Online Supplemental Materials

Appendix A: List of Measures Included in Composite Risk Domains

H1: History of Problems with Violence

1. HCR-20^{V3} item indicators

H2: History of Problems with Other Antisocial Behaviour

1. HCR-20^{V3} item indicators

H3: History of Problems with Relationships

1. HCR-20^{V3} item indicators
2. Relationship Assessment Scale
3. Pathways Characteristics of Family Measure
4. Pathways Characteristics of Friendship Quality Measure
5. Pathways Peer Delinquency-Antisocial Influence Measure

H4: History of Problems with Employment

1. HCR-20^{V3} item indicators
2. Pathways Employment Measure

H5: History of Problems with Substance Use

1. HCR-20^{V3} item indicators
2. NIDA Quick Screen V1.0/NIDA-Modified ASSIST V2.0

H6: History of Problems with Major Mental Illness

1. HCR-20^{V3} item indicators
2. Psychosis Screening Questionnaire
3. Mood Disorder Questionnaire
4. Thought-Control Override Psychotic Symptoms Scale

H7: History of Problems with Personality Disorder

1. HCR-20^{V3} item indicators
2. Structured Clinical Interview for DSM-IV Personality Disorders
3. Triarchic Psychopathy Measure (Short Version)

H8: History of Problems with Traumatic Experiences

1. HCR-20^{V3} item indicators
2. Adverse Childhood Experiences Questionnaire

H9: History of Problems with Violent Attitudes

1. HCR-20^{V3} item indicators

2. Criminal Sentiments Scale-Modified
3. Schedule of Imagined Violence

H10: History of Problems with Treatment or Supervision Response

1. HCR-20^{V3} item indicators

C1: Recent Problems with Insight (at time of threat)

1. HCR-20^{V3} item indicators
2. Mood Disorders Insight Scale

C2: Recent Problems with Violent Ideation or Intent (at time of threat)

1. HCR-20^{V3} item indicators
2. Schedule of Imagined Violence

C3: Recent Problems with Active Symptoms of a Major Mental Illness (at time of threat)

1. HCR-20^{V3} item indicators
2. Psychosis Screening Questionnaire
3. Mood Disorder Questionnaire
4. Thought-Control Override Psychotic Symptoms Scale

C4: Recent Problems with Impulsivity/Instability (at time of threat)

1. HCR-20^{V3} item indicators
2. Barratt Impulsiveness Scale-11

C5: Recent Problems with Treatment or Supervision Response (at time of threat)

1. HCR-20^{V3} item indicators

R3: Recent Problems with Personal Support (at time of threat)

1. HCR-20^{V3} item indicators
2. Social Support Questionnaire

R5: Recent Problems with Stress or Coping (at time of threat)

1. HCR-20^{V3} item indicators
2. Perceived Stress Scale

Appendix B: Expanded Description of Assumption Testing

Comparison of Violent and Non-Violent Threateners' Risk Factors and Warning Behaviors

Individual risk domain items were standardized via z-scores and summed to create seventeen composite risk domain total scores for each participant (i.e., H1-H10, C1-C5, R3, R5). Means and standard deviations of each risk domain are presented in Table 4. As all risk domain total scores are the summed totals of standardized individual item scores, all means are close or equal to zero. Z-scores for skewness and kurtosis were calculated to test the normality of distribution of each predictor. It was found that three risk domains were positively skewed (H10, C2, and C5) and two risk domains were negatively skewed (H3 and R3). As each domain included negative scores and the traditional transformations (e.g., square root, log transformations) were not possible, subsequent statistical analyses of the composite risk domains employed non-parametric procedures (e.g., Mann-Whitney U tests). However, participants' ratings of their grievance intensity and their number of warning behaviours were normally distributed, so analyses of these variables proceeded as planned via independent-samples t-tests.

Prediction of Violent Behavior Following Threat

Prior to conducting the analyses, all necessary assumptions for logistic regression analyses were investigated. As the risk domain total scores of multiple participants were negative due to standardization via z-scores, the natural logs of these scores were unable to be calculated. Therefore, a constant (40) was added to each score to ensure all participants' scores were positive numbers while preserving the scores' distribution, and Box-Tidwell (1962) procedures were subsequently performed. These analyses confirmed that the logit of the dependent variable (presence or absence of violence) was linearly related to each continuous independent variable (i.e., composite risk domains, grievance intensity, total number of warning behaviors).

Additionally, significant outliers in the data were identified by examining the standardized residuals of each continuous independent variable. As recommended by Tabachnick and Fidell (2013), any absolute values above 3.29 were classified as significant; therefore, seven cases were not included in these statistical analyses.

All predictor variables that emerged as statistically significant ($p < .05$) at the bivariate level were subsequently included in one of three multivariate logistic regression models to examine the incremental predictive validity of each composite risk domain, as well as grievance intensity, number of warning behaviours, and threat characteristics, in comparison to the other assessed variables. The variance inflation factor (VIF) of each continuous predictor variable was examined for evidence of multicollinearity; all VIF values (1.09-4.82) were under 10, which does not indicate multicollinearity (Cohen et al., 2003). Correlations between continuous predictors were also calculated to assess for potential multicollinearity. Correlations between predictors in the first model (i.e., H risk domains) ranged from $r = .51$-$.74$, which are relatively high but not unacceptable (i.e., > .85; Schroeder, 1990) values. Similarly, correlations between predictors in the second model (i.e., C and R risk domains, warning behaviours, grievance intensity) ranged from $r = -.10$ to .80. Multicollinearity was not observed when correlations between the dichotomous categorical predictors within the third model (i.e., threat characteristics) were calculated, as all r values were less than .40.

References

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Schroeder, M. A. (1990). Diagnosing and dealing with multicollinearity. *Western Journal of Nursing Research, 12*(2), 175-187.