Power and Data Analysis.

Given our sample size for the proposed trial (n = 36), the statistical power for some of our aims will only be sufficient to detect medium effect sizes ($f^2 > .22$) with a power of .80. However, we note that the purpose of development and innovation studies is to conduct the work necessary to prepare for a larger trial, rather than inform power analyses for larger trials. Thus, we plan to conduct an underpowered early efficacy study.

B.6.a. Specific Aim #1: *Develop an engaging serious game that trains and provides practice in evidence-based coping skills for the academic impairments of ADHD.* To assess our performance on this aim we will analyze the focus group data (both quantitative and qualitative) and assess the degree to which game edits in year two improve these outcomes. Simple descriptive statistics will meet our needs.

B.6.b. Specific Aim #2: *Determine the degree to which the CABI model (a) increases student motivation for intervention, and (b) increases skill acquisition when compared to traditional school consultation.* To assess these constructs, we will compare the relevant measures across the two conditions. Comparisons will be made in a regression framework. Outcome measures at post-test will be regressed on pretest scores and a dummy variable representing condition. The slope of this dummy variable represents how change from pre to post-test differs across conditions. This approach provides a more powerful test of group differences in change than simple difference scores or ANOVAs. If after random assignment, one condition differs significantly from the other on an intake measure, we may use that indicator as a covariate to adjust for this difference in subsequent analyses. We will also assess clinical significance for all symptom and impairment measures to preliminarily compare our results to the relevant treatment literature.

B.6.c. Specific Aim #3: *Determine the degree to which the CABI model (a) improves teacher acceptance of intervention procedures, and (b) improves implementation fidelity when compared to traditional school consultation.* To assess these constructs, we will compare the relevant measures across the two conditions. Comparisons will be made in a regression framework. Outcome measures at post-test will be regressed on pretest scores and a dummy variable representing condition. The slope of this dummy variable represents how change from pre to post-test differs across conditions. This approach provides a more powerful test of group differences in change than simple difference scores or ANOVAs. If after random assignment, one condition differs significantly from the other on an intake measure, we may use that indicator as a covariate to adjust for this difference in subsequent analyses. Again, we will assess clinical significance for all symptom and impairment measures.

B.6.d. Missing data plan. Modern analysis and estimation procedures that can handle missing data that occurs via attrition or non-response will be utilized. Specifically, we will utilize modern missing data analyses including Multiple Imputation or Full Information Maximum Likelihood for all analyses associated with our main outcomes. These procedures can generally handle missing data that is either missing completely at random (MCAR) or missing due to predictable reasons (MAR).