SUPPLEMENTARY MATERIALS - PART 1:

Further information on statistical analyses procedures

Contents

1. Creating the structural and measurement models

The latent variable, Parental Invalidation, was indicated by two factors, maternal invalidation and paternal invalidation, measured by the two ICES maternal and paternal sub-scales. The latent variable, Internalizing Shame-Coping, was indicated by the two shame-coping scripts of attacking the self and withdrawing, each measured by the Attack Self and Withdraw sub-scales of the COSS-5. Finally, the latent variables, Intrapersonal NSSI Functions and Interpersonal NSSI Functions, were each indicated by the respective NSSI intrapersonal and interpersonal NSSI functions as assessed via the ISAS functions sub-scales. We also employed the use of item parceling to create indicators for the remaining latent variables, Shame-Proneness and Psychological Distress. The use of latent variable models, where item parcels are used as indicators, is recommended in models assessing psychological constructs, to help overcome biasing effects due to measurement errors inherent in psychological research (Little, Cunningham, Shahar, & Widaman, 2002). To this end, we utilized the item-to-construct balance approach, successively assigning items to each group in order of their scale item-total correlations, to create four item parcels consisting of four items each from the TOSCA shame-proneness scale, used as indicators for the latent variable, Shame-Proneness, and two item parcels from the K10, consisting of five items each to represent the latent variable, Psychological Distress, in the structural model. As shorter scales, like the item-parceled ones in this study, tend to yield lower Chronbach's alpha estimates than longer scales, Steiner (2003) has argued that reliability of such scales may be better assessed using the inter-item correlations, with mean values of at least 0.15 to 0.20 indicating adequate reliability. This criterion was met for the item parcels created in this study, thus rendering these parcels as acceptable for the structural equation model.

2. Exploratory factor analysis of the ISAS functions scale

In light of the unsatisfactory measurement model estimates for the ISAS functions, we conducted a principal components analysis on the ISAS functions scale using SPSS Version 20. With A Kaiser-Meyer-Olkin value of 0.748, exceeding the recommended value of 0.6 (Kaiser, 1970, 1974), and Bartlett's Test of Sphericity (Bartlett, 1954) reaching statistical significance, the factorability of the correlation matrix for the 12 ISAS functions was supported. Principal component analysis indicated the presence of three components with eigenvalues exceeding 1, which was supported by a clear break after the third component in the scree plot. The three-component solution explained a total of 54.8% of the variance, with Component 1 contributing 29.3%, Component 2 contributing 12.5% and Component 3 contributing 10.9%. A direct oblimin rotated solution revealed the presence of a generally simple structure, save for the cross-loading of the marking distress function between Components 2 and 3.

Component 3 appeared identical to the original intrapersonal functions factor of the ISAS, consisting of the original five intrapersonal functions (i.e. affect regulation, self-punishment, anti-dissociation, anti-suicide and marking distress), and we henceforth refer to this component as the *Intrapersonal* factor. The remaining variables consisting of the originally conceptualized interpersonal functions loaded on Components 1 and 2, which we refer to as *Interpersonal - Self* and *Interpersonal - Other* respectively. The NSSI functions consisting of toughness, autonomy, interpersonal boundaries, self-care and sensation-seeking loaded on *Interpersonal - Self,* while the revenge and interpersonal influence functions loaded on *Interpersonal - Other,* with the addition of the intrapersonal function, marking distress. These three components and the functions that loaded onto them subsequently replaced the two functions outcome factors in the originally hypothesized model. We have discussed what these factors may qualitatively relate to respectively in the main text.

Majority of these EFA findings were also replicated in the dataset containing transformed data, with exceptions applying to the anti-dissociation and self-care NSSI function variables, each of which cross-loaded on the Intrapersonal and Interpersonal - Self factors. As each of these variables loaded more strongly on their original factors (i.e. anti-dissociation on Intrapersonal, and self-care on Interpersonal - Self), echoing the factor structure of the raw dataset, we opted to keep the measurement model structure for the three-factor model the same for the analyses with transformed data as it was for the analyses with raw data to enable meaningful comparisons.

References

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