Supplemental Analyses

Investigating the potential value of examining facet-level associations

The four facets of psychopathy included in this model have shown differential patterns of associations with some external correlates, especially when assessed with clinical measures such as the Psychopathy Checklist-Revised (Hare, 2003; see Hare & Neumann, 2008). In supplemental analyses, we explored whether a facet-level examination of our hypotheses would produce a clearer picture.

First, Supplemental Table 1 shows that, at the zero-order level, the pattern of correlations that each SRP-SF facet had with the other measures was remarkably similar across facets, both in terms of significance and in terms of strength. In particular, the Affective and Lifestyle facets had the strongest associations with emotion dysregulation and aggression.

Second, we inspected the extent of overlap among SRP-SF facets in each sample, in order to evaluate the potential value of investigating their unique associations (i.e., controlling for their shared variance) with emotion dysregulation and aggression. The inter-correlations among SRP-SF facets are reported in Supplemental Table 2. These results revealed that the SRP-SF facets were moderately-to-strongly correlated with each other in the offender sample (Sample 1), and strongly correlated with each other in the community sample (Sample 2). Hence, interpretation of partial correlations (or multiple regression) analyses should be considered with caution, in particular in the community sample.

Third, we conducted Structural Equation Modeling (SEM) analyses to compare the explained variance in models using the four SRP-SF facets as simultaneous predictors as opposed to models wherein the four SRP-SF facets were set to load on a super-ordinate SRP-SF factor, which in turn was used as predictor. In both the offender and community samples, the model specifying a latent SRP-SF super-ordinate factor as predictor was able to explain a larger portion of variance in aggression compared to the model that used the SRP-SF subscales as individual predictors ($R^2_{\text{difference}} = .08 \text{ and } .09$,}
respectively). A graphical depiction of these models is provided in Supplemental Figure 1. By and large, these additional analyses supported our a-priori choice that focusing on the super-ordinate SRP-SF factor represented the best approach with the current data, at least to avoid the risks implied in highly correlated predictors and to maximize the portion of variance explained in aggression.

**Investigating the consistency of findings across gender (Sample 2)**

Multiple group SEM was conducted using maximum likelihood for males and females in the community sample (Sample 2). A configural model (free factor loadings and intercepts) was compared to a strong invariance model (fixed loadings and intercepts). To compare the invariance and configural models, the chi-square differences approach was not employed since large N’s can produce significant values even when the discrepancies between two models are trivial (West et al., 2012). West et al. suggest using guidelines laid out by Cheung and Rensvold (2002) to assess statistical differences in model fit. If the incremental change in the comparative fit index (ΔCFI) between one model (configural) and a nested more-constrained (invariance) model is ≤.01, then the two models do not differ in statistical fit. The configural model resulted in adequate fit, $\chi^2(26) = 122.91$, CFI = .92, SRMR = .08, as did the strong invariance model, $\chi^2(32) = 161.11$, CFI = .90, SRMR = .08, but the ΔCFI = .02. It can be argued that holding intercept levels for psychopathic traits, aggression and emotion dysregulation equal across males and females is unrealistic given the empirical literature. In-line with this literature, males and females in the current sample significantly differed on these variables ($\eta^2$'s range: .02 RPQ-reactive to .14 SRP affective). Thus, a revised invariance model was run, releasing the constraints on the intercepts, as well as the loading on the SRP antisocial facet. This second invariance model also showed acceptable fit, $\chi^2(29) = 137.14$, CFI = .92, SRMR = .08, and did not differ significantly from the configural model, ΔCFI = .00. As such, this second model provided reasonable evidence of invariance across sex in terms of factor loadings and thus measurement of psychopathic features and broad aggression propensities. As shown in the Supplemental Figure 2 there was strong similarity in the pattern of predictive effects (males/females), particularly the indirect effect of the SRP factor on the RPQ factor through the DERS. At the same, three times greater variance in RPQ was accounted for by the SRP and the DERS for males, compared to
females. Thus, the results for the male community participants are in strong accordance with the male offender results, and also provide evidence that the pattern of results generalizes to females, albeit in somewhat attenuated form.

References

Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling, 9*(2), 233–255

West, S. G., Taylor, A. B., & Wu, W. (2012). Model fit and model selection in structural equation modeling. In R. H. Hoyle (Ed.), *Handbook of structural equation modeling* (p. 209–231). New York, NY: The Guilford Press.
Supplemental Table 1

Facet-level zero-order correlations between psychopathy facets (i.e., SRP-SF subscales), emotion dysregulation, and aggression in the offender (Sample 1) and community (Sample 2) samples.

| SRP-SF     | Sample 1 (N = 268) | Sample 2 (N = 521) |
|------------|---------------------|---------------------|
|            | DERS                | AQ Physical         | AQ Verbal | AQ Anger | AQ Hostility | DERS-16 | RPQ Reactive Aggression | RPQ Proactive Aggression |
| Interpersonal | .201**      | .475***             | .288***   | .366***  | .282***      | .203**  | .351***                    | .499***                      |
| Affective   | .337***      | .504***             | .329***   | .441***  | .323***      | .213*** | .405***                    | .510***                      |
| Lifestyle   | .391***      | .582***             | .328***   | .584***  | .320***      | .270*** | .481***                    | .498***                      |
| Antisocial  | .167**       | .588***             | .300***   | .479***  | .217***      | .149**  | .299***                    | .560***                      |

Note. SRP-SF = Self Report Psychopathy-Short Form. DERS = Difficulties in Emotion Regulation Scale (the original 36-item and the 16-item short form of the DERS were used in Sample 1 and 2, respectively; see Measures section). AQ = Aggression Questionnaire. RPQ = Reactive Proactive Aggression Questionnaire.

** p < .01. *** p < .001.

Supplemental Table 2

Zero-order correlations among psychopathy facets (i.e., SRP-SF subscales) in the offender (Sample 1; above the diagonal) and community (Sample 2; below the diagonal) samples.

| SRP-SF          | 1.      | 2.      | 3.      | 4.      |
|-----------------|---------|---------|---------|---------|
| 1. Interpersonal| —       | .503*** | .572*** | .508*** |
| 2. Affective    | .678*** | —       | .433*** | .323*** |
| 3. Lifestyle    | .666*** | .643*** | —       | .644*** |
| 4. Antisocial   | .506*** | .490*** | .509*** | —       |

Note. SRP-SF = Self Report Psychopathy-Short Form.

*** p < .001.
Supplemental Figure 1. SEM analyses in the offender (Sample 1; top half of the figure) and community samples (Sample 2; bottom half of the figure), examining the indirect effect of a latent psychopathy super-ordinate factor on aggression through emotion dysregulation. Only significant path coefficients are displayed. Dotted lines connecting an independent variable to the dependent variable through the mediator indicate significant indirect effects.
Supplemental Figure 2. SEM analyses in the community sample (Sample 2), examining the indirect effect of a latent psychopathy super-ordinate factor on aggression through emotion dysregulation for male and female participants separately (coefficients indicate male/female results).