|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | TranS-C | | |  |  | PE | | |  |  |
|  | Baseline | Post-treatment | 6-month follow-up |  |  | Baseline | Post-treatment | 6-month follow-up |  |  |
| Outcome | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* | *dpre-post* | *dpre-fu* | *Mean (SD)* | *Mean (SD)* | *Mean (SD)* | *dpre-post* | *dpre-fu* |
| Sleep and Circadian Outcomes |  |  |  |  |  |  |  |  |  |  |
| TST weeknights\* | 459.06 (64.92) | 482.76 (82.55) | 436.63 (58.15) |  |  | 454.96 (61.51) | 464.81 (76.01) | 430.57 (60.63) |  |  |
| BT weeknights\* | 22.87 (1.07) | 22.85 (0.98) | 22.98 (1.16) |  |  | 22.99 (1.05) | 23.04 (1.12) | 22.94 (0.94) |  |  |
| TST weeknight-weekend discrepancy | -70.39 (113.10) | -31.16 (115.19) | -74.21 (70.71) |  |  | -48.91 (89.28) | -56.46 (106.25) | -70.98 (133.91) |  |  |
| BT weeknight-weekend discrepancy | -0.79 (1.23) | -0.68 (1.41) | -0.39 (0.98) |  |  | -0.58 (1.13) | -0.51 (1.09) | -0.55 (1.89) |  |  |
| WUP weeknight-weekend discrepancy | -1.90 (1.36) | -1.13 (1.29) | -1.55 (1.19) |  |  | -1.42 (1.28) | -1.32 (1.55) | -1.78 (1.38) |  |  |
| Sleepiness | 6.20 (4.52) | 4.83 (4.03) | 3.56 (4.02) |  |  | 6.15 (4.01) | 6.37 (4.71) | 4.80 (4.84) |  |  |
| PSQI | 7.58 (2.99) | 5.85 (2.56) | 4.88 (3.03) |  |  | 7.58 (3.03) | 6.75 (3.48) | 6.00 (3.97) |  |  |
| CBCL Sleep Composite | 3.32 (2.03) | 1.84 (1.86) | 2.10 (2.14) |  |  | 3.24 (2.13) | 2.51 (1.91) | 2.11 (1.95) |  |  |
| CMEP\* | 21.11 (3.79) | 25.08 (4.86) | 25.33 (4.77) |  |  | 21.52 (3.86) | 23.61 (4.60) | 23.93 (4.32) |  |  |

Best approach to calculate the effect size (Cohen’s d) for pre-post change for TranS-C and PE separately (that is, within-group change from pre to post or pre to follow-up)

* Approach 1: raw pre-post change score/SD of pre for each condition (I think this is the classic Cohen’s *d* for dependent sample t test/pre post design, but could be biased)
* Approach 2: model estimated pre-post change divided by SD of the full sample (see Ritterband et al. 2017 JAMA paper)
* Approach 3: effect sizes for pre to post (temporal) changes were computed as the difference between means, divided by the root-mean-squared error (RMSE) of the mixed model (see Harvey et al. 2014 JCCP paper)

Which approach should we adopt/which is better? I think you could search RCT papers comparing two or more active psychological treatments. Also check the meta-analysis book on effect size calculations as that may be a helpful source too. I also attached a paper that talks about problems with pre-post effect sizes in case that gives more references. In this paper we will report between-group effect size but it’s also important to report the within-group change in standardized unit because both TranS-C and PE are active treatments (PE is an active control so it also exerts some effects on the outcomes).