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Running head: REDUCING FALSE POSITIVE FEIGNING CLASSIFICATIONS

Reducing False Positive Feigning Classifications on the SIRS among Criminal
Defendants with a History of Trauma

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Abstract

Clinical research has demonstrated that individuals with a traumatic history elevate scales on the Structured Interview of Reported Symptoms (SIRS; Rogers, Bagby, & Dickens, 1992) leading to their misclassification as malingerers. Rogers, Payne, Correa, Gillard, and Ross (2009) created the trauma index (TI) by summing 3 SIRS scales to reduce the number of false positives in a severely traumatized sample. The TI was included as an additional criterion in determining feigning. The TI has not been studied using a forensic sample. Fifty-one adult male criminal defendants were identified as malingering by the SIRS with a final sample of 5 definite cases and 5 marginal cases that met the criteria set forth by Rogers et al. (2009). Detailed profiles were created for each case and individuals were classified as either feigning or honest respondents. Four cases were classified as honest respondents who would benefit from the inclusion of the TI into the SIRS criteria and 5 cases were identified as likely feigners who would be misclassified by the inclusion of the TI with the final case being inconclusive. Practical implications concerning the utility of the TI as an additional SIRS classification criterion in forensic samples are discussed.

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Reducing False Positive Feigning Classifications on the SIRS among Criminal
Defendants with a History of Trauma

Malingering is a threat to the criminal justice process. Prevalence rates of malingering range from 7% in non-forensic settings to 18% in forensic settings (Rogers, Salekin, Sewell, Goldstein, & Leonard, 1998; Rogers, Sewell, & Goldstein, 1994). Wide prevalence ranges are expected as an individual who successfully feigns mental illness is, by definition, not counted in the total number of malingering individuals. This problem is compounded by the incentive individuals in the criminal justice system have to malingering; an issue that is absent in most other epidemiological studies. It is imperative clinicians be able to accurately distinguish between bona fide mental illness and feigning. Individuals who feign mental illness undermine the judicial system and their malingering can be used as an aggravating factor against the defendant. Alternatively, misclassification of a bona fide mental illness in a defendant also adversely affects the justice system. This kind of misclassification delays the legal process and limits access to mental health treatment. The consequences of misidentification are serious and every attempt must be made to be as accurate as possible when evaluating those in the adjudication process.

Self-report measures are commonly used to identify psychopathology. Due to the limitations of self-report methods in identifying malingerers, multiple safeguards have been included in assessment procedures. The validity scales of the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Graham, Ben-Porath, Tellegen, Dahlstrom, & Kaemmer, 2001) have been widely used in forensic settings to identify possible malingering. A meta-analysis demonstrated that the MMPI-2 is reasonably accurate at detecting malingering (Rogers, Sewell, Martin, & Vitacco, 2003). The Infrequency (F) and the Infrequency Psychopathology (Fp) scales, in particular, are purported to measure overreporting of psychological symptoms (Graham,

2012). These two scales hold the most promise in the identification of feigning (Rogers, Sewell, Martin, & Vitacco, 2003); many of the studies cited in the meta-analysis involve known-groups designs with simulated feigning and/or psychiatric samples rather than forensic samples. The studies using the abovementioned known-groups design are problematic because individuals in forensic samples have more incentive to both feign mental illness and to avoid detection. It is important that assessments be able to accurately identify malingering in real-life settings as well. More recent research (Boccaccini, Murrie, & Duncan 2009; Toomey, Kucharski, & Duncan, 2009) has demonstrated that the F and Fp scales perform equally well on forensic populations that include malingerers identified by the Structured Interview of Reported Symptoms (SIRS; Rogers, Bagby, & Dickens, 1992). The MMPI-2 F-family scales are reliable indicators of feigning responses in simulated and real-life samples.

The Personality Assessment Inventory (PAI; Morey, 1991) is a newer and less well-researched assessment. It has been gaining popularity in forensic settings and there is evidence to suggest its utility in forensic populations (Duellman & Bowers, 2004; Morey & Quigley, 2002). For example, research has demonstrated that some of the PAI scales are related to past violence (Douglas, Hart, & Kropp, 2001), and overt aggression during incarceration (Wang, et al., 1997). The PAI has 3 separate measures for detecting overreporting, the Negative Impression Management scale (NIM), the Malingering Index (MAL) and the Rogers Discriminant Function (RDF). A meta-analysis by Hawes and Boccaccini (2009) found that each of the three factors was a strong indicator of both coached and uncoached malingering. However, other research suggested that the NIM is the strongest predictor of feigning (Boccaccini, Murrie & Duncan, 2006; Kucharski, Toomey, File, & Duncan 2007; Wang et al., 1997; Rogers, Sewell, Cruise,

Wang & Ustad, 1998). A growing body of research has shown that the PAI is useful in detecting the overreporting of psychopathology.

The SIRS (Rogers, Bagby, & Dickens, 1992) was created to assess feigned psychopathology. Its psychometric properties have been rigorously evaluated across heterogeneous populations (Lally, 2003; Rogers, 2008; Archer, Buffington-Vollum, Stredny, & Handel, 2006). Because of its demonstrated accuracy in validation samples, it has been widely regarded as the gold standard for the evaluation of malingering (Rogers, Hinds, & Sewell, 1996). Lally (2003) found that the SIRS is the most frequently used measure in malingering evaluations. The SIRS is widely used to classify malingerers in known-groups designs (Green & Rosenfeld, 2011). However, a meta-analysis revealed that studies in which samples were instructed to simulate feigning yielded higher correct-classification rates than did studies from suspected real-world (e.g., forensic, veterans pursuing benefits, etc.) malingerers (Green & Rosenfeld, 2011). It is also of concern that bona fide patients (e.g., PTSD patients) were more likely to be misclassified as feigners in research involving genuine patient samples (Green & Rosenfeld, 2011). The SIRS is widely used in forensic settings, but there still remain questions about its ability to identify malingering in real-life populations rather than known-groups simulations.

Complicating the picture, a history of trauma has been shown to elevate the validity scales on the MMPI-2. Rogers, Sewell, Martin, and Vitacco (2003) found that individuals diagnosed with PTSD had marked validity scale elevation, particularly on the Fp scale. It was unclear whether these results were due to the scales being confounded with PTSD symptomatology or influenced by individuals feigning PTSD. Garcia, Franklin and Chambliss (2010) found that 79% of PTSD diagnosed treatment-seeking veterans from Operation Enduring Freedom or Operation Iraqi Freedom had F scales above 65T, while 54% scored above 80T.

Graham, Watts, and, Timbrook (1991) found that higher than recommended F and Fb cut scores were required to distinguish college students instructed to malingering from psychiatric patients. In order to correctly classify 90% of psychiatric inpatients a raw F score of 27 (120T) and a raw Fb score of 23 (120T) were required. Other studies have demonstrated that MMPI-2 validity scales are helpful in differentiating between genuine and malingered PTSD combat veterans (Arbisi, Ben-Porath, & McNulty, 2006). In addition, dissociative symptoms (e.g., depersonalization, derealization, etc.) sometimes have been shown to increase scores on the validity scales of the MMPI-2. Coons and Milstein (1994) found that the MMPI-2 was unable to differentiate between malingered dissociative identity disorder (DID) and genuine DID. Individuals who have suffered severe trauma may display dissociative symptoms along with typical PTSD symptomatology (Garcia, Franklin, & Chambliss, 2010). A history of trauma and dissociative symptoms can thus elevate validity scales on the MMPI-2 and result in the misclassification of bona fide mental illness as feigning.

Less research has been conducted to examine the influence of trauma on the PAI. Calhoun, Earnst, Tucker, Kirby, and Beckham (2000) found that a raw NIM score of 8 (73T) misclassified 65% of true PTSD cases. Between 13 and 26% of genuine PTSD patients produce PAI profiles that suggest feigning or exaggeration of symptoms (Morey, 1991). Mozley, Miller, Weathers, Beckham, and Feldman (2005) found that PTSD diagnosed veterans had elevated NIM scores ($M = 72.5$, $SD = 15.9$) and urged caution in the interpretation of validity scales until more useful cut scores could be determined. The elevations on the PAI are also compounded by the high rates of comorbidity associated with PTSD (Kessler, Sonnegg, Bromet, Hughes, & Nelson, 1995). The PAI is susceptible to the influence of trauma, as evidenced by research

mainly on combat-exposed veterans, but more research using diagnosed PTSD individuals rather than simulated feigners is necessary to fully understand the influence of trauma on the PAI.

Dissociative symptoms have also been shown to elevate SIRS scales into the feigning range. Using a small sample of individuals ($n = 20$) with DID Brand, McNary, Loewenstein, Kolos, and Barr (2006) found that 35% of their (presumably not malingering) patients met the criteria for malingering. A study by Freeman, Powell, and Kimbrell (2008), using combat-exposed veterans mainly from the Vietnam War, found that over half (53%) met the criteria for symptom exaggeration. A traumatic history can elevate an individual's SIRS scales and risk the misclassification of mental illness as feigning. Rogers, Payne, Correa, Gillard, and Ross (2009) found that standard cut scores resulted in high levels of false positive feigning classifications; the proportion of genuine cases misclassified ranged from .27 to .37 with an average of .31. Additionally, patients who were misclassified as feigning had higher levels of psychotic, depressive, PTSD symptoms, and dissociative experiences than correctly classified true-negatives. Rogers et al. (2009) attempted to address the possibility of false positives due to the effects of trauma. They tested a modified classification scale on severely traumatized PTSD patients to determine if the rate of false positive classifications could be reduced. The additional scale, the Trauma Index (TI), was created by summing the unlikely strategies scales of the SIRS which were rarely endorsed by traumatized populations in both the original validation sample of the SIRS and by participants in their study. The addition of the Trauma Index increased the positive predictive power of the SIRS. The false positive classification rate was decreased ($M = .09$), but the modified cut has yet to be examined on a forensic sample.

The TI has yet to be explored in a non-treatment setting. The first requirement will be to determine how many feigners are reclassified using the criteria set forth by Rogers et al. (2009).

If a sufficient number of participants originally classified as malingering can be excluded based on the inclusion of the TI a between-groups comparison will be necessary. The main objective of this study was to determine if the incorporation of the additional TI criterion into the SIRS classification process would be useful in forensic populations. While Rogers et al. (2009) created the TI to reduce false positive rates in severely traumatized patients it is unclear if the TI will identify traumatized individuals in forensic settings who may also have been misclassified as feigners. It was hypothesized there are traumatized criminal defendants misclassified as malingerers based on the results of the SIRS. The inclusion of the TI criteria to the SIRS classification method will help reduce false positive feigning classifications in real-life settings. It was hypothesized that individuals classified as malingering on the SIRS would also be classified as overreporting on the PAI and MMPI-2. This study will also estimate what proportion of individuals are identified as possible malingerers by the MMPI F, FB, and Fp scales and the PAI NIM scale but whose TI score suggested they were honest respondents. Traumatic stress scores from the MMPI-2 posttraumatic stress disorder scale (Pk) and the PAI anxiety related disorders traumatic stress (ARDt) subscale were also examined to determine if they support the low TI score.

Method

Participants

Participants were selected from a larger archival sample of 280 male criminal defendants evaluated from 1990-2004. Participants had been referred by the federal court system to the United States Penitentiary in Atlanta, Georgia to be evaluated for competency to stand trial, criminal responsibility, and/or aid in sentencing recommendations. All information was gathered

through pretrial service reports, hospital records and clinical interviews. Data from this study were archived as part of the routine forensic evaluation process. The assessment chosen was decided by the evaluator and collected without a planned research agenda. Of the original 280 referrals, 156 were administered the SIRS, PAI, and MMPI-2. Fifty-one individuals were identified as likely malingerers based on SIRS scoring. Five cases met the additional TI criterion determined by Rogers et al. (2009) suggesting they were traumatized respondents misclassified by the SIRS as feigning. An additional 5 marginal cases with TI scores slightly above the cut recommended by Rogers et al. (2009) were also examined. The remaining 41 cases classified as malingering by the SIRS with TI scores above 8 were not examined. Mean years of education for the 10 cases were 9.7 ($SD= 1.95$). Participants had an average age of 36.3 years ($SD = 12.06$). Six of the 10 individuals had at least 1 prior psychiatric hospitalization ($M= 2.83$, $SD= 1.60$). Seven of the participants were Caucasian and 3 were African American.

Measures

SIRS. The SIRS is a 172-item structured interview used in the assessment of malingering. It has been validated across a variety of heterogeneous populations (Rogers, 1997; Rogers, Gillis, Dickens, & Bagby, 1991; Rogers, Gillis, & Bagby, 1991). It consists of 8 primary scales that represent different detection strategies: Rare Symptoms (RS), Symptom Combination (SC), Improbable or Absurd Symptoms (IA), Blatant Symptoms (BL), Subtle Symptoms (SU), Symptom Selectivity (SEL), Severity of Symptoms (SEV) and Reported versus Observed Symptoms (RO). The 8 scales are separated into 2 categories. The first category is the unlikely detection scales which examine symptoms often absent in clinical populations. These scales are the RS, SC, IA, and RO scales. The second category is the amplified detection scales that detect symptoms that are often present in clinical populations, but not to the extent reported by feigning

individuals. This detection strategy includes the BL, SU, SEL, and SEV scales. On the basis of their responses individuals were classified on each scale as genuine, indeterminate, probably feigning, or definitely feigning. The SIRS uses 2 standard cut scores: one or more of the primary scales in the definite malingering range, or 3 or more of the primary scales in the probable range. For marginal cases (one or 2 of the primary scales in the probable range) a SIRS total score ≥ 76 can be used as an additional cutoff. Due to the exploratory nature of this study the more liberal cut of 2 or more primary scales in the probable range will also be considered indicative of malingering. This more lenient cut has also been shown to be effective in identifying feigning (Rogers, 1986).

Rogers et al. (2009) found that, in accordance with the categorical distinctions of the SIRS, traumatized patients rarely responded in the affirmative to scales examining unlikely detection strategies. This finding provided the basis by which Rogers et al. (2009) created the TI. Rogers et al. (2009) summed the SC, IA, and RO scales based on both their current PTSD study participants and traumatized samples in the original validation sample rarely reporting a “definite yes” or a score of “2” on those scales (Rogers et al., 2009). It was theorized those scales were, therefore, largely unaffected by trauma. A cutoff score of 6.00 was created by summing the 3 scales. Genuinely traumatized individuals would be expected to score ≤ 6.00 . Individuals were only classified as feigning if they met traditional cutoff scores in addition to having a TI > 6.00 . The inclusion of the TI boosted positive predictive value and reduced the false positive rate to .09 on average (Rogers et al., 2009).

MMPI-2. The MMPI-2 consists of 567 true false items and a multitude of scales. The MMPI-2 is the most widely researched personality assessment available. It has well documented reliability and it is also the most widely used assessment of feigned psychopathology (Rogers,

Sewell, Martin & Vitacco, 2003). Only participants with valid MMPI-2 profiles were examined. A valid profile was defined as a Variable Response Inconsistency (VRIN) raw score ≤ 13 , a True Response Inconsistency (TRIN) scale score $< 80T$, and 25 or fewer items omitted. One participant (Case 6) had a raw VRIN score of 15, while meeting the other criteria, but was still included due to the qualitative nature of the study. The MMPI-2 also has highly researched validity scales. For the purposes of detecting malingering the content-responsive validity scales were particularly useful. The F scale was used to detect response bias such as when individuals are answering randomly or endorsing symptoms that occur infrequently. It consists of 60 items to which less than 10% of the normal population endorsed in the scored direction. High F scores are related to elevated scores on clinical scales 6 (paranoia) and 8 (schizophrenia). In addition, African Americans, Hispanics, and Native Americans have *T*-scores that are 3 to 5 points higher than Caucasians (Butcher et al., 2001). The F scale only measures random responding or the overreporting of psychopathology in the first half of the assessment.

The Fb scale was useful in determining if individuals have begun responding randomly in the second half of the assessment. The Fb scale occurs between items 281 and 555 in the test booklet. It consists of 40 items to which less than 10% of normal individuals responded to in the scored direction (Graham, 2012). The Fb scale is important for the interpretation of the supplemental scales of the MMPI-2, including the PK scale examined in this study. The Fb scale functions in a similar manner to the F scale, but in the latter half of the assessment. Individuals feigning psychopathology resulting in elevated Fb scales are also likely to have elevated Fp scales.

The Fp scale was created by Arbisi and Ben-Porath (1995). It was intended to supplement the F scale by further identifying items which are infrequently endorsed. The scale consists of 27

items that were answered infrequently by both the normative sample and psychiatric inpatients (Graham, 2012). These items were chosen specifically because they were less likely to be confounded with psychopathology due to the infrequent responses by both normative and clinical samples. T scores over 100 are considered to be indicative of random responding or overreporting of symptoms.

The Post Traumatic Stress Disorder Scale (Pk; Keane, Malloy, & Fairbank, 1984) was developed as a subscale to identify posttraumatic stress disorder. It consists of 46 items from the MMPI-2; high scores are suggestive of symptoms associated with PTSD. Research has shown that it is more useful in distinguishing between PTSD patients and non-patients than between PTSD patients and patients with other disorders (Graham, 2012). There is also evidence to demonstrate that high scores on the Pk scale are indicative of general distress. It has been theorized that very high scores on the Pk scale indicate PTSD, while moderate elevation reflects more general psychological distress (Lyons & Wheeler-Cox, 1999).

PAI. The PAI is a 344-item multiscale inventory assessing personality dimensions and psychopathology. It is composed of 11 clinical scales, 5 treatment-based scales, 2 interpersonal scales, and additional subscales. The PAI classifications were created using DSM-IV TR conceptualizations of psychopathology (Morey, 1991). The PAI uses quantitative responses ranging from false, not at all true, to very true instead of the dichotomous answers found in many other personality measures (Morey, 1991). Research has demonstrated its utility in both correctional and clinical settings (Morey & Quigley, 2002; Dellman & Bowers, 2004; Morey, Warner, and Hopwood, 2007). The PAI has a mean of 50 and a standard deviation of 10. *T* scores 2 standard deviations above the mean are considered clinically significant. Only valid PAI profiles were included in the study. A profile was considered valid if the Inconsistency (INC)

scale was $\leq 73T$. The Anxiety Related Disorders Traumatic Stress subscale (ARDt) is one of the supplementary scales of the PAI. The ARDt focuses on symptoms and behaviors associated with PTSD but does not inquire about the nature of the trauma experienced. This score was used to establish the presence of PTSD-like symptoms in the participants.

The Negative Impression Management (NIM) scale consists of items that are infrequently endorsed or associated with an unfavorable impression. It has been shown to have reasonable accuracy in classifying malingerers in known-groups designs with an average effect size of 1.47 (Rogers, 2008). The NIM consists of PAI items that are rarely endorsed in clinical and normative samples (Morey, 1996). The NIM is moderately correlated to the MMPI-2 F scale, $r = .54$ (Morey, 1991). The NIM was not created as a malingering scale, but previous research has shown that high scores are often indicative of malingering. However, elevated NIM scale scores can also be found in individuals with severe disorders which limits its usefulness as a malingering measure (Morey, 1996). NIM scores ≥ 77 indicate malingering should be evaluated through independent measures and NIM scores ≥ 110 indicated that malingering is likely but should be independently corroborated (Rogers, 2008).

Results

Of the individuals administered the SIRS, 51 were classified as malingering based on their responses (using the more lenient cut of 1 scale in the definite range, 2 or more scales in the probable range or a total score above 76). Five individuals were no longer classified as malingering when the TI was considered (TI score ≤ 6). This accounted for 9.8% of the 51 individuals originally classified as malingering. Case profiles were created for the 5 individuals with a TI score ≤ 6 , as well as 4 marginal cases with a TI score of 7 and one additional marginal

case with a TI score of 8. The addition of 5 marginal cases accounted for 19.6% of the original 51 individuals classified as malingering. A table depicting the scores of the participants can be found below.

Insert Table 1 Approximately Here

The participants elevated some of the SIRS scales more often than others. Only 5 of the 8 SIRS scales were elevated by the 10 cases. None of the cases elevated any of the SIRS scales into the definite range. Eight cases elevated the SEV scale. Six cases elevated the SU and BL scales. Five cases elevated the SEL scale and 2 cases elevated the RS scale into the probable range. None of the participants elevated the SC, IA, or RO scales into the probable range which is consistent with the findings of Rogers et al. (2009) suggesting the scales summed into the TI are unaffected by trauma.

Correlations were run to examine relationships among the variables. When examining only the original 5 cases interesting relationships emerged between the variables. TI scores were strongly correlated with the SEL scale scores of the SIRS, $r = .89$, $p = .04$, but not with any of the other 7 scales. The MMPI-2 F and Fp scales were, unsurprisingly, highly correlated $r = .96$, $p = .01$. There was a strong correlation between the RS and SEV scale scores of the SIRS, $r = -.96$, $p = .01$. SIRS BL scale scores were correlated with the PAI ARDt scale score, $r = .97$, $p = .01$. Interestingly, there was no correlation between the Pk and ARDt scales, both of which are purported to measure PTSD associated symptoms. There was also a correlation between MMPI-

2 Pk scale scores and the SC scale score of the SIRS, $r = .89, p = .04$. There was a correlation between PAI NIM scores and MMPI-2 Fp scores, $r = .90, p = .04$, but not with the MMPI-2 F or Fb scores. These correlations should be interpreted cautiously due to the small sample size.

Correlations were also run examining the original cases and marginal cases together. MMPI-2 F and Fp scores were correlated, $r = .84, p \leq .01$. MMPI-2 F and Fb scale scores were also correlated, $r = .816, p = .01$. The MMPI-2 Fp and Fb scale scores were not correlated. PAI NIM scores were correlated with MMPI-2 F scores, $r = .944, p \leq .01$, MMPI-2 Fb scores, $r = .73, p = .02$, and MMPI-2 Fp scores, $r = .83, p \leq .01$. The TI was not correlated with any of the SIRS scales. It was, however, correlated with MMPI-2 Fb scores, $r = -.66, p = .04$, and MMPI-2 Pk scores, $r = -.66, p = .04$. These correlations should be interpreted cautiously due to the small sample size.

Case 1

Case1 was born on December 12, 1955 and tested on January 1, 1998. He was a Caucasian with 9 years of education and no military history. He had a self-reported history of head trauma. He had a history of mental health treatment with 2 previous hospitalizations. His primary diagnosis was polysubstance dependence, with secondary diagnoses of adjustment disorder with depressed mood and adult antisocial behavior (American Psychiatric Association [APA], 2000). Case 1 was classified as malingering on the SIRS because his SU and SEV scores were in the probable malingering range. His total SIRS score was 60 and he had a TI score of 4. Using uncorrected MMPI-2 scores he had an F score of 98 which can be interpreted as overreporting of symptoms. His Fb score was 120 suggesting that he was overreporting psychological symptoms on the back half of the assessment. Interestingly, he had an Fp score of

63 which would indicate he described his mental health status in an accurate manner. He received a Pk score of 102 which indicated he may have been manifesting some of the symptoms associated with PTSD. The Pk score should be interpreted cautiously in light of his elevated F and Fb scores. When examining the PAI he had a NIM score of 92 which was suggestive of exaggerated symptomatology. He also had an ARDt score of 82 which suggested manifestation of the symptoms and behaviors associated with PTSD but should be interpreted with caution due to his high NIM score.

Analysis: Using the modified SIRS cut score (2 or more scales in the probable range, 1 or more scale in the definite range and a TI score ≤ 6) this individual would no longer be classified as malingering. However, his high scores on the MMPI-2 Fb scale and the PAI NIM scale obfuscated any decision as to whether he was a malingerer or an honest responder. Some important factors to consider in the decision-making process include his history of head trauma, history of hospitalizations for mental health treatment, and his Fp score in the normal range. The lower Fp score was interesting because of his high Fb score. His F was elevated but research is conflicted over what serves as the most effective cut score for distinguishing between genuine mental illness and malingering. High F scores generally elevate numerous scales so it was unexpected that his Fp score would be so much lower than the other 2 validity scales. While further collateral information would be necessary to make a definitive determination, based on the information above, this individual was a genuine responder who was misclassified as a malingerer. The inclusion of the TI with the SIRS assessment would correctly classify Case 1 as a genuine responder.

Case 2

Case 2 was born on January 26, 1953 and tested on January 31, 1997. He was an African American with 12 years of education and no military history. He had a history of self-reported head trauma. He was hospitalized 2 times previously for mental health treatment. He had a history of drug and alcohol use as well as substance abuse. His primary diagnosis (APA, 2000) was polysubstance abuse, with secondary diagnoses of antisocial personality disorder and major depressive disorder, recurrent, without psychotic features. He was classified as malingering because his scores on 2 of the SIRS scales, the BL and SEV, were in the probable malingering range. He had a SIRS total score of 62 with a TI of 4. He had an MMPI-2 F score of 98 which was suggestive of overreporting symptoms. He had an Fb score of 108 which suggested he was overreporting symptoms on the latter half of the MMPI-2. Interestingly, he had a Fp score of 63 which indicated he reported his current mental health status in an accurate manner. He had a Pk score of 103 which indicated he was experiencing some of the behaviors and symptoms associated with PTSD but should be interpreted with caution in light of his high Fb score. His PAI NIM score was 84 which suggested he was overreporting his symptoms, and he had an ARDt score of 99 which suggests that he was manifesting some of the symptoms associated with PTSD. His ARDt score should be interpreted with caution due to his elevated NIM score.

Analysis: Case 2 would no longer be classified as malingering with the inclusion of the TI to his SIRS classification. His MMPI-2 F scale still suggested he was overreporting his symptoms, but again, there is conflicting evidence about the most effective cut score when distinguishing between mental illness and feigning. His NIM scale score on the PAI suggests some overreporting of symptoms as well. Interestingly, his Fp score suggested he reported his symptoms in an honest manner. The MMPI-2 Fp score is more less confounded by severe

psychopathology. His high MMPI-2 Pk score and PAI ARDt score indicated he was manifesting symptoms of PTSD or anxiety related disorders, but the elevated scores may be the result of a general overreporting of symptoms. Further collateral information would be necessary to reach a definitive conclusion, but it is likely this individual was misclassified as a malingerer by the SIRS and the inclusion of the TI would correctly classify Case 2 as an honest respondent.

Case 3

Case 3 was born on August 6, 1976 and was tested on February 2, 1992. He was a Caucasian with 9 years of education and no military history. He had no self-reported history of head injury. He had a history of mental health treatment with 6 previous hospitalizations. He had a history of drug and alcohol use. His primary diagnosis (APA, 2000) was antisocial personality disorder with secondary diagnoses of malingering (v code), cannabis dependence, and major depressive disorder, single episode, mild. He was classified as malingering because his SU and SEV scales on the SIRS were in the probable range. He had a SIRS total score of 54 and a TI score of 3. His MMPI-2 F score was 119 which is extremely high and indicates likely overreporting of symptoms. His Fb score was 120 suggesting an overreporting of symptoms on the second half of the assessment. His Fp score was 99 and is at the borderline of valid scores. His score of 99 may indicate exaggeration in the form of a 'cry for help' or may indicate he is exaggerating his symptoms. His Pk score was 98 which indicates he was manifesting some of the symptoms associated with PTSD but should be interpreted with caution due to his elevated FB and Fp scores. His PAI NIM score was 99 which indicated overreporting of symptoms. His ARDt score was 82 which indicated he was experiencing symptoms associated with PTSD. However, his valid ARDt score should be interpreted carefully as it may be the product of a general overreporting of symptoms.

Analysis: A *DSM-IV TR* diagnosis of malingering is infrequently used because of the possible future consequences. The individual will forever have the stigma of being labeled as a ‘faker’ and it will likely make future clinicians with whom he comes into contact less inclined to believe he is reporting his symptoms truthfully. Using the modified classification method he would no longer be classified as malingering on the SIRS, but his elevated scores on the MMPI-2 and the PAI validity scales would likely identify him as overreporting on both assessments. However, his 6 previous hospitalizations for mental health treatment and his young age cast doubt on this determination. Collateral information about the nature of his hospitalizations would be necessary to make a definitive determination. Due to these conflicting factors, it remains unclear whether this individual was malingering or if his elevated scores on the assessments were the culmination of traumatic effects.

Case 4

Case 4 was born on November 29, 1968 and tested on October 23, 1998. He was a Caucasian with 8 years of education and no military history. He had no self-reported history of head injury. He did have a history of mental health treatment and 2 previous hospitalizations. His primary diagnosis (APA, 2000) was antisocial personality disorder with secondary diagnoses of malingering (v code) and polysubstance abuse. He was classified as malingering on the SIRS because his scores on the RS and SEL scales were in the probable range. His total score on the SIRS was 48 and his TI score was 5. His MMPI-2 F score was 120 which is extremely high and indicates a likely overreporting of psychiatric symptoms. His Fb score was also 120 again suggesting an overreporting of psychological symptoms. His Fp score was 120 which was again indicative of the overreporting of symptoms and an invalid profile. His Pk score was 110 which would indicate a manifestation of the symptoms associated with PTSD; however the elevation on

this scale may be due to a general overreporting of symptomatology. His PAI NIM score was 107 which is well above the clinical cutoff score and indicated an overreporting of symptoms. Finally, his ARDt score was 87 which indicated he may be experiencing some of the symptoms associated with PTSD. His ARDt scale should be interpreted with caution due to his extremely high score on the NIM scale.

Analysis: Case 4 would no longer be classified as malingering on the SIRS using the modified classification method. The inclusion of the TI would suggest his SIRS score was the result of a possible history of trauma. However, his MMPI-2 validity scales were extremely high and suggested an overreporting of psychological symptoms. His MMPI-2 Pk scale and his PAI ARDt scale were also very high suggesting he was manifesting some of the symptoms associated with traumatic experiences, but these scales are less compelling when viewed in concert with his extreme validity scale scores. This is again demonstrated by his *DSM-IV TR* v code of malingering. While further collateral information would be necessary to make a definitive decision, this individual was likely malingering and would be transformed into a false negative with the inclusion of the modified SIRS classification method.

Case 5

Case 5 was born on February 27, 1969 and tested on January 6, 2000. He was a Caucasian with 12 years of education and no military history. He had no self-reported history of head injury. He had no previous history of mental health treatment and no previous hospitalizations. His primary diagnosis (APA, 2000) was antisocial personality disorder with secondary diagnoses of cannabis dependence and combination of opioid type drug with any other drug. He was classified as malingering because his scores on the BL, SU, SEV, and SEL scales on the SIRS were in the probable range. His total SIRS score was 70 with a TI score of 5. On the

MMPI-2 his F score was 113 which indicated a likely overreporting of symptoms. His Fb score was 120 which suggests an overreporting of psychological symptoms on the latter half of the assessment. His Fp was 92 which also indicated an overreporting of symptoms. His Pk score was 103 which suggested he was manifesting some of the symptoms associated with PTSD. His high PK score should be viewed cautiously due to his elevated scores on the F and Fp scales. His PAI NIM was 92 which indicated an overreporting of symptoms. His ARDt was 94 which is above the clinical cutoff score and suggested he was manifesting some of the symptoms associated with PTSD. However, this elevation should be interpreted with caution due to his elevation on the NIM scale.

Analysis: Case 5, unlike many of the others, would still be classified as malingering using the more stringent criteria of at least 3 scales in the probable range (without the inclusion of the TI in determining classification). This individual would no longer be classified as malingering when including his low TI score. However, his score on the MMPI-2 F scale is extremely high suggesting he did not approach the MMPI-2 in an honest manner and was likely overreporting psychological symptoms. While not as high, the same is true of his MMPI-2 Fp score. However, this is debate over the most effective MMPI-2 cut scores when attempting to distinguish malingering from mental illness. His PAI NIM scale was also high suggesting he did not approach the PAI in a valid manner. His MMPI-2 PK score and his PAI ARDt scores were also elevated suggesting he was manifesting symptoms associated with PTSD. However, the high scores on these measures are likely the byproduct of a general pattern of overreporting symptomology. While additional collateral information would be necessary for a definitive decision, based on the above information this individual was malingering and the inclusion of the modified cut on the SIRS would misclassify this individual.

Marginal Cases

Case 6

Case 6 was born on February 22, 1946 and tested on September 9, 1999. He was an African American with 8 years of education and no military history. He had no self-reported history of head injury. He also had no previous history of mental health treatments and no previous hospitalizations. He had a history of alcohol and drug use, but no history of substance abuse. His primary diagnosis (APA, 2000) was malingering (v code) with a secondary diagnosis of antisocial personality disorder. Case 6 was classified as malingering on the SIRS because his scores on the RS and BL scales were in the probable range. His total SIRS score was 60 and he had a TI score of 7. He had a MMPI-2 F score of 120 which is extremely high and indicated a likely overreporting of symptoms. His MMPI-2 Fb score was 100 indicating he was overreporting his symptoms. His MMPI-2 Fp score was also 120 which again indicated an overreporting of symptoms. Interestingly, his Pk score was 67. This is just above the clinical cutoff score but not as high as would be expected due to his extremely high validity scale scores. His PAI NIM score was 122 which was extremely high and indicated the overreporting of psychological symptoms. His ARDt score was 99 which was well above the clinical cutoff score. This elevation should be interpreted with caution due to his extremely high score on the PAI NIM scale.

Analysis: Case 6 was a marginal case with a TI score of 7, which is just above the recommended cut of 6. His MMPI-2 F and Fp were both 120, which is extremely high and indicated likely overreporting of symptoms. His PAI NIM score was also extremely high, again indicating the respondent did not approach the test in a valid manner. Interestingly, his MMPI-2 PK score was 67 which was above the clinical cutoff score but still an interpretable score. This was unexpected

given the pattern of overreporting suggested by his Fb score. His PAI ARDt score was incredibly high and may have been due to a general overreporting of symptoms. He also had a primary *DSM-IV TR* diagnosis of malingering which is, again, rare due to the potential ramifications of such a diagnosis. This was supported by his elevated assessment scores but a lack of previous mental health treatment. While it is possible that a mentally ill individual has never had any mental health treatment, it is more likely he is feigning. While further collateral information would be necessary to make a definitive diagnosis this individual is likely malingering and the use of a higher TI cut score on the SIRS would misidentify him as an honest responder.

Case 7

Case 7 was born on December 30, 1936 and was tested on July 28, 1998. He was a Caucasian with 13 years of education and previous military history. He has no self-reported history of head trauma. He did have a history of previous mental health treatment with 3 previous hospitalizations. He also had a history of drug and alcohol use. His primary *DSM-IV TR* diagnosis was personality disorder NOS with secondary diagnoses of adjustment disorder with depressed mood, alcohol dependence, and pathological gambling (APA, 2000). Case 7 was classified as malingering due to his scores in the probable range on the BL, SEL, and SEV scales of the SIRS. He had a total SIRS score of 69 and a TI score of 7. He had an MMPI-2 F score of 55 which was below the clinical cutoff and indicated he was approaching the assessment in a valid manner. He received an MMPI-2 Fb score of 63 which suggested he approached the second half of the assessment in a valid manner and was just below the clinical cutoff score. His MMPI-2 Fp score was 49 which was again below the clinical cutoff score and suggested he was portraying his current mental state in an honest manner. His MMPI-2 Pk score was 57. His PAI NIM score was 51 which suggested he approached the assessment in an honest manner. His

ARDt scale score was 77 which is elevated and suggested he was experiencing some of the symptoms associated with PTSD.

Analysis: Case 7 is another individual who would still be classified as malingering using the more stringent criteria of 3 of more scales in the probable range. He was a marginal case with a TI of 7, just above the recommended cut score of 6. He had MMPI-2 F and Fp scores that were in the normal range and indicated that he approached the test in a valid manner and reported his current mental state honestly. His PAI NIM score was 51, which is below the clinical cutoff score and indicated he approached the PAI in a valid manner. His MMPI-2 Pk score was 57, which is below the clinical cutoff and indicated that he was not experiencing symptoms associated with PTSD. Interestingly, his PAI ARDt score was 77 which suggested he was experiencing symptoms associated with PTSD. This is in contrast with his MMPI-2 Pk score. His 3 previous hospitalizations for mental health treatment also suggest a possible history of trauma. While further collateral information is necessary for a definitive decision, given the above information, this individual is an honest responder being misclassified by the SIRS. The use of a higher TI cut score than recommended by Rogers et al. (2009) would correctly classify this individual as an honest responder.

Case 8

Case 8 was born on March 4, 1951 and tested on December 19, 1997. He was a Caucasian with 8 years of education and no history of military service. He had no self-reported history of head trauma. He did have a history of mental health treatment, but no previous hospitalizations. His primary *DSM-IV TR* (APA, 2000) diagnosis was antisocial personality disorder with secondary diagnoses of polysubstance dependence, malingering (v code), amphetamine induced mood disorder, and amphetamine intoxication. Case 8 was classified as

malingering on the SIRS because his BL, SU, SEL, and SEV scores were in the probable range on those scales. He had a total SIRS score of 76 and a TI score of 7. He had a MMPI-2 F score of 104, which was high, suggesting an overreporting of psychological symptoms. His MMPI-2 Fb score was 120 suggesting an overreporting of symptoms on the second half of the assessment. His MMPI-2 Fp score was 78 which was elevated but interpretable. This elevation could be the result of an exaggeration of psychological symptoms or it may have been a 'cry for help' of sorts. His MMPI-2 Pk score was 105 which suggests he was manifesting symptoms associated with PTSD. However, this score should be viewed cautiously due to his elevated validity scales. His PAI NIM score was 92 which indicated an exaggerating of psychological symptoms. His PAI ARDt score was 99 which suggested he was manifesting symptoms associated with PTSD. Again, however, this should be examined with caution due to his elevated validity scale.

Analysis: Case 8 was another individual with a *DSM-IV TR* diagnosis of malingering. He also would have still been classified as malingering using the more stringent cut of 3 or more scales in the probable range. His MMPI-2 F and PAI NIM scores were high suggesting he did not approach either assessment in a valid manner. Interestingly, his MMPI-2 Fp score was elevated, but still within an interpretable range. It is unclear whether this elevation is the result of exaggeration, or if it was intended to draw attention to the symptoms he was actually manifesting. The Fp is also less confounded by severe psychopathology. His MMPI-2 Pk score and PAI ARDt score were both high and it was unclear whether those elevations were due to more severe PTSD-like symptoms or a more general pattern of overreporting symptoms. While further collateral information is necessary to make a definitive conclusion, given the above information case 8 was a malingerer and the inclusion of a higher TI cut score on the SIRS would misclassify him as an honest responder.

Case 9

Case 9 was born on May 20, 1959 and tested on April 23, 1996. He was a Caucasian with 8 years of education and no history of military service. He had no self-reported history of head injury. He had a history of previous mental health treatment and 2 previous hospitalizations. He had a history of drug and alcohol use. His primary *DSM-IV TR* diagnosis was polysubstance abuse with secondary diagnoses of antisocial personality disorder and major depressive disorder, recurrent, and mild (APA, 2000). Case 9 was classified as malingering because his scores on the BL, SU, SEL, and SEV scales of the SIRS were in the probable range. He had a SIRS total score of 78 and a TI score of 7. He had an MMPI-2 F score of 110 which was high and suggestive of an overreporting of symptoms. His MMPI-2 Fb score was 96 which suggested an overreporting of symptoms on the second half of the assessment. His MMPI-2 Fp score was 107 which again was suggestive of an overreporting of psychological symptoms. His MMPI-2 Pk score was 85 which suggested he was manifesting some of the symptoms associated with PTSD. It was unclear whether this elevation represented true psychological suffering or a general pattern of overreporting symptoms. His PAI NIM score was 88 which was elevated and suggested an overreporting of symptoms. Interestingly, his ARDt score was 65 which is below the clinical cutoff, but 1 ½ standard deviations above the mean, and suggested he may have been suffering from some of the symptoms associated with PTSD, but at a sub-threshold level.

Analysis: Case 9 would remain classified as malingering using the more stringent cut score of 3 or more scales in the probable range. His MMPI-2 F and Fp scores were very high and indicated that he was likely not approaching the test in a valid manner and overreporting symptoms. His PAI NIM score supported this conclusion. His MMPI-2 Pk scale was elevated, but still within an interpretable range. It was unclear whether this was the result of genuine trauma-related

symptoms or a general overreporting of symptoms. Interestingly, the PAI ARDt score was below the clinical cutoff suggesting he was not manifesting a substantial amount of the symptoms associated with PTSD. His MMPI-2 Pk score and his PAI ARDt score were in contrast with one another, making a conclusion more difficult. While further collateral information is necessary to draw a definitive conclusion, this individual was likely malingering and the inclusion of a higher TI cut score would misclassify Case 9 as a honest respondent.

Case 10

Case 10 was born on December 18, 1964 and tested on May 30, 1996. He was an African American with 10 years of education and no history of military service. He had a previous history of mental health treatment, but no previous hospitalizations. He had a history of drug and alcohol use. His primary *DSM-IV TR* (APA, 2000) diagnosis was adult antisocial behavior with secondary diagnoses of malingering (v code), borderline intellectual functioning, cocaine abuse, cannabis abuse, and adjustment disorder with depressed mood. Case 10 was classified as malingering because his scores on the SU and SEV scales of the SIRS were in the probable range. His total SIRS score was 61 and his TI score was 8. He had an MMPI-2 F score of 55 which suggested that he approached the assessment in a valid manner. His MMPI-2 Fb score was 79 which suggested a slight exaggeration of symptoms but may have been the result of psychopathology. His MMPI-2 Fp score was 56 which suggested he reported his current mental health status in an honest manner. His MMPI-2 Pk score was 73 which indicated he was manifesting some of the symptoms associated with PTSD. His PAI NIM score was 51 which suggested he approached the test in an honest manner. His PAI ARDt score was 82 which suggested he was manifesting symptoms associated with PTSD.

Analysis: Case 10 had the highest included marginal score with a TI of 8. He received a *DSM-IV TR* (APA, 2000) v code of malingering which many clinicians are reluctant to use because of the potential consequences of such a diagnosis. Interestingly, his MMPI-2 F score and MMPI-2 Fp score suggested that he approached the test in a valid manner and accurately reported his current mental health status. His MMPI-2 Fb score was elevated, but this score can be confounded by severe psychopathology. His PAI NIM score supported this conclusion as well. His MMPI-2 Pk score and PAI ARDt scores suggested he was manifesting symptoms associated with PTSD. Case 10 also had borderline intellectual functioning and his SIRS malingering classification may have been the product of acquiescence during the SIRS interview. The results of his assessments were in stark contrast to his *DSM-IV-TR* of malingering. While further collateral information is necessary for a definitive decision, this individual is likely an honest responder manifesting PTSD symptoms leading to his classification as a malingerer. The inclusion of a higher TI cut score would correctly classify Case 10 as an honest responder.

Discussion

This study demonstrates the difficulty clinicians face in deciding whether a criminal defendant is malingering. This is especially true when an individual may be classified as malingering or likely overreporting on one assessment, but as an honest responder on another. Most of the criminal defendants examined demonstrated a pattern of overreporting on at least one of the 3 measures examined (SIRS, PAI, MMPI-2). Most of the individuals were identified as overreporting on all three of the measures. However, if the TI score was included then the cases would no longer be classified as malingering by the SIRS. A clinician must attempt to determine whether the elevated scores were being caused by a traumatic history or malingering. Additional collateral information is necessary to draw definitive conclusions, but it demonstrates

the unique problem facing clinicians attempting to determine the truthfulness of a defendant's responses.

In the original 5 cases there was no relationship between the MMPI-2 Pk scale and the PAI ARDt scale. This was surprising given they measure the same disorder. This may have been the result of a small sample size. The correlation between MMPI-2 Pk scores and SIRS SC scores was also interesting, although it did not remain significant when marginal cases were added. Individuals with PTSD elevate feigning measures because they endorse numerous symptoms and this was supported in the correlation between the PTSD scale of the MMPI-2 and the symptom combination scale of the SIRS. Another interesting correlation emerged between SIRS BL scale scores and the PAI ARDt scores. The SIRS BL scale consists of 'obvious' symptoms a lay person associates with mental illness, but it is possible that patients with a traumatic history genuinely endorse these symptoms. It was unclear why the PTSD-associated scale of the PAI would be correlated with a different SIRS scale than the MMPI-2 Pk scale. There was no correlation between the TI and any of the trauma-related measures in the original cases. However, an inverse correlation emerged between the SIRS TI and the MMPI-2 Pk when the marginal cases were added. This finding supports the assertion of Rogers et al. (2009) that low TI scores are related to high levels of PTSD-associated symptoms. The results should be interpreted cautiously because of the small sample size, but present an interesting relationship between trauma and some of the SIRS detection strategies.

Of the 5 original cases with a TI score ≤ 6 nearly half benefitted from the inclusion of the TI index to the SIRS classification criteria and half did not. The inclusion of the TI had limited usefulness in the original cases. If the TI was not included in the SIRS criteria then nearly half of the participants would have been false positive malingering classifications. If the TI was

included in the SIRS criteria then nearly half of the participants would have been false negative honest classifications. One of the cases was inconclusive and additional collateral information not available through archival data was necessary to make a definitive conclusion. The SIRS was more effective in screening out honest responders than in distinguishing between those who were malingering and those who were genuinely mentally ill. Interestingly, none of the original participants elevated any of the SIRS scales into the definite range. It may be that individuals with low TI scores are borderline SIRS classifications and would benefit more from the use of other assessments to determine whether they were honest or feigning respondents. In these instances, it was more effective to rely on the MMPI-2, to make feigning determinations. The Fp scale in particular was, on average, $22.2T$ lower than the F score. The Fp scale may be a more effective method of distinguishing between malingering and honest responding in suspected feigning cases.

The marginal cases displayed a similar pattern to the original cases. If the TI was not considered in the SIRS classification criteria then 40% of cases would have been false positive malingering classifications. If the TI was included then 60% of the cases would have become false negative honest classifications. The TI had limited usefulness as a method of distinguishing between borderline cases in which some individuals were likely malingering and others likely responding honestly. Again, the TI had difficulty discriminating genuine mental illness from malingering. The MMPI-2 and the PAI were more useful in such situations. The MMPI-2 Fp scores of marginal cases were, on average, $6.8T$ lower than their F scores. This was a much smaller gap than found in the original cases, but still a useful distinguisher. The MMPI-2 Fp scale is also less confounded by severe psychopathology and may be a more useful method of discriminating feigning from mental illness in cases where malingering is suspected. Marginal

cases were examined due to the lack of previous research on the TI. Qualitative research elucidated the issues facing clinicians making malingering determinations in real-life settings, but future research should examine quantitative ramifications of whether a higher TI cut score can be successfully used to reduce false positive malingering classifications on the SIRS.

Two of the cases examined were classified by only the SIRS as malingering and had comparatively low validity scores on both the MMPI-2 and the PAI. The discrepancy between the different classifications was not clear. Both individuals had elevated trauma related scales on the MMPI-2 and the PAI and were marginal SIRS cases based on their TI score. The experience of trauma-related symptoms may have elevated their SIRS scales into the probable range. The participants may also have been over-tested. Valid MMPI-2 and PAI profiles may have been better served by comprehensive collateral information rather than the administration of the SIRS. Again, the SIRS struggled to distinguish between mental illness and feigning. Collateral information is needed to definitively determine the classification of these respondents, but they appear to have been false positive feigning classifications by the SIRS. Due to the qualitative nature of the study it is unclear whether raising the TI would result in an unacceptable level of misclassifications, but this should be examined in future research. The marginal cases identified as likely honest responders being misclassified by the SIRS raise questions about the utility of the TI in borderline cases where individuals are classified as overreporting on one measure but not another.

Four of the cases would still be classified as malingering on the SIRS using the more stringent cut of 3 of more scales in the probable range rather than the 2 or more scales in the probable range used to identify the 10 cases examined in this study. Only 1 of those cases was an original case, the other 3 were cases with marginal TI scores. Three of the cases were identified

as likely malingerers who would be misclassified as honest responders when the TI was included. However, one of the cases was theorized to be an honest responder misclassified by the SIRS. The more stringent cut on the SIRS was accurate without the inclusion of the TI. Including the additional TI criterion to the classification process of the SIRS would misclassify 3 malingerers as honest responders and correctly classify a single case. The TI was useful as an indicator of possible trauma, but not in distinguishing between traumatized individuals and feigners. The more stringent cut appeared to be more successful in distinguishing malingerers from honest responders than the more liberal cut of 2 or more scales in the probable range without the inclusion of the TI as a determining criterion. The addition of the TI score as a signal of a possible traumatic history when using the more liberal SIRS criteria aided in the evaluation of the other assessments and collateral information to determine malingering. Overall, the more stringent cut method of the SIRS was more effective in distinguishing feigning from honest respondents whether the TI criterion was included or not.

Five of the cases received a *DSM-IV TR* v code of malingering. This was noteworthy because the malingering code is used cautiously due to the ramifications of labeling an individual as feigning. I concurred with the original malingering identification in 3 of the 5 cases, with one of the cases being inconclusive. The SIRS results supported the conclusions of the clinician without the inclusion of the TI. It was unclear whether SIRS scores in the probable range were due to traumatic stress or intentional deception. Collateral information and other assessments were invaluable in making the final determination. One participant was identified as an honest respondent despite his malingering v code. His malingering code may have been the result of behavior during the evaluation that was not apparent in the archival data. Alternatively, the code may have been a diagnostic error. The only assessment that identified him as a malingerer was

the SIRS, although the inclusion of a slightly higher than recommended TI cut score would reclassify case 10 as an honest respondent. He may have used more sophisticated deception strategies that were apparent during his evaluation but not obvious when examining only his scores. Alternatively, the malingering v code may have been a diagnostic error that prevented this individual from receiving treatment he needed. It also underscores the dangers of over-testing individuals during the evaluation process. The use of multiple assessments resulted in 2 assessments suggesting honest responding and a third suggesting feigning. Establishing collateral information provides an invaluable resource when making decisions about individuals who were given a *DSM-IV TR* v code of malingering. This is especially important in cases when contradictory results are present.

It was difficult to determine whether the elevated feigning scales on the MMPI-2, the PAI, and the SIRS were the result of feigning or traumatic effects for the 10 cases identified. Previous research revealed that these scales can be influenced by trauma, so it was difficult to determine which factor was responsible for the increased scores. This is particularly true when an individual was classified as overreporting by the MMPI-2 and the PAI but no longer was classified as feigning with the inclusion of the TI in the SIRS classification criteria. Elevated MMPI-2 PK and PAI ARDt scores may have been indicative of traumatic stress, but may also have been the result of a general pattern of overreporting symptoms. High validity scores often lead to high scores on other scales so the elevations are not unexpected but make the decision process of clinicians' more difficult. It is an incredibly difficult task to distinguish between feigning and mental illness when both populations produce similarly high or invalid profiles. It was not possible to externally verify a traumatic history using archival data. A traumatic history was assumed based on the criteria Rogers et al. (2009) used to create the TI. The identification of

trauma in this manner was compounded because those identified as malingering by either their assessment profiles and/or a *DSM-IV TR* v code would not receive treatment for any symptoms. Future research on trauma in forensic populations should obtain an external validation of trauma and compare it with the TI scores obtained by criminal defendants.

Future research should also examine whether ≤ 6 is the optimal cut score for the TI. Two of the 5 original cases with TI scores equal to or less than 6 were correctly classified by including the TI in the SIRS criteria (honest responders) and 2 were identified as being misclassified (feigners) by the modified SIRS classification method with the third case being inconclusive. The TI was useful in warning of a possible traumatic history. Of the 5 marginal cases with slightly higher TI scores than recommended by Rogers et al. (2009) 2 were identified as individuals who would have been correctly classified (honest responders) by the use of a higher TI score with the SIRS and the other 3 were identified as being misclassified (malingerers) by a higher TI cut score. Again, the TI was useful in signaling a possible exposure to trauma. The TI score prompted careful consideration of scores on other measures, namely the MMPI-2 and the PAI. The TI appeared to be most useful when viewed in this context rather than as a criterion to distinguish malingering from mental illness. Future quantitative research should attempt to determine the optimal TI cut score, whether as an additional scale or as criterion to help determine malingering.

This study was limited by the use of the more liberal criteria used to determine feigning on the SIRS. It is also compounded by the use of a real-life forensic population rather than a simulation design. The SIRS is considered to be the gold standard among malingering assessments (Boccaccini, Murrie, & Duncan, 2006; Rogers, 2008; Wang et al., 2009), but this study questioned whether the SIRS misclassified traumatized criminal defendants as feigners. In

this case, this could only be done by comparing the SIRS classification results to other assessments. It was not possible to definitively distinguish between malingering or genuinely mentally ill the way that can be done in a simulation study. This study examined the clinical profiles of individuals who were possibly misclassified by the SIRS, PAI, and MMPI-2. Future studies should build on the work of Rogers et al. (2009) in researching and validating the TI in a quantitative manner using forensic samples.

The original TI cut score identified 5 individuals whose high scores may have been the result of PTSD-like symptoms representing nearly 9.8% of the individuals classified by the SIRS as malingering. Including marginal TI scores identified an additional 5 cases and represented 19.6% of the 51 individuals classified as malingering on the SIRS. The presence of trauma appears to be a substantial threat in forensic populations as well as in the severely traumatized population on which the TI was originally tested. The use of the TI as an additional classification criterion on the SIRS in this study only correctly classified 4 of 10 cases with the other 5 being correctly classified without the inclusion of the TI and the final case being inconclusive. A qualitative analysis of the cases revealed that the TI appeared to identify borderline individuals that are particularly difficult to classify as feigning or honest responders. The TI had difficulty discriminating between individuals with mental illness and those who were feigning. The TI provided valuable qualitative information when viewed as a score in conjunction with scores on other assessments. The TI was most useful as a signal alerting clinicians to the possibility of a traumatic history rather than in distinguishing between traumatized individuals and malingerers. The clinician can then investigate this possibility of feigning using other assessments and gathering collateral information. In light of this, the TI should be included with the SIRS to

reduce the risk of false positives in conjunction with other assessments and collateral information.

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Table 1

	MMPI -2 F	MMPI-2 FB	MMPI-2 Fp	MMPI-2 PK	PAI NIM	PAI ARDt	SIRS TI	Hospital Stays
Original Cases								
Case 1	98	120	63	102	92	82	4	2
Case 2	98	108	63	103	84	99	4	2
Case 3	119	120	99	98	99	82	3	6
Case 4	120	120	120	110	107	87	5	2
Case 5	113	120	92	103	92	94	5	0
Marginal Cases								
Case 6	120	100	120	67	122	99	7	0
Case 7	55	63	49	57	51	77	7	3
Case 8	104	120	78	105	92	99	7	0
Case 9	110	96	107	85	88	65	7	2
Case 10	55	79	56	73	51	82	8	0

Table 1: Scores on the validity and traumatic stress-related scales of the MMPI-2 and the PAI as well as the SIRS TI score for all 10 cases and the number of previous psychiatric hospitalizations