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Supplemental Materials for

Resilience pathways and help-seeking preferences for Ontario police services

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Listing of Supplemental Material(s):

- Detailed Data Analysis and Results

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DATA ANALYSIS

Given ample evidence of CD–RISC's unstable factor structure and an unclear factor structure for ATMHT, we conducted exploratory factor analysis (EFA) for both instead of confirmatory factor analysis (CFA) and used geomin rotation because we anticipated factors being at least moderately correlated (Costello & Osborne, 2005; 1). We used parallel analysis with 500 randomly generated correlation matrices to guide our decision about how many factors to retain. Parallel analysis compares eigenvalues derived from randomly generated correlation matrices based on the number of observations and variables in an EFA to the eigenvalues produced from a sample; the number of sample–based eigenvalues that exceed the average eigenvalues from parallel analysis determine the number of factors to retain (Muthén & Muthén, 2017; 2). As per recommendations by Tabachnick and Fidell (2019; 3), we applied a criterion loading of .32 per item and identified cross loaded items as those with two or more item loadings ≥ .32.

A non-significant Little's Test, $\chi^2(815) = 823.85, p = .407$, in SPSS v27 determined that missing data in our model were missing completely at random (Morrison et al., 2017). We opted to use Mplus's default estimation method, maximum likelihood (ML), conditional on our data satisfying its assumption of univariate and multivariate normality.

RESULTS

CD–RISC Measurement Model

Parallel analysis suggested we extract three factors, so we ran an EFA extracting between 1 and 5 factors for comparisons' sake. Model fit for the 3–factor solution was less than desirable, CFI = 0.867, TLI = 0.825, RMSEA = 0.077 [0.069, 0.086], SRMR = 0.053, and improved with the addition of a fourth and fifth factor. As well, the chi–square comparing models indicated each model improved significantly on the previous one. Given these results and the 5-factor structure originally reported for the CD–RISC (Connor & Davidson, 2003; 4), we first examined the 5-factor model.

Factors were generally moderately correlated ($.11 < r < .55$) and four items (3, 6, 8, 11) cross loaded on two factors. Excluding these four items, only two factors had more than 2 items that loaded onto them and only one of these was a strong factor (i.e., 5 items with loadings ≥ .50; Costello & Osborne, 2005). Similar issues emerged in the 4- and 3-factor solutions. In the 2-factor structure, factors were moderately correlated ($r = .46$), Items 5 and 12 did not load substantially on either factor, no items cross loaded on both factors, but Factor 1 had only three strongly loading items, with a fourth just passing the criterion threshold (.33). Accordingly, we examined the 1-factor solution. Items 5, 6, and 12 did not load on the factor so we removed them. The 22-item factor produced poor model fit: CFI = 0.784, TLI = 0.761, RMSEA = 0.090 [0.081, 0.098], SRMR = 0.072. Modification indices recommended modeling the following dependencies: Items 1, 2, and 3; Item 7 with 8, 10, and 11; and Items 8 and 9, 13 and 14, and 3 and 19. Including these dependencies produced better model fit: CFI = 0.915, TLI = 0.902,

RMSEA = 0.058 [0.048, 0.067], SRMR = 0.054. Internal consistency of the 22-item factor was strong (α = .90).

ATMHT Measurement Model

Parallel analysis again suggested a 3-factor solution and the model fit was good: CFI = 0.955, TLI = 0.936, RMSEA = 0.052 [0.039, 0.064], SRMR = 0.041. However, several issues were apparent. Items 1 and 6 did not load on any of the factors while Items 2, 4, 7, 15, 18, and 19 cross loaded on two factors, leaving only 12 of the initial 20 items. Eight of these items loaded onto Factor 2 but did not result in a strong factor; one item loaded onto Factor 1, and three items onto Factor 3.

The 2-factor solution had poor model fit: CFI = 0.830, TLI = 0.786, RMSEA = 0.095 [0.085, 0.105], SRMR = 0.078. Items 1, 2, 3, 6, 8, and 18 did not load on either factor, and Item 15 cross loaded on both. Of the 13 remaining items, 10 loaded onto Factor 1 and resulted in a strong factor. While the other three items loaded strongly onto Factor 2, a 3-item factor in a small sample like ours may not be stable, so we examined the 1-factor solution as well.

The 1-factor solution did not fit the data: CFI = 0.339, TLI = 0.262, RMSEA = 0.176 [0.167, 0.184], SRMR = 0.133. Like the 3- and 2-factor solutions, only 12 of the 20 items loaded onto the factor. Given the pattern of 7–8 items not loading onto factors across all three solutions, we dropped the 8 items from the 1-factor solution, which resulted in acceptable model fit: CFI = 0.861, TLI = 0.830, RMSEA = 0.072 [0.055, 0.089], SRMR = 0.065. After accounting for item dependencies based on modification indices, the 1-factor solution produced excellent model fit: CFI = 0.984, TLI = 0.978, RMSEA = 0.026 [0.000, 0.051], SRMR = 0.042. Internal consistency of this 12-item factor was adequate (α = .70).

Health Literacy Factor Structure

A CFA on the four items of the health literacy scale revealed excellent model fit for a 1-factor solution: CFI = 1.000, TLI = 0.999, RMSEA = 0.015 [0.000, 0.131], SRMR = 0.017. Internal consistency of this 4-item factor was good (α = .80).

REFERENCES

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