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Examination of a Combined Response Inconsistency (CRIN) Scale for the MMPI-2-RF: Basic Properties in Normative and Forensic Inpatient Samples

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Introduction

- The Minnesota Multiphasic Personality Inventory-2 Restructured Form (MMPI-2-RF)[2] is a 338-item self-report personality and psychopathology inventory used commonly in forensic settings.
- Variable Response Inconsistency (VRIN-r) identifies random (i.e., variable) responding.
- True Response Inconsistency (TRIN-r) identifies fixed (i.e., acquiescent, counteracquiescent) responding.
- Combined Response Inconsistency (CRIN), originally developed for the Minnesota Multiphasic Personality Inventory-Adolescent Restructured Form (MMPI-A-RF)[1] identifies mixed (i.e., partial random and fixed) responding.
- CRIN is calculated by summing VRIN-r, TRIN-r (True), and TRIN-r (False) raw points.
- Researchers have examined CRIN's utility on the MMPI-A-RF[3] but no previous studies have examined CRIN for use on the MMPI-2-RF.

Method

Current Study

- We examined CRIN's basic properties in the MMPI-2-RF normative sample and a forensic inpatient sample.

Participants

MMPI-2-RF Normative Sample
- 2,276 participants were sampled to represent the US population[2].

Psychiatric Inpatient Sample
- Archival MMPI-2/MMPI-2-RF data were culled from a maximum security forensic inpatient setting.
- Of the 1,081 individuals retained in the final sample, demographic characteristics include 72.7% male; mean age = 39.9 years (SD = 11.2); approximately 55% Caucasian, 24% African American, 17% Hispanic/Latino, 2% Asian American, and 2% from other ethnicities.

Method, continued

Procedures

MMPI-2-RF Normative Sample.
- Of 2,276 participants, we retained 2,273 after excluding those with notable unscorable responding (CNS ≥ 18).
- We calculated CRIN and then converted CRIN's raw points to Linear T Scores (Table 1).

Psychiatric Inpatient Sample.
- Of 1,110 patients, we retained 1,081 after excluding those with notable unscorable responding (CNS ≥ 18).
- 84% of participants completed the 567-item MMPI-2,. Data were rescored into MMPI-2-RF scores and CRIN raw and Linear T Scores were calculated[4].
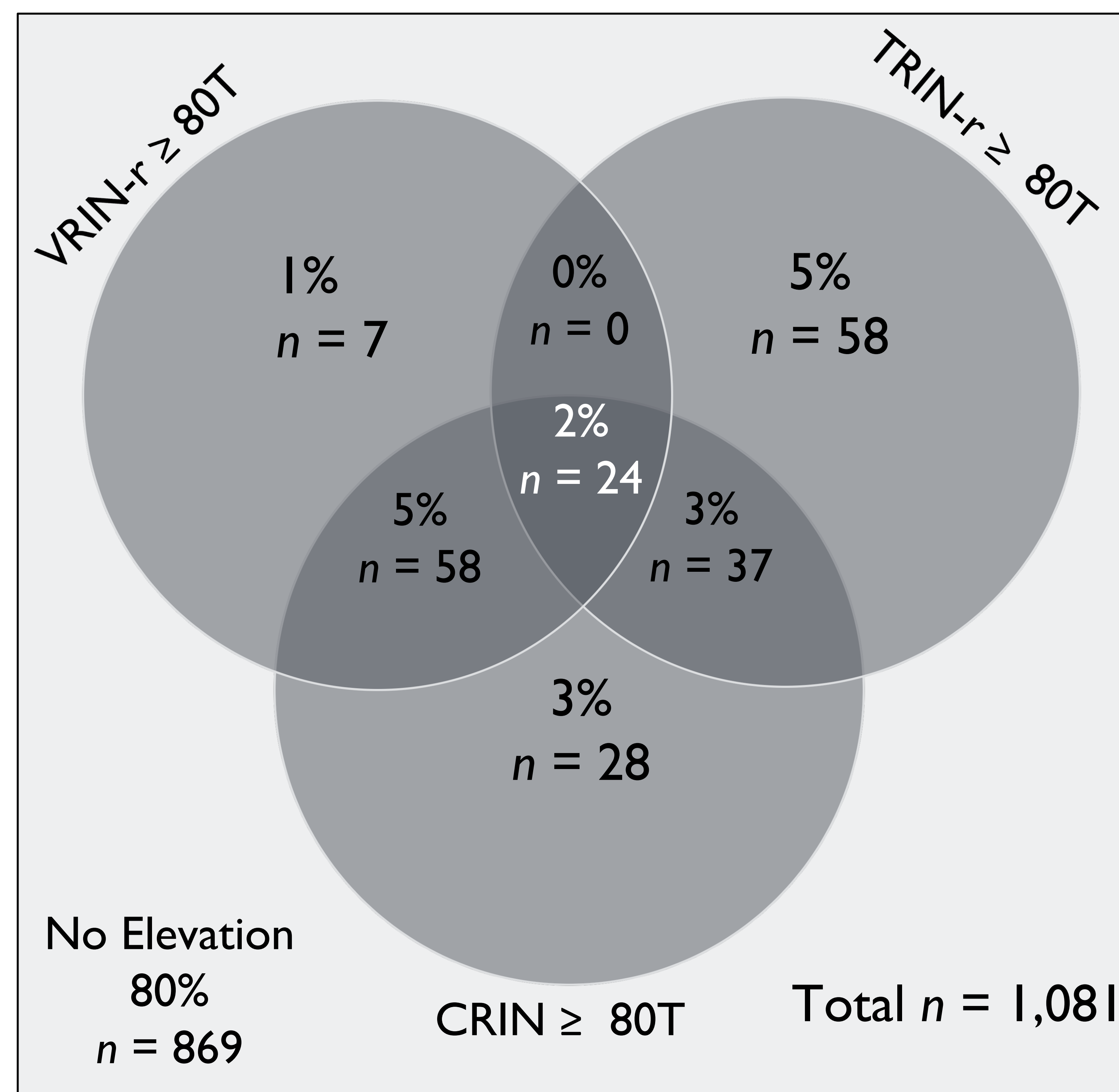
Measures

- The MMPI-2-RF is a 338-item personality and psychopathology measure with 9 Validity Scales and 42 substantive scales[2].
- The current study utilizes two existing non-content-based Validity scales, VRIN-r and TRIN-r, as well as an experimental measure, CRIN.

Table 1: CRIN Raw-to-T Conversion

Raw Score	T Score
19	101
18	97
17	94
16	90
15	87
14	83
13	80
12	76
11	72
10	69
9	65
8	62
7	58
6	55
5	51
4	47
3	44
2	40
1	37
0	33

Figure 1: VRIN-r, TRIN-r, & CRIN-r Elevation Overlap in the Forensic Inpatient Sample (n = 1,081)

VRIN-r ≥ 80T — 1% n = 7; 0% n = 0; TRIN-r ≥ 80T — 5% n = 58; 2% n = 24; 5% n = 58; 3% n = 37; 3% n = 28; CRIN ≥ 80T; No Elevation 80% n = 869; Total n = 1,081

Results

MMPI-2-RF Normative Sample
- As expected, few individuals exceeded 80T on VRIN-r (0.9%), TRIN-r (1.7%), or CRIN (0.8%).
- Given these rare rates of elevation, CRIN uniquely flagged only a very small number of protocols not already identified by VRIN-r and TRIN-r using 80T cut scores (0.2% of the total sample).

Psychiatric Inpatient Sample
- Elevations at 80T or above for VRIN-r (8%), TRIN-r (11%), and CRIN (14%) were more common in the forensic sample.
- 17% of protocols were flagged as non-content-based invalid based on VRIN-r or TRIN-r elevations.
- Of those, 65% were also flagged by CRIN.
- CRIN uniquely identified 28 (3% of total sample) invalid protocols not already identified by VRIN-r or TRIN-r at 80T (Fig. 1).

Implications
- CRIN exhibited a modest unique elevation pattern compared to VRIN-r and TRIN-r.

Limitations & Future Directions
- We had no data on the frequency of mixed responding.
- Future studies should utilize simulation designs.

References

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[2]Ben-Porath, Y. S., & Tellegen, A. (2008/2011). *MMPI-2-RF: Manual for administration, scoring and interpretation.* University of Minnesota Press.

[3]Pitta, A. C. (2016). Psychometric functioning of the MMPI-A Restructured Form VRIN-r, TRIN-r, CRIN, and Cannot Say scales with varying degrees of randomness, acquiescence, counter-acquiescence, and omitted items. (Dissertation) Retrieved from Old Dominion University Digital Commons. http://digitalcommons.odu.edu/psychology_etds/4

[4]Tarescavage, A. M., Alosco, M. L., Ben-Porath, Y. S., Wood, A., & Luna-Jones, L. (2015). Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF) scores generated from the MMPI-2 and MMPI-2-RF test booklets: Internal structure comparability in a sample of criminal defendants. *Assessment, 22*(2), 188-197.

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