severely traumatized patients did not obtain marked elevations due to a universally extreme response set. Instead they suggest that while severely traumatized patients commonly experience many comorbid conditions they only tend to report an extreme level of depressive symptoms. One explanation for these findings is that a significant proportion of severely traumatized patients may have been feigning symptoms of depression in a factitious manner to gain the sympathy of researchers. Given the disparity among clinical scales, though, this explanation seems unlikely. A more plausible explanation is that extreme symptoms of depression are characteristic of severely traumatized patients. This reasoning also falls in line with recent conceptualizations of posttraumatic stress (Elhers & Clark, 2000; Nixon & Bryant, 2005) that identify cognitive distortions, and particularly over-generalized negative appraisals, as a key component in the development of PTSD.

Researchers have failed to fully explain why profiles of PTSD patients have an unusual number of clinical elevations and why elevations are sometimes extreme. Instead, broad formulations are provided that appear to be more descriptive than empirically driven. They observe markedly elevated profiles and surmise that traumatized patients routinely provide exaggerated self-reports. For example, Bagby, Wild, and Turner (2003, p. 231) warned clinicians in the widely-used *The Handbook of Psychology*, “Many clients who are in an acute state of distress tend to generalize and over-pathologize their symptoms, to the extent that results from various instruments, such as the MMPI-2 and the PAI, become invalid.” They offered no

further explanation, though, regarding the nature of these potential distortions. Whereas Greene (2000, p. 89) similarly hypothesized the existence of “a phenomenological style to overreact and to be traumatized” as a potential cause for high scores on the validity scales of the MMPI-2, he did not empirically investigate this apparent relationship.

The question remains regarding what proportion of patients diagnosed with PTSD are actually feigners or conversely, what proportion are overlooked by their treating clinicians because they appear to be feigning? As a related inquiry, what proportion of patients accurately diagnosed with PTSD also feigns symptoms? The following sections review the patterns of responding on the TSI by severely traumatized patients in the current study and discuss their convergence and divergence from existing studies of PTSD response style.

Trauma-Related Comorbidity and Amplified Presentations

A major concern for clinicians assessing trauma response styles is the potential for genuine patients to produce high scores on feigning scales that rely upon amplified detection strategies, which capitalize on the magnitude of reported symptoms. As previously noted, patients with genuine PTSD commonly experience higher than expected breadth and intensity of symptomatology. Therefore, their genuine presentation may be mistaken for feigning on amplified detection strategies. Consistent with that risk, one-half (51.1%) of genuine patients in the current study routinely endorsed 70% or more of TSI items. This top-half averaged a rate of 79.4%. This level of item endorsement clearly affected the usefulness of the TSI-SEL scale.

Rogers, Payne, Correa et al. (2009) proposed a traumatogenic hypothesis to explain the unexpected breadth of symptoms reported on the SIRS selectivity of symptoms scale. Specifically, Rogers et al. found the average SIRS SEL scores of severely traumatized patients were in the indeterminate range, which were remarkably higher ($d = 1.06$) than the scores of

patients in the original SIRS validation sample (Rogers, Bagby et al., 1992). They concluded that longstanding traumas and their associated effects were likely influencing the clinical presentation of patients on SIRS SEL. Although they indicated the false-positive rate for SIRS classifications in the study was affected by the presence of comorbid symptoms such as psychosis, depression, and dissociation they did not provide data specific to the SEL scale. Given the pervasive comorbidity observed in their sample, it seems likely that the existence of multiple comorbid conditions similarly contributed to higher than expected scores on SIRS SEL.

Three additional studies (Brand et al., 2006; Eakin, 2005; Rogers, Payne, Berry et al., 2009) have investigated the effects of trauma on SIRS SEL. Brand et al. (2006) found a sample of traumatized inpatients with dissociative identity disorder (DID) scored in the indeterminate range ($M = 16.6, SD = 3.30$), while Eakin (2005) reported very similar scores ($M = 16.7, SD = 10.0; d = .01$) in a sample of college students with PTSD. Comparatively speaking, average scores on SIRS SEL were even higher ($M d = .69$) in these studies than the scores reported by Rogers, Payne, Correa et al. (2009), which provides further support for the existence of a traumatogenic effect on the selectivity of symptoms strategy. On the other hand, a study by Rogers, Payne, Berry et al. (2009) observed low scores on SIRS SEL in a sample of disability claimants with PTSD. Average scores fell within the honest range ($M = 7.00, SD = 5.17$), which were remarkably lower ($M d = -1.52$) than the SIRS SEL scores in the previously discussed SIRS trauma studies. A distinguishing feature of their PTSD sample was the relative absence of comorbid psychopathology. To investigate SIRS generalizability across diagnostic groups, PTSD patients with co-occurring mood and anxiety diagnoses were excluded from the PTSD sample. In light of these findings, it appears that the common experience of trauma-related

comorbidity by PTSD patients plays a significant contributory role in the attainment of increasingly higher scores on symptom selectivity scales.

A growing number of studies (Brand et al., 2006; Eakin, 2005; Rogers, Payne, Berry et al., 2009; Rogers, Payne, Correa et al., 2009) have found that the symptom severity detection strategy is a useful method for assessing the amplified presentations of genuine trauma patients. The SIRS SEV scale was the first to formally investigate the extent to which specific symptoms were reportedly experienced as "unbearable" or "too painful to stand." A consistently positive finding for SIRS-SEV has been the observation that most traumatized patients, even those with severe impairments, rarely report a majority of their symptoms as severe. For example, Brand and colleagues observed that, on average, acutely impaired inpatients with DID endorsed only one-quarter ($M = 8.9$ or 27.8%) of the items on SIRS-SEV. Average scores ($M = 7.05$, $SD = 6.03$) were even lower ($d = -.31$) in Rogers, Payne, Correa et al.'s (2009) study of severely traumatized patients, highlighting its resistance to the effects of complex trauma.

A very encouraging finding in the current study was the relative infrequency that items on the TSI were endorsed at the greatest severity level. Average scores on the TSI-SEV scale were consistently low for genuine patients, revealing severely traumatized patients rarely endorsed more than a third of the symptoms on the TSI as occurring "often." Even more promising was the finding that this trend remained true when considering only the most impaired patients in the validation sample, who in addition to PTSD, were also experiencing co-occurring symptoms of dissociation and psychosis.

Overall, trauma-related comorbidity appears to play a detrimental role in elevations on selectivity of symptom scales but has a less robust effect on scales utilizing a symptom severity detection strategy. Given its apparent resistance to trauma-related comorbidity, the severity of

symptoms detection strategy appears to be a very promising method for assessing the amplified presentations of trauma patients. In contrast, the selectivity of symptoms strategy has the potential to be compromised by the presence of multiple trauma-related conditions, particularly when patients have an extensive trauma history. Therefore, clinicians evaluating the clinical presentations of severely traumatized patients should not rely exclusively on scales using a "selectivity of symptoms" strategy when making determinations of feigning.

Unlikely Presentations of Severely Traumatized Patients

Unlikely presentation detection strategies (hereafter, "unlikely detection strategies") examine the legitimacy of symptoms and features to assess feigning (Rogers, 2008a). A growing number of studies have highlighted the potential for patients with PTSD to endorse an unusual number of items on scales based on unlikely detection strategies. For example, in a meta-analysis of 65 feigning studies, Rogers, Sewell, Martin, and Vitacco (2003) found the average scores ($M = 69.02$, $SD = 21.00$) of patients with PTSD on the MMPI-2 rare symptoms scale (Fp) were notably higher than the scores of patients with other Axis I conditions. Moreover, average elevations on scales using a quasi-rare symptoms strategy were even higher (F $M = 86.31$, $SD = 21.58$; Fb $M = 92.31$, $SD = 24.55$). High scores have also been observed on the PAI. Calhoun et al. (2000) found 35% of combat veterans with PTSD scored above the conservative cut score (i.e., $\geq 92T$) of the PAI's NIM scale. The convergence of these findings across independent tests underscores the idea that unlikely presentation scales may be unduly affected by PTSD. On the other hand, findings have been mixed for the SIRS RS scale in evaluations of traumatized patients. Two studies (Eakin, 2005; Rogers, Payne, Correa et al., 2009) found the average scores of PTSD patients to be in the honest range, while a third (Brand et al., 2006) observed moderately higher average elevations ($M ds = .66$) that fell in the indeterminate range. Given

Brand et al. focused exclusively upon inpatients with dissociative identity disorder, a plausible explanation for this inconsistency is that items contained on the SIRS RS scale may address symptoms that are more frequently experienced by patients with severe dissociative states. Taking a slightly broader perspective, the rare symptoms on the MMPI-2 and PAI appear to be impacted more by trauma than rare items on the SIRS. This discrepancy may be explained by the rationale used when creating the items. SIRS items were specifically created to assess rare symptoms and then pilot tested in a clinical sample before being included on the scale (Rogers, Bagby et al., 1992). In contrast, rare items on the MMPI-2 and PAI were selected from an existing pool of items that were created to assess genuine patient characteristics.

Predictably, very few symptoms on the TSI were infrequently endorsed by genuine patients in the current study. Half of the items contained within the ATR scale were regularly endorsed (i.e., > 30.0%; see Table 11) and no items were endorsed by less than 11.0% of the development sample. This trend led to moderately high ATR scores ($M = 63.70$, $SD = 16.78$) among all genuine patient groups, which was consistent with previous observations of moderately high ATR scores in other PTSD samples. For instance, Efendov and colleagues (2008) reported strikingly similar ATR scores ($M = 64.85$, $SD = 17.63$) in an outpatient sample of disability claimants with PTSD. In contrast, Elhai et al. (2005) found slightly lower scores ($M = 61.60$, $SD = 13.01$) in a group of outpatients receiving treatment for PTSD. This modest difference ($d = -.20$), on ATR could be explained by the difference in referral source and corresponding motivation to report bizarre symptoms to evaluators. Because ATR scores can be influenced by the experience of psychosis (Briere, 1995) a competing hypothesis could be that there were proportionately more PTSD patients experiencing psychosis in Efendov's sample than

in Elhai's sample. Because data on these experiences were not reported in either study, the likelihood of this explanation is cannot be tested.

A plausible explanation for the moderately high ATR scores in the current study is that the experience of genuine psychopathology led patients to endorse many ATR items. Large effect sizes (*ds* ranging from .96 to 1.58) were consistently observed when comparing the scores of patients with and without symptoms of dissociation and psychosis, which suggests that psychotic and dissociative symptoms may have had a particularly strong impact on ATR scores. This finding was consistent with Briere's caution regarding the influence of psychosis and dissociation on ATR scores. On the other hand, patients experiencing psychotic and dissociative symptoms rarely achieved clinically elevated scores on ATR; only 10.0% of patients experiencing hallucinations and/or dissociation scored above the recommended cut-off of ≥ 90 . The frequency of ATR item endorsements (see Table 11) also suggested a non-psychotic explanation for elevated scores. Genuine patients rarely (*M* endorsement = 20.3%) endorsed items that blatantly suggested psychosis (e.g., delusions of mind-reading, thought extractions or visual hallucinations). Instead, they commonly endorsed ATR items (*M* endorsement = 53.0%) describing bizarre physical symptoms (i.e., losing sense of taste, brief paralysis, and not eating or sleeping for days). While it is possible that these ATR items could have been endorsed by psychotic patients because of having distorted perceptions of somatic issues, an alternative explanation is that non-psychotic experiences led many of the severely traumatized patients in current study to endorse them. Elhai et al. (2002) provided a similar explanation for elevated scores on the MMPI-2's quasi-rare scales F and Fb. Specifically, they found combat veterans with PTSD tended to endorse (i.e., > 50% of sample) items on F and Fb that reflected core posttraumatic symptoms such as nightmares, dissociation, avoidance, and emotional numbing.

They reasoned that the endorsement of these trauma-related symptoms contributed to the trend of elevated scores obtained in their study. Following their rationale, higher scores on ATR in the current study may be a reflection of their experience of somatic complaints, which is a prototypical feature of complex trauma. A traumatogenic explanation that emphasizes the impact of somatization would also be a reasonable explanation for the moderately high ATR scores that have routinely been observed in less impaired outpatient samples.

The impact of genuine psychopathology on the ATR scale in the current study highlighted the limitations of the quasi-rare symptoms detection strategy. While ATR items were constructed to be bizarre and were later identified as rare in the general population (Briere, 1995, p. 11), their infrequency in clinical samples was not a consideration during scale development. This omission appears to have influenced characteristics of the scale, rendering its measurement to be strongly associated with both genuinely atypical endorsements and feigning. In comparison, the TSI-RS and TSI-SC scales were developed in the current study according to the endorsement rates of PTSD patients. This consideration ultimately led to more desirable psychometric properties in the validation sample, including very low scores with genuine PTSD patients and considerably weaker relationships with measures of psychopathology. As a result, clinical interpretation of elevations on these scales is relatively straightforward (e.g., "Mr. X endorsed symptoms on the TSI that are not commonly reported by genuine patients with severe PTSD").

The discriminant validity of unlikely detection scales is contingent upon the use of relevant clinical groups during item selection. For example, after using a development sample comprised of VA inpatients to identify rare MMPI-2 items Arbisi and Ben-Porath (1995) observed lower average scores on the MMPI-2 Fp scale ($M = 62.50$, $SD = 18.70$) versus the

original quasi-rare infrequency scales F ($M = 77.30, SD = 22.8$) and Fb ($M = 85.60, SD = 25.20$), which were created by observing rarity in non-clinical groups. Weaker relationships with psychopathology were also evidenced by the more stringently operationalized Fp scale; Fp consistently produced much smaller correlations ($M r = .27$) with the traditional MMPI-2 clinical scales than F ($M r = .50$) and Fb ($M r = .52$). This finding prominently highlighted the benefit to discriminant validity obtained by using a relevant clinical sample during the development of unlikely detection scales. Elhai et al.'s (2002) development of the Fptsd scale also demonstrated the benefits of using a relevant clinical group during scale creation. They selected items to be included on the Fptsd scale because of their infrequency in a large sample of 1,043 combat veterans with PTSD. Expectedly, lower average scores were observed for Fptsd ($M = 59.59, SD = 16.43$) than Fp ($M = 68.48, SD = 21.20$) in a separate validation sample of 344 combat veterans with PTSD. Correspondingly, slightly weaker relationships were produced with the traditional MMPI-2 clinical scales for Fptsd ($M r = .30$) compared to Fp ($M r = .35$). Given the associated benefits to discriminant validity, authors creating unlikely detection scales should include a relevant PTSD sample in their normative groups to protect against the potential traumatogenic influence of PTSD on scores.

Summary of Genuine Response Patterns

Many authors have continued to promulgate the idea that traumatized patients produce extreme profiles on psychological tests as a product of exaggerated self-reporting. Results of the current study, though, do not support the presumption that symptomatic PTSD profiles are a result of feigning. Instead results indicate that many of these profiles are a reflection symptoms associated with comorbid conditions. In light of these findings and their concordance with results from other studies of genuine PTSD response styles, clinicians should avoid the standard

interpretations of extreme test results for traumatized patients that suggest feigned responding if multiple detection strategies have not been considered.

Discriminating Severe Trauma from Simulated Disability

The current study investigated the ability of various detection strategies to discriminate the response styles of severely traumatized patients who, due to their impaired mental states, are sometimes involved in evaluations of disability. Generally speaking, results were positive but modest for the TSI feigning scales; regardless of the detection strategy, patient simulators in the study predictably scored higher ($M ds = .69$) than genuine patients on each of the scales. The most surprising finding, though, was the moderate amount of discrimination evidenced by each of the scales. Only one genuine-feigner comparison (TSI-SEV scale Malingering versus Control $d = 1.16$) exceeded one-pooled standard deviation of difference between the groups (other $ds < .85$). As highlighted in Table 30, average effect sizes in the current study were consistently smaller than those observed in other studies ($M ds = 1.07$), which include a diverse sampling of well-validated scales from the MMPI-2, PAI, and SIRS.

The post-development of embedded validity scales is always a significant psychometric challenge; this challenge was even more formidable given the relative brevity of the TSI and its narrow focus on trauma-related symptomatology. In the current study, few TSI items met even the most liberal criteria for inclusion on unlikely detection scales. For example, only four of the 100 items on the TSI were endorsed by less than 25% of genuine patients. A similar effect interfered with the development of the TSI-SC scale. After finding that there were no two-item combinations that met initial selection criteria it was necessary to relax the conditions for inclusion to $< 20\%$ and also extend consideration to three-item clusters. These procedures resulted in only a moderate length 16 item scale.

Table 30

Effect Sizes for Analogue Studies of Feigned Trauma

Strategy	Quasi-Rare				Rare				Other	
	ATR	F	Fb	Fp	Fptsd	NIM	RS	SC	SEL	SEV
Bury (2002)		1.06	1.37	1.24						
Eakin (2005)						.99	1.12	1.04	1.09	1.08
Eakin (2006)		.89	1.04	.97		.19				
Efendov (2008)	.76	1.66		2.26						
Elhai (2000)		.93	.63	1.01						
Elhai (2001)		1.10		1.41						
Elhai (2002)		.91	.75	1.31						
Elhai (2004)		.53		1.21	.81					
Elhai (2005)	.48									
Liljequest (1998)						1.06				
Marshall (2006)		1.17	1.38	1.53	1.32					
Rogers (2009)							.60	.62	.97	1.07
Scragg (2000)						1.17				
Wetter (1993)		1.52	1.13							
<i>Average</i>	.62	1.09	1.21	1.37	1.07	.85	.86	.83	1.03	1.08
Current Study		.77			.74			.48	.57	.87

Note. Only first author is listed. Effect sizes calculated with Cohen's standard formula. Current Study = Composite average of all *ds*. Only studies comparing genuine PTSD and simulated PTSD were included. Rogers (2009) = Rogers, Payne, Correa, Gillard, and Ross (2009).

Using the MMPI-2 as a point of comparison, Elhai et al. (2002) identified 32 rare items for inclusion on the MMPI-2 Fptsd scale with a criterion of $< 20\%$. Likewise, the Fp scale contains 27 items that were identified using a $< 20\%$ criterion. Clearly, the circumscribed coverage of the TSI unlikely symptom scales could have impacted their ability to detect simulated disability in the current study.

The variability of TSI-SC scores also had a significant impact on its effectiveness in the current study. While average TSI-SC scores tended to be low, they were widely variable for both genuine patients ($M = 3.05, SD = 4.44$) and simulators ($M = 5.44, SD = 5.52$). This variability directly impacted TSI-SC's very modest ability ($M ds = .48$) to discriminate genuine patients from simulators. One explanation for this variability is that comorbid conditions may have a differential effect on scale elevations. For example, when comparing the TSI-SC scores of genuine patients with and without symptoms of dissociation and psychosis a very large effect size ($d = 1.75$) was observed. A similar effect was observed by Klotz-Flitter, Elhai, and Gold (2003) in a sample of women with histories of childhood sexual abuse. Results of multiple regression analyses found dissociation, measured by the DES, and not other measures of psychopathology (i.e., intrusive experiences, depression, interpersonal discord) accounted for a significant proportion of the variance ($\beta = .45, p < .01$) in scores on the MMPI-2 F scale. Due to the overlap of dissociation and hallucinations in the current study, though, a more refined analysis of the isolated effects of dissociation was not possible.

Elevated scores by genuine patients also may have played a contributory role in the diminished effectiveness of the TSI feigning scales. Most notably, scores on the TSI-SEL scale may have been susceptible to ceiling effects. As highlighted earlier in the discussion, genuine patients endorsed a great number of items on the TSI due to their widespread experience of

trauma-related comorbidity. As a result, when these same severely traumatized patients were instructed to feign they were left with a restricted range of items to fabricate impairment. For example, six simulators (17.7%) endorsed more than 80 of the 100 TSI items during the standard (i.e., genuine) administration. Undoubtedly, the limited scope of the TSI worked against the successful application of the selectivity of symptoms strategy in the current study.

Another possible reason for the diminished discriminability of the TSI feigning scales in the current study is that simulators already receiving disability benefits had trouble simulating more disability on the TSI. To investigate this possibility, the effect sizes of TSI feigning scales were compared for simulators with and without disability. In line with the previous rationale, simulators who were receiving disability benefits generally evidenced smaller effect sizes ($M d = .64$) than non-disabled simulators ($M d = .86$). Interestingly, this effect was not universal. Disabled simulators demonstrated a remarkably larger effect size for the TSI-RS scale ($d = .98$ vs. $d = .64$) and a slightly smaller but roughly equivalent effect size on the ATR scale ($d = .81$ vs. $d = .89$). Therefore, it is likely that factors other than disability status played a more prominent role in the TSI feigning scales' modestly diminished discriminability. A competing hypothesis might be that simulators in the current study were more knowledgeable of trauma-related impairments than in other studies, which resulted in relatively lower scores on feigning scales and comparatively smaller effect sizes.

Sophisticated simulation has had an attenuated effect on estimates of feigning scale effectiveness in other analogue trauma studies. For example, in an investigation of the TSI's ATR scale, Elhai and colleagues (2005) utilized extensive coaching to increase simulators' sophistication. In their study simulators were required to study a PTSD worksheet, review multiple case vignettes, view an informational video, and complete a pretest on PTSD before

they feigned symptoms of PTSD. Not surprisingly, this coached simulation produced only modest elevations on the TSI clinical scales ($M = 62.29$, $SD = 10.12$), which were only slightly higher ($M d = .36$) than the scores of genuine outpatients with PTSD. Likewise, average ATR scores were also only modestly higher ($d = .47$) for simulators than genuine PTSD patients. Using a parallel design with the PAI, Eakin et al. (2006) demonstrated an even smaller difference ($d = .19$) with the NIM scale. Like ATR, simulators produced only slight elevations on NIM ($M = 63.90$, $SD = 12.80$). Overall, it appears that knowledge of psychopathology can have a significant impact on the simulation of symptoms in analogue research. In the case of feigned PTSD, this knowledge ultimately led to more realistic portrayals of psychopathology and lower scores on validity scales.

Simulator knowledge also seems to have played a contributory role in the modest discrimination observed in the current study. Simulators only increased their scores on the clinical scales of the TSI to a modest degree ($M d = .40$), and their feigning was fairly specific. Notable increases were observed on the Anxious Arousal (AA; $d = .71$), Tension Reduction Behavior ($d = .83$), and Anger/Irritability (AI; $d = .71$) scales, while the remaining clinical scales demonstrated only modest increase ($M ds \leq .25$). Surprisingly, unremarkable changes were observed on the Impaired Self-Reference (ISR; $d = -.10$), Defensive Avoidance Scale (DA; $d = .06$), and Depression (D; $d = .19$) scales. One explanation for this pattern might be that simulators chose to emphasize more blatant signs of anxiety on the TSI rather than other symptoms. However, only moderate changes on the Intrusive Experience scale (IE; $d = .48$) are inconsistent with this explanation. An alternative hypothesis may be that simulators chose to emphasize externalizing behaviors rather than internalized beliefs in a sophisticated attempt to appear more impaired on the TSI. In line with that hypothesis, items on the scales with the

greatest change (i.e., AA, AI, & TRB) primarily address actions (e.g., cutting or burning self, yelling at others, trembling/shaking), while items on the unremarkable scales (i.e., ISR, DA, &D) heavily emphasize thoughts and feelings (e.g., feeling empty, feeling depressed, pushing memories out of your mind). Regardless of their motivations, simulators in the current study appear to have selectively feigned some symptoms and choose not to feign others.

Clinical Application of the TSI Feigning Scales

Clinicians' evaluating patients with complex trauma have the difficult task of addressing a wide range of comorbid conditions. In most evaluations of disability resources are typically scarce and the time allotted to complete an evaluation is often limited. In the face of these restrictions, clinicians are still expected to complete accurate evaluations that address both relevant psychopathology and the potential for feigning. One of the major goals of the current study was to develop new scales on the TSI that measure empirically distinct aspects of feigned responding. Although each of the scales suffered limitations in the current study, several scales were effective as screens of genuine and feigned responding.

The unlikely detections scales, TSI-RS and TSI-SC, appear to be best suited as rule-out screens for feigned disability. Both scales did appreciably better than the ATR scale and amplified detection scales. Although not highly effective, cut scores for TSI-RS and TSI-SC produced a sensitivity of 1.00 for classifying sophisticated patient simulators. They were marginally effective at excluding nearly half of the genuine patients (both specificities = .43) from further consideration of feigning. As these scales are embedded within the TSI, their availability provides evaluators with a readily accessible method of screening disability candidates that have extreme clinical profiles. However, because roughly 50% of genuine patients scored above these cut-scores it is imperative that elevations are not interpreted as

evidence of feigning. The sole intent of these cut-scores is to provide practitioners with data that may be helpful when making the difficult decision of whether to allocate more time and clinical resources to further evaluate feigning.

Each of the TSI feigning scales were able to provide evidence of feigning (M PPP = .86) when applying conservative rule-in cut scores. In particular, the rare symptoms and severity of symptoms scales were able to identify one in four sophisticated patient simulators (M sensitivity = .25) while maintaining acceptable classification of genuine patients (all specificities = .97). This finding was particularly notable when considering the extreme clinical profiles on the TSI that were achieved by genuine patients in the study. However, in light of their very modest sensitivity, it is likely that few feigners in clinical practice will obtain such extreme scores on the TSI feigning scales. Clearly, clinicians should not interpret scores below these benchmarks as evidence of genuine responding. Nevertheless, as it is a recommended standard practice to obtain multiple sources of information when making determinations of malingering, the predictive accuracy of the rule-in cut scores make the TSI feigning scales viable sources of confirmatory data when marked elevations are achieved.

Limitations and Future Directions

The primary goal of the current study was to investigate response styles of severely traumatized patients. Several notable limitations in the study warrant discussion. First, as is the case with all feigning research, a small number of patients who were assumed to be honest may have been feigning their psychological impairments in the study. For instance, 16 patients in the validation sample (22.5%) obtained scores on the SIRS during the standard administration that were classified as feigning (i.e., three or more scales in the Probable range). Because the SIRS

has evidenced less accuracy with severely traumatized patients (Brand et al., 2006) it was decided to include these possible feigners in all analyses.

Confirmed cases of FD have been reported in trauma settings. For example, Coons and Milstein found 5.4% (6 of 112) of consecutive admissions at a specialty clinic for dissociative disorders were feigning symptoms of multiple personality disorder. Interestingly, these patients were classified with FD after they admitted to their deception during the course of treatment. Baggaley (1998) also observed a modest number of factitious patients at a small outpatient clinic. In his study, 12.8% (5 of 39) of patients enrolling in a treatment program for combat PTSD over the course of one year were found to have provided phony military histories and fraudulent reports of combat experience. Compared to genuine PTSD patients in the study, FD patients tended to emphasize grandiose accomplishments (e.g., served in specialized units) and also tell overly dramatic stories about their alleged traumas.

A useful addition to feigned trauma research would include the systematic assessment of factitious characteristics. For example, Rogers, Sewell, and Gillard (2010) suggested that evaluators who have established feigning with the SIRS follow-up administrations by asking questions concerning factitious motivations (e.g., excessive need for attention, over-investment in treatment). In the current study, questions about factitious characteristics may have provided discerning data about the proportion of false-positive elevations that may have been true-positive identifications of FD.

An alternative approach to identifying probable FD might be to look for the co-occurrence of high scores on feigning scales and low scores on scales assessing defensiveness. Rogers, Jackson, and Kaminski (2005) found graduate psychology students simulating FD could be discriminated from students malingering disability due to their remarkably low scores (≤ 1) on

the PAI's PIM scale. Because the TSI's defensiveness scale, Response Level (RL), has moderately strong convergent validity with PIM (Briere, 1995; $r = .50$), TSI-RL scores were analyzed in the current study to investigate this hypothesis. In line with Rogers et al.'s rationale, 75.0% of the cases achieving FP's on the SIRS also scored at TSI-RL's floor. These results appear to provide some, albeit limited, support for the idea that a modest number of patients in the current study could have been feigning their impairments during honest conditions.

A prominent methodological challenge of many feigning studies is the use of relatively high base-rates of feigning. Several authors (Baldessarini, Finkelstein, & Arana, 1983; Frederick & Bowden, 2009; Meehl & Rosen, 1955; Rosenfeld, Sands, & van Gorp, 2000) have noted that base-rates in research designs can greatly affect estimates of predictive accuracy. For example, Rosenfeld et al. concluded that many feigning studies often employ base-rates that are notably higher than the estimated prevalence of malingering in general clinical practice. As a result, these studies tend to overestimate the positive predictive accuracy of feigning scales. Therefore, because the base-rate in this study was relatively high (47.9%) the classification rates for rule-in cut scores may overestimate each scale's ability to predict feigning when used as routine screens in clinical practice. On the other hand, rule-in classification rates in this study are likely to be more applicable in settings where the prevalence of feigning is greater, such as evaluations of disability or claims for personal injury. For instance, Rogers, Payne, Berry et al., (2009) estimated the base-rate of feigning at a large evaluation center to be as high as 30% in assessments of disability and personal injury. Clearly, further validation of the cut-scores for each of the TSI feigning scales is needed to investigate their utility in settings where lower base-rates of feigning are common. Ideally, a large scale or multi-site investigation of the TSI's

effectiveness would be preferable because utility estimates are less vulnerable to the impact of outliers when both honest and feigner criterion groups are relatively large.

As discussed earlier, the TSI's narrow scope hindered the effectiveness of detection strategies in the current study. A solution to this problem might be the creation of a scale that combines multiple detection strategies. For example, the hybridization of a rare-severity scale could easily be operationalized on many existing tests. A more ambitious solution would be to create an entirely new response style measure that explicitly assesses feigned traumatic effects. By creating items for a new measure, problems associated with limited item availability for unlikely presentation scales would be avoided; a greater range of item coverage would also be possible for amplified detection scales.

Limited research has focused upon the effectiveness of detection strategies in evaluations of complex trauma. For instance, the erroneous stereotype detection strategy has shown promise in its ability to detect feigned PTSD, but its utility in evaluations of severe trauma has never been tested. Given the MMPI-2 Ds scale's propensity toward low scores with PTSD (Resnick et al., 2008; Rogers et al., 2003) it seems like a prime candidate for future studies with severely traumatized patients. Another test relying upon the erroneous stereotype strategy, the Morel Emotional Numbing Test (MENT; Morel, 1998), has also demonstrated utility at detecting feigned PTSD (Guriel, Yanez, & Fremouw, 2004; Morel & Shepherd, 2008) and may be a useful method for discriminating complex trauma from feigned PTSD. Moreover, while an overwhelming majority of feigned trauma research has focused upon the rare symptoms scales of the MMPI-2, no studies have investigated the effectiveness of the symptom severity scale, LW. Considering the strong discriminability demonstrated by the SIRS SEV scale in studies of feigned PTSD (Eakin, 2005; Rogers, Kropp et al., 1992) and feigned disability (Rogers, Payne,

Berry et al., 2009; Rogers, Payne, Correa et al., 2009), the MMPI-2 LW scale could be an unexamined resource for clinicians wanting to detect feigned trauma on the MMPI-2.

A final limitation in the current study was its restricted ability to investigate the effects of trauma-related comorbidity on detection strategies. Several studies have found patients with symptoms of psychosis (see Rogers et al., 2003) and dissociation (Brand et al., 1996; Rogers, Payne, Correa et al., 2009) tend to score higher on feigning scales than patients without these symptoms. Because of extensive comorbidity in the current study their individual effects could not be fully investigated. For example, while all patients in the current study were experiencing symptoms of PTSD, many also reported co-occurring symptoms of psychosis and dissociation. While consistently robust effect sizes ($M ds = 1.38$) were evidenced for each of the TSI feigning scales, the limited number of patients experiencing only dissociation ($n = 13$) and only hallucinations ($n = 5$) prevented an investigation of interaction effects. Therefore, an unexamined hypothesis is that the presence of psychosis or dissociation may play mediating or moderating roles in the scores of severely traumatized patients on feigning scales. A study with adequate representation of trauma patients experiencing dissociation and/or psychosis could potentially answer overlooked questions about the traumatogenic impact of these symptoms. For example, to what extent do hallucinations experienced by dissociative patients account for elevations on feigning scales? Conversely, does dissociation have an amplifying effect on the scores of traumatized patients with psychosis?

A related avenue for further study is the impact of somatization on feigning scale elevations by traumatized patients. Genuine patients endorsed an unexpectedly high number of bizarre somatic complaints on the ATR scale in the current study. Because somatic complaints

are a defining feature of complex trauma (Pelcovitz et al., 1997), the need for future research of somatization's impact on feigning scale elevations seems warranted.

Conclusion

Severe traumatic reactions are often characterized by the experience of many, sometimes extreme, psychological symptoms. These complex clinical presentations often result in widespread elevations on psychological tests. As a consequence, clinicians evaluating patients with complex trauma are faced with the difficult task of discriminating between genuine but severe self-reports and feigned responding. Advancements in the assessment of feigned mental disorders have found that a thorough consideration of multiple detection strategies leads to more accurate determinations of genuine and feigned response styles (Rogers, 2008a). In the current study, the creation of multiple feigning scales for the TSI according to both amplified and unlikely detection strategies resulted in a refined empirical description of the response patterns of genuinely severe trauma patients. Prominently, the extreme TSI profiles of traumatized patients in the current study were generally the product of many clinical endorsements reflecting multiple trauma-related conditions.

The consideration of multiple detection strategies also led to appreciable improvements in the assessment of feigned responding on the TSI. Although extensive comorbidity interfered most with the effectiveness of detection strategies relying upon the symptom selectivity, symptom combinations, and quasi-rare symptoms detection strategies, encouraging results were consistently demonstrated for the symptom severity and rare symptoms detection strategies. These findings provided promising evidence that the rare symptoms and severity of symptoms detection strategies may be particularly useful in evaluations of complex trauma when feigning is suspected.

APPENDIX A
CONSENT FORM

University of North Texas
Institutional Review Board
Research Consent Form

Subject Name _____ Date _____

Title of Study Effects of Psychological Trauma on Perceived Symptoms and Impairment
Principal Investigator: Richard Rogers, Ph.D.

Before agreeing to this research, you must understand what is involved. This consent form describes the methods and benefits of the study. It describes risks and discomforts of the study. This consent form states your right to withdraw from the study at any time. It is important for you to understand that no promises are made about the results of the study.

Purpose of the Study

- To study how stress and trauma can affect self-perceptions and perceptions of symptoms.
- To study how role-played conditions affect how symptoms are reported.

Description of the Study

Through interviews and questionnaires, you will be asked questions about symptoms, trauma, and adjustments. In Phase I, measures will be given under standard instructions. Phase II is even more interesting. Some participants will be asked to role play a different set of psychological problems. As a small incentive, you will be given \$10 if you are successful. Others will be asked to be consistent in following the standard instructions. If successful, you will be given the same incentive.

Procedures to be Used

For each session, you will be asked to complete 11 measures. They are 5 brief interviews, 5 questionnaires, and a reading screen. Without rushing, this will take about 2½ hours. You can also have breaks.

Description of the Foreseeable Risks

The foreseeable risks are negligible. It is possible that you may find a few questions to be minimally distressful. Please let the researcher know if this happens. You will not be asked whether you have engaged in child abuse or elder abuse. If you volunteer such information, we are required by law to inform the authorities.

Benefits to the Subjects or Others

You may learn things about yourself from this research. The research will help us to understand how stress and trauma can affect patient's self reports. Effective treatments rely on self-reports. This information is important for treatment.

Procedures for Maintaining Confidentiality of Research Records

Your information will be kept confidential and the data recorded without names or other identifiers. You agree that researchers can contact the clinical staff, if you pose a significant risk of suicide or self-harm. We will keep a list of participants so we can pay them. This list is separate from the rest of the data. It cannot be traced to any participant's data.

Review for the Protection of Participants

This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). Contact the IRB at (940) 565-3940 or sbourns@unt.edu if you have any questions about your rights as a research subject.

Research Subject's Rights

I have read or have had read to me all of the above. A researcher has explained the study to me and answered my questions. I have been told the possible risks, discomforts and benefits of the study.

I understand that I do not have to take part in this study. There are no consequences if I say "no" to the study. I do not have to answer any question. I can quit at any time. The researcher may choose to stop my participation at any time.

In case problems or questions arise, I can phone Dr. Richard Rogers at the Department of Psychology, University of North Texas (940 565-2671). I understand my rights as research subject. I voluntarily consent to participate in this study. I understand the purpose of the study and how it is conducted. I have been told I will receive a copy of this consent form.

APPENDIX B
EXPERIMENTAL INSTRUCTIONS

Role-Playing: “Living Easy on Disability Payments”

Your goal. Please role-play a person who is pretending to be totally disabled. Imagine that you have been working as a successful professional and have a generous disability package. If you are seen as totally disabled, your insurance will pay you \$4000 per month, tax-free. Plus you won't have to work. You have to convince the insurance company that you have a severe mental disorder that prevents you from having any gainful employment. One possibility is to have severe symptoms that stop you from being able to work effectively, even on a part-time basis.

Reward. Can you beat the test? These tests are set up to catch people trying to fake a mental disorder. The best reward is seeing if you are smart enough and shrewd enough to avoid being caught. An additional award is a \$10 incentive for being successful.

Risk. In the real world, unsuccessful malingerers (i.e., those caught free-loading) are often denied basic mental health services—even when they truly need them. Even worse, free-loaders are sometimes sued by insurance companies or face criminal charges of fraud.

Importance. Please take this study seriously. Millions of health-care dollars are wasted each year on persons that are free-loading off the system. Your taxes and insurance dollars are being squandered on healthy persons that are living off your money. These funds should be spent on persons, such as yourself, who have legitimate disorders.

Accurate Presentation of Symptoms and Problems

Your goal. On your first administration, you were asked to be open and honest in describing your symptoms and circumstances. Please continue to be honest and self-disclosing. Your job is to provide an accurate presentation of your current symptoms and psychological issues.

Reward. The best reward is testing your ability to describe your psychological problems consistently; accurate description improves the ability of mental health professionals to provide effective treatment. An award of \$10 will be awarded to you if you are consistent in describing your symptoms and issues.

Risk. In the real world, many patients that change frequently their accounts of psychological issues are sometimes dismissed as unreliable. Even worse, some inconsistent patients are improperly viewed as manipulating mental health professionals.

Importance. Please take this study seriously. We are very concerned that key symptoms and features of mental disorders are not dismissed in genuine patients because of inconsistent self-reporting. It would be a tragedy if genuine patients do not receive much-needed mental health treatment.

APPENDIX C
DEBRIEFING INTERVIEW

Effects of Psychological Trauma on Perceived Symptoms and Impairment

Research number: _____

Experimental Condition: _____malingering_____resignation_____control [Critical Information]

1. What were your instructions? _____correct, _____incorrect. Questionable? Record Verbatim:

2. What were your incentives?

Best: Maligner (smart enough)_____correct_____incorrect

Resignation: (understand attitudes)_____correct_____incorrect

Control (accurately describe for tx)_____correct_____incorrect

Additional: \$10 _____correct_____incorrect

3. Why is this research important? Check all that apply:

_____stop fraud, _____decrease genuine patients being seen as frauds, _____improve tx

4. Compliance: Did you follow the instructions: _____yes_____no

(if yes) How would you describe your effort at following the instructions?

_____poor, _____average, _____good

5. Were you successful at completing your assignment?

_____uncertain, _____no, _____somewhat,_____yes

6. Were you aware that there were items designed to trip you up?

_____yes, _____no

7. Can you give us some ideas how these items were supposed to work? [verbatim]

REFERENCES

- American Psychiatric Association. (1952). *Diagnostic and statistical manual of mental disorders*. Washington, DC: Author.
- American Psychiatric Association. (1968). *Diagnostic and statistical manual of mental disorders* (2nd ed.). Washington, DC: Author.
- American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4rd ed., Text-Revision). Washington, DC: Author.
- Appelbaum, P. S., Jick, R. Z., & Grisso, T. (1993). Use of posttraumatic stress disorder to support an insanity defense. *American Journal of Psychiatry*, *150*(2), 229-234.
- Arbisi, P., & Ben-Porath, Y. S. (1995). An MMPI-2 infrequent response scale for use with psychopathological populations: The Infrequency-Psychopathology Scale, F(p). *Psychological Assessment*, *7*(4), 424-431. doi:10.1037/1040-3590.7.4.424
- Bagby, R., Wild, N., & Turner, A. (2003). Psychological assessment in adult mental health settings. In I. B. Weiner (Ed.) *Handbook of psychology: Assessment psychology* (Vol. 10, pp. 211-234). Hoboken, NJ: Wiley.
- Baggaley, M. (1998). Military Munchausen's: Assessment of factitious claims of military service in psychiatric patients. *Psychiatric Bulletin*, *22*, 53-54. doi: 10.1192/pb.22.3.153
- Baldessarini, R. J., Finkelstein, S., & Arana, G.W. (1983). The predictive power of diagnostic tests and the effect of prevalence on illness. *Archives of General Psychiatry*, *40*, 569-573.

- Bernstein-Carlson, E. M., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *Journal of Nervous and Mental Disease, 174*(12), 727-735. doi: 10.1097/00005053-198612000-00004
- Blake, D., Weathers, F., Nagy, N., Kaloupek, D. G., Klauminzer, G., Charney, D., & Keane, T. M. (1990). *Clinician administered PTSD scale*. Boston, MA: National Center for PTSD, Behavioral Sciences Division; West Haven, CT: Neurosciences Division.
- Brand, B. L., McNary, S. W., Loewenstein, R. J., Kolos, A. C., & Barr, S. R. (2006). Assessment of genuine and simulated dissociative identity disorder on the structured interview of reported symptoms. *Journal of Trauma and Dissociation, 7*(1), 63-85. doi: 10.1300/J229v07n01_06
- Briere, J. (1995). *Trauma Symptom Inventory professional manual*. Odessa, FL: Psychological Assessment Resources.
- Briere, J. (2001). *Detailed Assessment of Posttraumatic Stress professional manual*. Odessa, FL: Psychological Assessment Resources.
- Briere, J. Kaltman, S., & Green, B. L. (2008). Accumulated childhood trauma and symptom complexity. *Journal of Traumatic Stress, 21*, 223-226. doi:10.1002/jts.20317
- Bryant, R., Moulds, M., Mastrodomenico, J., Hopwood, S., Felmingham, K., & Nixon, R. (2007). Who drops out of treatment for post-traumatic stress disorder? *Clinical Psychologist, 11*(1), 13-15. doi:10.1080/13284200601178128
- Burgess, C., & McMillian, T. M. (2001). Brief report: The ability of naïve participants to report symptoms of posttraumatic stress disorder. *British Journal of Clinical Psychology, 40*, 209-214. doi:10.1348/014466501163544

- Bury, A., & Bagby, R. (2002). The detection of feigned uncoached and coached posttraumatic stress disorder with the MMPI-2 in a sample of workplace accident victims. *Psychological Assessment, 14*(4), 472-484. doi:10.1037/1040-3590.14.4.472
- Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A., & Kaemmer, B. (1989). *Manual for the administration and scoring of the MMPI-2*. Minneapolis, MN: University of Minnesota Press.
- Calhoun, P., Earnst, K., Tucker, D., Kirby, A., & Beckham, J. (2000). Feigning combat-related posttraumatic stress disorder on the Personality Assessment Inventory. *Journal of Personality Assessment, 75*(2), 338-350. doi:10.1207/S15327752JPA7502_11
- Campbell, D., & Fiske, D. (1959). Convergent and discriminant validation by the multi-trait multi-method matrix. *Psychological Bulletin, 56*(2), 81-105.
- Cook, J. M., Riggs, D. S., Thompson, R., Coyne, J. C., & Sheikh, J. (2004). Posttraumatic stress disorder and current relationship functioning of WWII ex-prisoners of war. *Journal of Family Psychology, 18*, 36-45. doi:10.1037/0893-3200.18.1.36
- Coons, P. M., & Milstein, V. (1994). Factitious or malingered multiple personality disorder: Eleven cases. *Dissociation, 7*(2), 81-85.
- Cunien (1997). Psychiatric and medical syndromes associated with deception. In R. Rogers (Ed.) *Clinical assessment of malingering and deception* (2nd ed., pp. 23-46). New York, NY, US: Guilford Press
- Classen, C., Pain, C., & Field, N. (2006). Posttraumatic personality disorder: A reformulation of complex posttraumatic stress disorder and borderline personality disorder. *Psychiatric Clinics of North America, 29*(1), 87-112. doi:10.1016/j.psc.2005.11.001

- Classen, C., Palesh, O., & Aggarwal, R. (2005). Sexual revictimization: A review of empirical literature. *Trauma, Violence, & Abuse, 6*(2), 103-129. doi:10.1177/1524838005275087
- Cloitre, M., Stolbach, B. C., Herman, J. L., van der Kolk, B., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complex PTSD: Childhood and adulthood cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress, 22*(5), 399-408. doi: 10.1002/jts.20444
- Corrigan, P., & O'Shaughnessy, J. R. (2007). Changing mental illness stigma as it exists in the real world. *Australian Psychologist, 42*(2), 90-97. doi:10.1080/00050060701280573
- Cunningham, M. D., & Reidy, T. J. (2001). A matter of life or death: Special considerations and heightened practice standards in capital sentencing evaluations. *Behavioral Sciences & the Law, 19*, 473-490. doi:10.1002/bsl.460
- de Jong, J. T., Komproe, I. H., Spinazzola, J., van der Kolk, B., & van Ommeren, H. (2005). DESNOS in three postconflict settings: Assessing cross-cultural construct equivalence. *Journal of Traumatic Stress, 18*(1), 13-21. doi:10.1002/jts.20005
- Department of Veterans Affairs. (2010). *Annual benefits report for fiscal year 2010*. Washington: Veterans Benefits Administration.
- Devillis, R. F. (2003) *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage.
- Eakin, D. (2005). Detection of feigned posttraumatic stress disorder: A multimodal assessment strategy. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 65*(11-B), 6044.
- Eakin, D., Weathers, F., Benson, T., Anderson, C., & Funderburk, B. (2006). Detection of feigned posttraumatic stress disorder: A comparison of the MMPI-2 and PAI. *Journal of*

Psychopathology and Behavioral Assessment, 28(3), 145-155. doi:10.1007/s10862-005-9006-5

Edens, J., Otto, R., & Dwyer, T. (1998). Susceptibility of the Trauma Symptom Inventory to malingering. *Journal of Personality Assessment*, 71(3), 379-392.

doi:10.1207/s15327752jpa7103_7

Efendov, A. A., Sellbom, M. & Bagby, R. M. (2008). The utility and comparative incremental validity of the MMPI-2 and trauma symptom inventory scales in the detection of feigned PTSD. *Psychological Assessment*, 20(4), 317-326. doi:10.1037/a0013870

Ehring, T. & Quack, D. (2010). Emotion regulation difficulties in trauma survivors: The role of trauma type and PTSD symptom severity. *Behavior Therapy*, 41, 587-598.

doi:10.1016/j.beth.2010.04.004

Elhai, J., Frueh, B., Gold, P., Gold, S., & Hamner, M. (2000). Clinical presentations of posttraumatic stress disorder across trauma populations: A comparison of MMPI-2 profiles of combat veterans and adult survivors of child sexual abuse. *Journal of Nervous and Mental Disease*, 188(10), 708-713. doi:10.1097/00005053-200010000-00010

Elhai, J., Gold, P., Frueh, B., & Gold, S. (2000). Cross-validation of the MMPI-2 in detecting malingered posttraumatic stress disorder. *Journal of Personality Assessment*, 75(3), 449-

463. doi:10.1207/S15327752JPA7503_06

Elhai, J., Gold, S., Sellers, A., & Dorfman, W. (2001). The detection of malingered posttraumatic stress disorder with MMPI-2 Fake Bad Indices. *Assessment*, 8(2), 221-236.

doi:10.1177/107319110100800210

Elhai, J., Gray, M. J., Kashdan, T. B., & Franklin, L. (2005). Which instruments are most commonly used to assess traumatic event exposure and posttraumatic effects?: A survey

- of traumatic stress professionals. *Journal of Traumatic Stress, 18*(5), 541-545.
doi:10.1002/jts.20062
- Elhai, J., Naifeh, J., Zucker, I., Gold, S., Deitsch, S., & Frueh, B. (2004). Discriminating malingering from genuine civilian posttraumatic stress disorder: A validation of three MMPI-2 infrequency scales (F, Fp, and Fptsd). *Assessment, 11*(2), 139-144.
doi:10.1177/1073191104264965
- Elhai, J., Ruggiero, K., Frueh, B., Beckham, J., & Gold, P. (2002). The Infrequency-Posttraumatic Stress Disorder Scale (Fptsd) for the MMPI-2: Development and initial validation with veterans presenting with combat-related PTSD. *Journal of Personality Assessment, 79*(3), 531-549. doi:10.1207/S15327752JPA7903_08
- Elhers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behavior Research Therapy, 38*(4), 319-345. doi:10.1037/0022-006X.76.2.219
- Endicott, J., Cohen, J., Nee, J., Fleiss, J., & Sarantakos, S. (1981). Hamilton Depression Rating Scale: Extracted for regular and change version of the Schedule of Affective Disorders and Schizophrenia. *Archives of General Psychiatry, 38*, 98-103.
- Feldman, M. D., Hamilton, J. C., & Deemer, H. N. (2001). Factitious disorder. In K. Phillips (Ed.) *Somatoform and factitious disorders* (pp. 129-166). Washington DC: American Psychiatric Association.
- First, M., Spitzer, R., Gibbon, M., & Williams, J. (1997). *Structured Clinical Interview for DSM-IV Axis I Disorders* (SCID-II, Clinical Version). Washington, DC: American Psychiatric Association.

- Foa, E., Riggs, D. S., Dancu, C. V., & Rothbaum, B. O. (1993). Reliability and validity of a brief instrument for assessing post-traumatic stress disorder. *Journal of Traumatic Stress, 6*(4), 459-473. doi:10.1002/jts.2490060405
- Foa, E., Keane, T. M., & Friedman, M. J. (2000). *Effective treatments for PTSD: Practice guidelines from the International Society for Traumatic Stress Studies*. New York: Guilford Press.
- Ford, J. (1999). Disorders of extreme stress following war-zone military trauma: Associated features of posttraumatic stress disorder or comorbid but distinct syndromes? *Journal of Consulting and Clinical Psychology, 67*(1), 3-12. doi:10.1037/0022-006X.67.1.3
- Ford, J. D., & Smith, S.F. (2007). Complex posttraumatic stress disorder in trauma-exposed adults receiving public sector outpatient substance abuse disorder treatment. *Addiction Research and Theory, 16*(2), 193-203. doi:10.1080/16066350701615078
- Ford, J., Stockton, P., Kaltman, S., & Green, B. L. (2006). Disorders of extreme stress (DESNOS) symptoms are associated with type and severity of interpersonal trauma exposure in a sample of healthy young women. *Journal of Interpersonal Violence, 21*(11), 1399-1416. doi:10.1177/0886260506292992
- Frederick, R. I., & Bowden, S. C. (2009). The test validation summary. *Assessment, 16*, 215-236. doi:10.1177/1073191108325005
- Frueh, B., Hamner, M., Cahill, S., Gold, P., & Hamlin, K. (2000). Apparent symptom overreporting in combat veterans evaluated for PTSD. *Clinical Psychology Review, 20*(7), 853-885. doi:10.1016/S0272-7358(99)00015-X
- Goodman, L. A., Corcoran, C., Turner, K., Yuan, N., & Green, B. L. (1998). Assessing traumatic event exposure: General issues and preliminary findings for the Stressful Life Events

- Screening Questionnaire. *Journal of Traumatic Stress*, 11(3), 521-542.
doi:10.1023/A:1024456713321
- Greene, R. (1997). Assessment of malingering and defensiveness by mutliscale inventories. In R. Rogers (Ed.), *Clinical assessment of malingering and deception* (2nd ed., pp. 169-207). New York: Guilford.
- Greene, R. (2000). *The MMPI-2: An interpretive manual* (2nd ed.). Needham Heights, MA: Allyn & Bacon.
- Green, B. L., & Kaltman, S. I. (2004). Recent research findings on the diagnosis of PTSD: Prevalence, course, comorbidity, and risk. In R. Simon (Ed.) *Posttraumatic stress disorder in litigation: Guidelines for forensic assessment* (2nd ed, pp. 19-39). Washington: American Psychiatric Publishing.
- Green, B. L., Goodman, L. A., Krupnick, J. L., Corcoran, C. B. Petty, R. M., Stockton, P., & Stern, N. M. (2000). Outcomes of single versus multiple trauma exposure in a screening sample. *Journal of Traumatic Stress*, 13(2), 271-286. doi:10.1023/A:1007758711939
- Gough, H. G. (1954). Some common misconceptions about neuroticism. *Journal of Consulting Psychology*, 18, 287-292.
- Guriel, J., & Fremouw, W. (2003). Assessing malingered posttraumatic stress disorder: A critical review. *Clinical Psychology Review*, 23, 881-904. doi:10.1016/j.cpr.2003.07.001
- Guriel, J., Yanez, T., Fremouw, W., Shreve-Neiger, A., Ware, L., Filcheck, H., & Farr, C. (2004). Impact of coaching on malingered posttraumatic stress symptoms on the M-FAST and the TSI. *Journal of Forensic Psychology Practice*, 4(2), 37-56.
doi:10.1300/J158v04n02_02

- Hamilton, J. C., Deemer, H. N., & Janata, J. W. (2003). Feeling bad but looking good: Sick role features that lead to favorable interpersonal judgments. *Journal of Social & Clinical Psychology, 22*(3), 253-274. doi:10.1521/jscp.22.3.253.22889
- Hamilton, J. C., & Janata, J. W. (1997). Dying to be ill: The role of self-enhancement motives in the spectrum of factitious disorders. *Journal of Social & Clinical Psychology, 16*(2), 178-199.
- Heffernan, K., & Cloitre, M. (2000). A comparison of posttraumatic stress disorder with and without borderline personality disorder among women with a history of childhood sexual abuse: Etiological and clinical characteristics. *Journal of Nervous and Mental Disease, 188*(9), 589-595. doi:10.1097/00005053-200009000-00005
- Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress, 5*(3), 377-391. doi:10.1002/jts.2490050305
- Hyer, L., Summer, M. N., Boyd, S., Litaker, M., & Boudewyns, P. (1996). Assessment of older combat veterans with the clinician-administered PTSD scale. *Journal of Traumatic Stress, 9*(3), 587-594. doi:10.1002/jts.2490090314
- Jackson, R. L., Rogers, R., & Sewell, K. W. (2005). Forensic applications of the Miller Forensic Assessment of Symptoms Test (M-FAST): Screening for feigned disorders in competency to stand trial evaluations. *Law and Human Behavior, 29*(2), 199-210. doi:10.1007/s10979-005-2193-5
- Johnson, M. H., Magaro, P. A., & Stern, S. L. (1986). Use of the SADS-C as a diagnostic and symptom severity measure. *Journal of Consulting and Clinical Psychology, 34*, 546-551. doi:10.1037/0022-006X.54.4.546

- Jones, E. E., & Harris, V. A. (1967). The attribution of attitudes. *Journal of Experimental Social Psychology, 3*, 1–24. doi:10.1016/0022-1031(67)90034-0
- Keane, T., Buckley, T., & Miller, M. (2004). Forensic psychological assessment in PTSD. In R.I. Simon (Ed.), *Posttraumatic stress disorder in litigation: Guidelines for forensic assessment* (2nd ed., pp. 119-140). Washington, DC: American Psychiatric Publishing.
- Kellermann, N. (1999). Diagnosis of holocaust survivors and their children. *Israel Journal of Psychiatry and Related Sciences, 36*(1), 55-64.
- Kemp, A., Green, B. L., Hovanitz, C., & Rawlings, E. (1995). Incidence and correlates of posttraumatic stress disorder in battered women: Shelter and community samples. *Journal of Interpersonal Violence, 10*(1), 43-55. doi:10.1177/088626095010001003
- Kessler, R., Sonnega, A., Bromet, E., & Hughes, M. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of General Psychiatry, 52*(12), 1048-1060.
- Kilpatrick, D. G., Resnick, H. S., Freedy, J. R., Pelcovitz, D., Resick, P. A., Roth, S., & van der Kolk (1998). The posttraumatic stress disorder field trial: Evaluation of the PTSD construct: Criteria A through E. In T. Widiger, A. Frances, H. Pincus, R. Ross, M. First, W. Davis, & Kline, M. (Eds.), *DSM-IV sourcebook* (Vol 4). Washington, DC: American Psychiatric Press.
- Kilpatrick, D. G. (2005). A special section on complex trauma and a few thoughts about the need for more rigorous research on treatment efficacy, effectiveness, and safety. *Journal of Traumatic Stress, 18*(5), 379-384. doi:10.1002/jts.20045
- Kirz, J. L., Drescher, K. D., Klein, J. L., Gusman, F., & Schwartz, M. (2001). MMPI-2 assessment of differential post-traumatic stress disorder patterns in combat veterans and

- sexual assault victims. *Journal of Interpersonal Violence*, 16(7), 619-639.
doi:10.1177/088626001016007001
- Klotz-Flitter, J. M., Elhai, J., & Gold, S. N. (2003). MMPI-2 F scale elevations in adult victims of child sexual abuse. *Journal of Traumatic Stress*, 16, 269-274.
doi:10.1023/A:1023700208696
- Koch, W. J., O'neil, M., & Douglas, K. S. (2005). Empirical Limits for the Forensic Assessment of PTSD Litigants. *Law and Human Behavior*, 29(1), 121-149. doi:10.1007/s10979-005-1401-7
- Koenan, K. (1999). The comorbidity of post-traumatic stress disorder and antisocial personality disorder: An epidemiological and genetic study. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 60(4-B), 1858.
- Lanyon, R. I. (1997). Detecting deception: Current models and directions. *Clinical Psychology: Science and Practice*, 4(4), 377-387.
- Lauterbach, D., Vrana, S., King, D., & King, L. A. (1997). Psychometric properties of the civilian version of the Mississippi PTSD scale. *Journal of Traumatic Stress*, 10(3), 499-513. doi:10.1023/A:1024801607043
- Lees-Haley, P., English, L., & Glenn, W. (1992). A Fake Bad Scale on the MMPI-2 for personal injury claimants. *Psychological Reports*, 68(1), 203-210. doi:10.2466/PR0.68.1.203-210
- Lees-Haley, P. R., & Dunn, J. T. (1994). The ability of naïve subjects to report symptoms of mild brain injury, posttraumatic stress disorder, major depression, and generalized anxiety disorder. *Journal of Clinical Psychology*, 50, 252-256. doi:10.1002/1097-4679(199403)50:2<252::AID-JCLP2270500217>3.0.CO;2-T

- Leopold, R. S. (2003). *A year in the life of a million American workers*. New York: MetLife Group.
- Liljequist, L., Kinder, B., & Schinka, J. (1998). An investigation of malingering posttraumatic stress disorder on the Personality Assessment Inventory. *Journal of Personality Assessment, 71*(3), 322-336. doi:10.1207/s15327752jpa7103_3
- van Ljzendoorn, M. H., & Schuengel, C. (1996). The measurement of dissociation in normal and clinical populations: Meta-analytic validation of the dissociative experiences scale (DES). *Clinical Psychology Review, 16*(5), 365-382. doi:10.1016/0272-7358(96)00006-2
- Marshall, M. B., & Bagby, R. M. (2006). The incremental validity and clinical utility of the MMPI-2 infrequency posttraumatic stress disorder scale. *Assessment, 13*(4), 417-429. doi:10.1177/1073191106290842
- McLean, L. M., & Gallup, R. (2003). Implications of childhood sexual abuse for adult borderline personality disorder and complex posttraumatic stress disorder. *American Journal of Psychiatry, 160*(2), 369-371. doi:10.1176/appi.ajp.160.2.369
- Meehl, P. E., & Rosen, A. (1955). Antecedent probability and the efficiency of psychometric signs, patterns, or cutting scores. *Psychological Bulletin, 52*, 194-216. doi:10.1037/h0048070
- Miller, H. A. (2001). *M-FAST: Miller-Forensic Assessment of Symptoms Test professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Morel, K. R. (1998). Development and preliminary validation of a forced-choice test of a response bias for posttraumatic stress disorder. *Journal of Personality Assessment, 70*(2), 299-314. doi:10.1207/s15327752jpa7002_8

- Morel, K. R., & Shepherd, B. E. (2008). A meta-analysis of the Morel emotional numbing test for PTSD: Comment on Sing, Agashi, and Grover. *German Journal of Psychiatry, 11*, 128-131.
- Morey, L. C. (2007). *Personality Assessment Inventory professional manual*. Odessa, FL: Psychological Assessment Resources.
- Moskowitz, A., Schafer, I., & Dorahy, M. (Eds.) (2008). *Psychosis, trauma, and dissociation: Emerging perspectives on severe psychopathology*. Hoboken, NJ: Wiley.
doi:10.1002/9780470699652
- Nixon, R. D., & Bryant, R. A. (2005). Are negative cognitions associated with severe acute trauma responses? *Behaviour Change, 22*, 22-28. doi:10.1375/behc.22.1.22.66783
- Norris, F. H., & Perilla, J. L. (1996). The revised civilian Mississippi scale for PTSD: Reliability, validity, and cross-language stability. *Journal of Traumatic Stress, 9*, 285-298.
doi:10.1002/jts.2490090210
- Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin, 129*, 52-73.
doi:10.1037/0033-2909.129.1.52
- Parsons, T. (1951). Illness and the role of the physician: A sociological perspective. *American Journal of Orthopsychiatry, 21*, 452-460.
- Pelcovitz, D., van der Kolk, B., Roth, S., Mandel, F., Kaplan, S., & Resick, P. (1997). Development of a criteria set and a structured interview for disorders of extreme stress (SIDES). *Journal of Traumatic Stress, 10*(1), 3-16. doi:10.1023/A:1024800212070

- Porter, S., Peace, K., & Emmett, K. A. (2007). You protest too much, methinks: Investigating the features of truthful and fabricated reports of traumatic experiences. *Canadian Journal of Behavioural Science, 39*(2), 79-91. doi:10.1037/cjbs2007007
- Radley, A., & Green, R. (1987). Illness as adjustment: A methodology and conceptual framework. *Sociology of Health & Illness, 9*(2), 179-207. doi:10.1111/1467-9566.ep11346972
- Resick, P., & Calhoun, K. S. (2001). Posttraumatic stress disorder. In D. H. Barlow (Ed.) *Clinical handbook of psychological disorders* (3rd ed., pp. 60-113). New York: Guilford.
- Resick, H. S., Kilpatrick, D. G., Dansky, B. S., Saunders, B. E., & Best, C. L. (1993). Prevalence of civilian trauma and posttraumatic stress disorder in a representative national sample of women. *Journal of Consulting and Clinical Psychology, 61*, 984-991. doi:10.1037/0022-006X.61.6.984
- Resick, P. A. & Schnicke, M. K. (1992). Cognitive processing therapy for sexual assault victims. *Journal of Consulting and Clinical Psychology, 60*(5), 748-756. doi:10.1037/0022-006X.60.5.748
- Resnick, P. J. (1997). Malingering of post-traumatic disorders. In R. Rogers (Ed.), *Clinical assessment of malingering and deception* (2nd ed., pp. 130-152). New York: Guilford.
- Resnick, P. J., West., S., & Payne, J. W. (2008). Malingering of post-traumatic disorders. In R. Rogers (Ed.), *Clinical assessment of malingering and deception* (3rd ed., 109-127). New York: Guilford.
- Rogers, R. (1984). Towards an empirical model of malingering and deception. *Behavioral Sciences and the Law, 2*, 93-112. doi:10.1002/bsl.2370020109

- Rogers, R. (2001). *Handbook of diagnostic and structured interviewing* (2nd ed.). New York: Guilford.
- Rogers, R. (Ed.) (1997). *Clinical assessment of malingering and deception* (2nd ed.). New York: Guilford.
- Rogers, R. (Ed.) (2008a). *Clinical assessment of malingering and deception* (3rd ed.). New York: Guilford.
- Rogers, R. (2008b). Detection Strategies. In R. Rogers (Ed.) *Clinical assessment of malingering and deception* (3rd ed., pp. 14-35). New York: Guilford Press.
- Rogers, R. (2005). *SIRS Trauma and Disability Scales*. Unpublished measure.
- Rogers, R., Bagby, R. M., & Dickens, S. E. (1992). *Structured Interview of Reported Symptoms (SIRS) and professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Rogers, R., & Cruise, K. R. (1998). Assessment of malingering with simulation designs: Threats to external validity. *Law and Human Behavior*, 22(3), 273-285.
doi:10.1023/A:1025702405865
- Rogers, R., Jackson, R. L., & Kaminski, P. L. (2005). Factitious psychological disorders: The overlooked response style in forensic evaluations. *Journal of Forensic Psychology Practice*, 5(1), 21-41. doi:10.1300/J158v05n01_02
- Rogers, R., Jackson, R. L., Sewell, K. W., & Salekin, K. L. (2005). Detection strategies for malingering: A confirmatory factor analysis of the SIRS. *Criminal Justice and Behavior*, 32, 511-525. doi:10.1177/0093854805278412
- Rogers, R., Kropp, P., Bagby, R., & Dickens, S. (1992). Faking specific disorders: A study of the Structured Interview of Reported Symptoms (SIRS). *Journal of Clinical Psychology*,

48(5), 643-648.

doi:10.1002/1097-4679(199209)48:5<643::AID-CLP2270480511>3.0.CO;2-2

Rogers, R., & Payne, J. W. (2006). Damages and rewards: Assessment of malingered disorders in compensation cases. *Behavioral Sciences & the Law*, 24(5), 645-658.

doi:10.1002/bsl.687

Rogers, R., Payne, J. W., Berry, D.T., & Granacher, R. (2009). Use of the SIRS in compensation cases: An examination of validity and generalizability. *Law and Human Behavior*, 33,

213-224. doi:10.1007/s10979-008-9145-9

Rogers, R., Payne, J. W., Correa, A., Ross, C., & Gillard, N. (2009). Assessment of malingering among traumatized individuals. *Journal of Personality Assessment*, 91(5), 429-438.

doi:10.1080/00223890903087745

Rogers, R., Salekin, R., Sewell, K. W., Goldstein, A., & Leonard, K. (1998). A comparison of forensic and nonforensic malingerers: A prototypical analysis of explanatory models.

Law and Human Behavior, 22(4), 353-367. doi:10.1023/A:1025714808591

Rogers, R., Sewell, K. W., & Gillard, N. D. (2010). *Structured Interview of Reported Symptoms-Second Edition (SIRS-2) professional manual*. Lutz, FL: Psychological Assessment Resources, Inc.

Rogers, R., Sewell, K., & Goldstein, A. (1994). Explanatory models of malingering: A prototypical analysis. *Law and Human Behavior*, 18(5), 543-552.

doi:10.1007/BF01499173

Rogers, R., Sewell, K., Martin, M., & Vitacco, M. (2003). Detection of feigned mental disorders: A meta-analysis of the MMPI-2 and malingering. *Assessment*, 10(2), 160-177.

doi:10.1177/1073191103010002007

- Rosen, G., Sawchuk, C., Atkins, D., Brown, M., Price, J., & Lees-Haley, P. (2006). Risk of false positives when identifying malingered profiles using the trauma symptom inventory. *Journal of Personality Assessment, 86*(3), 329-333. doi:10.1207/s15327752jpa8603_08
- Rosenfeld, B., Sands, S. A., & van Gorp, W. G. (2000). Have we forgotten the base-rate problems? Methodological issues in the detection of distortion. *Archives of Clinical Neuropsychology, 15*(4), 349-359. doi:10.1016/S0887-6177(99)00025-6
- Ross, C., Duffy, C., & Ellason, J. W. (2002). Prevalence, reliability and validity of dissociative disorders in an inpatient setting. *Journal of Trauma & Dissociation, 3*(1), 7-17. doi:10.1300/J229v03n01_02
- Ross, C., Heber, S., & Anderson, G. (1990). The dissociative disorders interview schedule. *American Journal of Psychiatry, 147*(12), 1968-1969.
- Roth, S., Pelcovitz, D., van der Kolk, B., & Mandel, F. (1997). Complex PTSD in victims exposed to sexual and physical abuse: Results from the DSM-IV field trials for posttraumatic stress disorder. *Journal of Traumatic Stress, 10*(4), 539-555. doi:10.1023/A:1024837617768
- Scragg, P., Bor, R., & Mendham, M. (2000). Feigning post-traumatic stress disorder on the PAI. *Clinical Psychology and Psychotherapy, 7*, 155-160.
- Seedat, S., Stein, M. B., Oosthuizen, P. P., Emsley, R. A., & Stein, D. J. (2003). Linking posttraumatic stress disorder and psychosis: A look at epidemiology, phenomenology, and treatment. *Journal of Nervous and Mental Disorders, 191*, 675-681. doi:10.1097/01.nmd.0000092177.97317.26

- Sellbom, M., & Bagby, R. M. (2008). Response styles on multiscale inventories. In R. Rogers (Ed.), *Clinical assessment of malingering and deception* (3rd ed., pp. 182-206). New York: Guilford.
- Shilling, C. (2002). Culture, the 'sick role' and consumption of health. *British Journal of Sociology*, 53(4), 621-638. doi:10.1080/0007131022000021515
- Shuman, D. (2003). Forensic psychological assessment in PTSD. In R.I. Simon (Ed.), *Posttraumatic stress disorder in litigation: Guidelines for forensic assessment* (2nd ed., pp. 1-18). Washington, DC: American Psychiatric Publishing
- Simon, R. (Ed.). (2003). *Posttraumatic stress disorder in litigation: Guidelines for forensic assessment* (2nd ed.). Washington, DC: American Psychiatric Publishing.
- Southwick, S. M., Yehuda, R., & Giller, E. L. (1993). Personality disorders in treatment-seeking combat veterans with posttraumatic stress disorder. *American Journal of Psychiatry*, 150(7), 1020-1023.
- Spitzer, C., Chevalier, C., Gillner, M., Freyberger, H. J., & Barnow, S. (2006). Complex posttraumatic stress disorder and child maltreatment in forensic inpatients. *Journal of Forensic Psychiatry & Psychology*, 17(2), 204-216. doi:10.1080/14789940500497743
- Spitzer, R. L., & Endicott, J. (1978). *Schedule of affective disorders and schizophrenia-change version (SAD-C)*. New York: Biometric Research.
- Taylor, S., Asmundson, G., & Carleton, R. (2006). Simple versus complex PTSD: A cluster analytic investigation. *Journal of Anxiety Disorders*, 20(4), 459-472.
doi:10.1016/j.janxdis.2005.04.003

- Taft, C. T., Vogt, D. S., Mechanic, M. B., & Resick, P. A. (2007). Posttraumatic stress disorder and physical health symptoms among women seeking help for relationship aggression. *Journal of Family Psychology, 21*(3), 354-352. doi:10.1037/0893-3200.21.3.354
- Trimble, M. (1981). *Post-traumatic neurosis from railway spine to whiplash*. New York: Wiley.
- Ustad, K. (1998). Assessment of malingering in a jail referral population: Screening and comprehensive evaluation. *Dissertation Abstracts International: Section B: The Sciences and Engineering, 58*(7-B), 3937.
- van der Hart, O., Nijenhuis, E., & Steele, K. (2005). Dissociation: An insufficiently recognized major feature of complex posttraumatic stress disorder. *Journal of Traumatic Stress, 18*(5), 413-423. doi:10.1002/jts.20049
- van der Kolk, B. (2005). Developmental trauma disorder: Toward a rational diagnosis for children with complex trauma histories. *Psychiatric Annals, 35*(5), 401-408.
- van der Kolk, B., & Courtois, C. A. (2005). Editorial comments: Complex developmental trauma. *Journal of Traumatic Stress, 18*(5), 385-388. doi:10.1002/jts.20046
- van der Kolk, B., Roth, S., Pelcovitz, D., Sunday, S., & Spinazzola, J. (2005). Disorders of extreme stress: The empirical foundation of a complex adaptation to trauma. *Journal of Traumatic Stress, 18*(5), 389-399. doi:10.1002/jts.20047
- Vasterling, J., Proctor, S., Friedman, M., Hoge, C., Heeren, T., King, L., & King, D. (2010). PTSD symptom increases in Iraq-deployed soldiers: Comparisons with nondeployed soldiers and associations with baseline symptoms, deployment experiences, and post-deployment stress. *Journal of Traumatic Stress, 23*(1), 41-51. doi:10.1002/jts.20487

- Vreven, D. L., Gudanowski, D. M., King, L. A., & King, D. (1995). The civilian version of the Mississippi PTSD Scale: A psychometric evaluation. *Journal of Traumatic Stress, 18*(1), 91-109. doi:10.1002/jts.2490080107
- Vrana, S., & Lauterbach, D. (1994). Prevalence of traumatic events and post-traumatic psychological symptoms in a nonclinical sample of college students. *Journal of Traumatic Stress, 7*(2), 289-302. doi:10.1002/jts.2490070209
- Walters, G., Berry, D. T., Rogers, R., Payne, J. W., & Grannacher, R. (2009). Feigned neurocognitive deficit: Taxon or dimension. *Journal of Clinical and Experimental Neuropsychology, 31*, 584-593. doi:10.1080/13803390802363728
- Walters, G., Rogers, R., Berry, D. T., Miller, H., Duncan, S., McCusker, P., ...Grannacher, R. (2008). Malingering as a Categorical or Dimensional Construct: The Latent Structure of Feigned Psychopathology as Measured by the SIRS and MMPI-2. *Psychological Assessment, 20*(3), 238-247. doi:10.1037/1040-3590.20.3.238
- Weiss, D.S., & Marmar, C.R. (1997). The Impact of Event Scale – Revised. In J.P. Wilson & T.M. Keane (Eds.), *Assessing psychological trauma and PTSD: A handbook for practitioners* (pp. 399–411). New York: Guilford.
- Wetter, M., Baer, R., Berry, D., & Robison, L. (1993). MMPI-2 profiles of motivated fakers given specific symptom information: A comparison to matched patients. *Psychological Assessment, 5*(3), 317-323. doi:10.1037/1040-3590.5.3.317
- Williams, S. J. (2005). Parsons revisited: From the sick role to...? *Health, 9*(2), 123-144. doi:10.1177/1363459305050582

- Wilson, J. (2004). PTSD and complex PTSD: Symptoms, syndromes, and diagnoses. In J. Wilson & P. Keane (Eds.), *Assessing psychological trauma and PTSD* (2nd ed., pp. 7-44). New York: Guilford Press.
- Wilson, J., & Keane, T. (Eds.). (2004). *Assessing psychological trauma and PTSD* (2nd ed.). New York: Guilford Press.
- Wilson, J., & Moran, T. A. (2004). Forensic/Clinical Assessment of Psychological Trauma and PTSD in Legal Settings. In J. Wilson and T. Keane (Eds.) *Assessing psychological trauma and PTSD* (2nd ed., pp. 603-636). New York: Guilford Press.
- Wolf, E., Miller, M., Orazem, R., Weierich, M., Castillo, D., Milford, J., ... Keane, T. (2008). The MMPI-2 restructured clinical scales in the assessment of posttraumatic stress disorder and comorbid disorders. *Psychological Assessment, 20*(4), 327-340. doi: 10.1037/a0012948
- Yasan, A., Guzel, A., Tamam, Y., & Ozkam, M. (2009). Predictive factors for acute stress disorder and posttraumatic stress disorder after motor vehicle accidents. *Psychopathology, 42*(4), 236-241. doi:10.1159/000218521
- Yehuda, R., Kahana, B., Schmeidler, J., Southwick, S. M., Wilson, S., & Giller, E. L. (1995). Impact of cumulative lifetime trauma and recent stress on current posttraumatic stress disorder symptoms in Holocaust survivors. *American Journal of Psychiatry, 152*, 1815-1818.