

Statistical analysis plan

ISRCTN41755922 — RECONNECT: Remediating transient loneliness

Self-selection analysis (baseline comparison)

Differences at baseline between RECONNECT registrants and the comparison group were tested for the three outcome measures (loneliness, satisfaction with life, social integration) and for protective-factor covariates using two-tailed Welch's t-tests for continuous variables (accounting for unequal variances) and chi-square tests for binary variables.

This was followed by OLS linear regression models, with each outcome variable regressed on a dummy variable for study arm (RECONNECT registrant vs comparison group) and the protective-factor covariates (perseverance of effort, family belonging, presence of a romantic relationship), using heteroskedasticity-robust standard errors. The Akaike Information Criterion (AIC) was used to select between candidate model specifications, using cumulative model weights.

Impact analysis (pre-post comparison)

The impact of RECONNECT on the three outcome measures was assessed among the 83 participants who completed both the baseline and endline survey, using two-tailed non-parametric matched-pair Wilcoxon signed-rank tests.

This was complemented by pooled OLS regression models including both the baseline (N=169) and endline (N=83) observations, with the outcome variables regressed on a treatment-received indicator (1 = endline/post-intervention observation, 0 = baseline observation) and the same protective-factor covariates. Standard errors were clustered at the student level to account for the within-student correlation between each student's baseline and endline observations, using heteroskedasticity-robust variance estimators with a Stata-style finite-sample correction.

Attrition analysis

Selective attrition from RECONNECT was assessed by comparing the 83 students who registered and completed the programme with the 86 who registered but did not complete an endline survey, using two-tailed Welch's t-tests on the three outcome measures at baseline.

Software and reporting

All statistical analyses were performed in R, version 4.1.1 (R Core Team, 2021). Statistical significance is reported at the $p<0.1$, $p<0.05$ and $p<0.01$ levels (two-tailed throughout). Reporting follows the TREND statement for non-randomized public health intervention evaluations.