Supplemental Appendix A

Summary of Pre-Assessment and Treatment Procedures

This section briefly reviews the original study protocol to provide context for the secondary analyses reported here. Readers are referred to Armstrong, et al. (1999) and Bourgon & Armstrong (2005) for a more detailed description. All assessments batteries and treatments were administered at the Rideau Correctional & Treatment Centre (RCTC; a provincial correctional facility with a 44-bed assessment unit and 64-bed treatment area). Each offender was assigned to a separate dosage group (100 hours, 200 hours, or 300 hours per level or risk and sentencing length) characterized by the following regardless of duration: (1) a focus on identified needs (e.g., anger management and criminal thinking); (2) the same counselors were assigned to closed groups; and (3) offenders remained in the same therapy group during treatment.

Referrals to the treatment center came from classification staff at local jails and detention centers. Inmates were initially screened to determine their risk level, treatment needs, and duration in custody. If the offender met the minimum sentence length and consented to a further assessment, he was referred to the RCTC assessment unit to receive a standard baseline assessment that included measures of criminal risk factors, motivation for treatment, and measures of psychopathology and normal personality functioning. After completing the baseline assessment, inmates were provided with a summary of their results and assigned to a dosage-specific treatment program based these results (e.g., typically, higher risk offenders were recommended for higher dosages of treatment), time remaining in their sentence, and inmates' motivation to participate in treatment.

In both the 100-hour treatment and 200-hour treatment—the two dosage groups used in this study—a maximum of 16 offenders were permitted to enter each therapy group, and each

group was managed by a multidisciplinary team (both counselors and social workers). Additionally, four correctional officers assisted with treatment by serving as case managers. Clinicians were responsible for the delivery of treatment, and case managers aided with release planning. Each program used a variety of techniques during treatment, including interpersonal process, workbooks, role-play exercises, videos, mentoring, and journals. Both programs also shared common goals for treatment: (1) increase awareness of pro-criminal thinking patterns; (2) develop pro-social alternatives to antisocial cognitions and behaviors; (3) facilitate responsibility taking for antisocial behaviors; and (4) provide opportunities for the practice of skills.

Supplemental Appendix B

Analytical Plan and Procedures

Multi-group latent profile analysis is an approach to classification that uses a probabilistic model to identify latent subgroups of individuals using continuous indicators and membership in a known group (e.g., a treatment group). In multi-group LPA, membership in a latent profile is derived from the relationship between the observed variables and a known class, such that membership in each subgroup becomes a function of memberships in both the known group and a latent profile. Multi-group LPA requires that an equivalent solution (i.e., number of latent classes) is found across observed groups independently. After assessing for equivalent solutions across known classes, latent profiles are regressed on to the observed groups. After which, individuals can be assigned to profiles using probabilistic assignment. Probabilistic assignment accounts for the bias introduced by misclassification when conducting secondary analyses with predictors and distal outcomes (Bolck, Croon, & Hagenaars, 2004).

In the multi-group LPA, the following post-treatment measures were used as potential indicators underlying treatment response variability: (1) CSS, (2) anger skills, (3) reasoning skills, (4) relapse prevention behaviors, and (5) relapse prevention cognitions. Prior to conducting the multi-group LPA, the 300-hour dosage group was removed from the analysis due to sample size requirements. During the enumeration phase of the analysis, relative-fit indices, entropy, the number of parameters, and comparisons of a k to a k-1 solution were used to assess how many profiles would be appropriate given the characteristics of the data. As simulations have shown that the Bayesian information criterion (BIC) is a superior measure of model fit, model selection, BIC statistics were used during the profile enumeration phase of the analysis (Nylund, Asparouhov, & Muthén, 2007).

Given that risk level/categorization and treatment motivation (i.e., attitudes toward correctional treatment) were considered in the placement of inmates to treatment groups, the indirect effects of these two covariates were modeled as predictors of membership during the estimation of the final model. To accommodate measurement error, attitudes toward correctional treatment was modeled as a latent variable using structural equation modeling and risk categorization was modeled as an observed ordinal variable. After the primary analysis, subgroups were analyzed as predictors of recidivism relative to the no-treatment group, and the discriminatory function of the following subscales from the LSI-OR were assessed for significance (i.e., measures of the central 8). Additionally, the discriminatory function of clinical needs, as measured by a semi-structured diagnostic interview, was assessed for significance. The aforementioned covariates were included in the model to assess for external factors not explicitly the focus of treatment that may have contributed to recidivism.