**Supplementary materials**

**APPENDIX A**

**Table 1***Reliability estimates for proposed measures*

|  |  |
| --- | --- |
| **Measure** | **Reliability (ω)** |
| Prenatal depression (BDI) | 0.92 |
| Prenatal psychological distress (SRQ) | 0.81 |
| Life stressful events (LEQ) | 0.73 |
| Prenatal substance use (ASSIST) |  |
| Prenatal tobacco use (ASSIST) | 0.94 |
| Prenatal alcohol use (ASSIST) | 0.89 |
| Prenatal intimate partner violence (IPV) |  |
| Prenatal lifetime emotional abuse | 0.85 |
| Prenatal lifetime physical abuse | 0.87 |
| Prenatal lifetime sexual abuse | 0.80 |
| Postnatal depression (EPDS) | 0.74 |
| Maternal exposure to community violence (SECV) | 0.83 |
| Child exposure to community violence (CECV) | **0.66** |
| Parenting (PAFAS) |  |
| Coercive parenting | 0.72 |
| Infant temperament (IBQ-R-VSF) |  |
| Negative emotionality (IBQ-R-VSF) | 0.78 |
| Effortful control (IBQ-R-VSF) | **0.67** |
| Perceived social support (MSPSS) | 0.95 |
| Family | 0.93 |
| Friends | 0.94 |
| Significant Other | 0.94 |
| Internalizing (CBCL) | 0.85 |
| Externalizing (CBCL) | 0.87 |

Note: Bold font indicates measures excluded due to insufficient reliability

**CONFIRMATORY FACTOR ANALYSIS**

**Table 2***Factor loadings for excluded measures: Self-report questionnaire (SRQ-20)*

|  |  |
| --- | --- |
| **Measure** | **Item loading** |
| srq1 | 0.25 |
| srq2 | 0.27 |
| srq3 | 0.33 |
| srq4 | 0.26 |
| srq5 | 0.27 |
| srq6 | 0.49 |
| srq7 | 0.28 |
| srq8 | 0.39 |
| srq9 | **0.57** |
| srq10 | 0.45 |
| srq11 | **0.56** |
| srq12 | **0.59** |
| srq13 | **0.53** |
| srq14 | 0.42 |
| srq15 | **0.60** |
| srq16 | 0.49 |
| srq17 | 0.41 |
| srq18 | **0.52** |
| srq19 | 0.47 |
| srq20 | **0.50** |

Note: Bolded figures indicate items meeting the cut-off

Only 7 out of 20 (35%) items demonstrated factors loadings ≥ 0.5.

**Table 3**

*Factor loadings for excluded measures: Life events questionnaire (LEQ)*

|  |  |
| --- | --- |
| **Measure** | **Item loading** |
| leq1 | 0.21 |
| leq2 | 0.24 |
| leq3 | 0.19 |
| leq4 | 0.31 |
| leq5 | 0.22 |
| leq6 | 0.29 |
| leq7 | 0.43 |
| leq8 | **0.52** |
| leq9 | 0.38 |
| leq10 | 0.42 |
| leq11 | 0.49 |
| leq12 | **0.57** |
| leq13 | 0.41 |
| leq14 | 0.44 |
| leq15 | **0.55** |
| leq16 | 0.39 |
| leq17 | 0.27 |

Note: Bolded figures indicate items meeting the cut-off

Only 3 items out of 17 displayed factor loadings =>.5

**Table 4**

*Factor loadings for excluded measures: CBCL Internalizing*

|  |  |
| --- | --- |
| **Measure** | **Item loading** |
| cbcq5 | 0.08 |
| cbcq6 | 0.38 |
| cbcq8 | 0.26 |
| cbcq11 | 0.25 |
| cbcq14 | 0.30 |
| cbcq16 | 0.18 |
| cbcq23 | 0.11 |
| cbcq25 | 0.42 |
| cbcq27 | 0.45 |
| cbcq28 | 0.17 |
| cbcq37 | 0.36 |
| cbcq41 | 0.40 |
| cbcq43 | 0.27 |
| cbcq47 | 0.44 |
| cbcq49 | 0.43 |
| cbcq50 | 0.36 |
| cbcq51 | 0.38 |
| cbcq55 | **0.52** |
| cbcq56 | 0.49 |
| cbcq66 | **0.60** |
| cbcq71 | 0.40 |
| cbcq72 | **0.55** |
| cbcq74 | 0.45 |
| cbcq75 | **0.62** |
| cbcq82 | 0.39 |
| cbcq83 | 0.41 |
| cbcq86 | 0.43 |
| cbcq87 | 0.38 |
| cbcq90 | 0.40 |
| cbcq91 | 0.47 |
| cbcq94 | 0.28 |
| cbcq96 | 0.30 |
| cbcq97 | 0.31 |
| cbcq101 | 0.33 |
| cbcq102 | **0.51** |
| cbcq103 | 0.49 |

Note: Bolded figures indicate items meeting the cut-off

Only 5 out of 36 items demonstrated factor loadings ≥ 0.5 (14%).

**Table 5**

*Factor loadings for measured indicators of SES*

|  |  |
| --- | --- |
| **Measure** | **Item loading** |
| Maternal education | 0.28 |
| Household income | **0.60** |
| Household asset sum | 0.41 |
| Maternal employment | **0.55** |

Note: Bolded figures indicate items meeting the cut-off

**Table 6**

*Correlation residuals between ASSIST, BDI and IPV*

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Ipvq1 | Ipvq2 | Ipvq3 | Ipvq4 | Ipvq6 | Ipvq7 | Ipvq8 | Ipvq9 | Ipvq10 | Ipvq12 | Ipvq13 | Ipvq14 |
| Bdiq1 | 0.18 | 0.16 | 0.20 | 0.20 | 0.17 | 0.19 | 0.25 | 0.20 | 0.16 | 0.25 | 0.22 | 0.19 |
| Bdiq2 | 0.14 | 0.14 | 0.23 | 0.21 | 0.19 | 0.20 | 0.19 | 0.18 | 0.17 | 0.23 | 0.22 | 0.17 |
| Bdiq3 | 0.16 | 0.14 | 0.23 | 0.19 | 0.16 | 0.15 | 0.18 | 0.15 | 0.15 | 0.26 | 0.24 | 0.19 |
| Bdiq4 | 0.11 | 0.07 | 0.16 | 0.14 | 0.12 | 0.14 | 0.15 | 0.13 | 0.10 | 0.15 | 0.11 | 0.12 |
| Bdiq5 | 0.11 | 0.10 | 0.14 | 0.12 | 0.09 | 0.10 | 0.10 | 0.10 | 0.07 | 0.13 | 0.18 | 0.08 |
| Bdiq6 | 0.18 | 0.18 | 0.25 | 0.19 | 0.16 | 0.18 | 0.21 | 0.22 | 0.11 | 0.22 | 0.29 | 0.16 |
| Bdiq7 | 0.08 | 0.08 | 0.10 | 0.12 | 0.05 | 0.07 | 0.07 | 0.09 | 0.05 | 0.11 | 0.14 | 0.06 |
| Bdiq8 | 0.11 | 0.12 | 0.17 | 0.16 | 0.11 | 0.12 | 0.14 | 0.13 | 0.11 | 0.16 | 0.18 | 0.14 |
| Bdiq9 | 0.12 | 0.15 | 0.19 | 0.21 | 0.14 | 0.15 | 0.14 | 0.20 | 0.11 | 0.12 | 0.22 | 0.13 |
| Bdiq10 | 0.08 | 0.09 | 0.11 | 0.13 | 0.11 | 0.13 | 0.12 | 0.11 | 0.06 | 0.10 | 0.12 | 0.09 |
| Bdiq11 | 0.10 | 0.13 | 0.14 | 0.13 | 0.08 | 0.13 | 0.11 | 0.11 | 0.07 | 0.15 | 0.17 | 0.13 |
| Bdiq12 | 0.16 | 0.14 | 0.16 | 0.18 | 0.11 | 0.14 | 0.15 | 0.15 | 0.11 | 0.17 | 0.18 | 0.12 |
| Bdiq13 | 0.17 | 0.16 | 0.16 | 0.17 | 0.10 | 0.13 | 0.17 | 0.14 | 0.07 | 0.15 | 0.19 | 0.13 |
| Bdiq14 | 0.07 | 0.10 | 0.14 | 0.12 | 0.10 | 0.10 | 0.13 | 0.13 | 0.08 | 0.16 | 0.19 | 0.15 |
| Bdiq15 | 0.17 | 0.13 | 0.16 | 0.15 | 0.04 | 0.11 | 0.10 | 0.08 | 0.01 | 0.11 | 0.14 | 0.08 |
| Bdiq16 | 0.14 | 0.10 | 0.18 | 0.15 | 0.10 | 0.15 | 0.12 | 0.13 | 0.08 | 0.15 | 0.17 | 0.10 |
| Bdiq17 | 0.17 | 0.14 | 0.21 | 0.18 | 0.10 | 0.17 | 0.11 | 0.11 | 0.07 | 0.12 | 0.13 | 0.04 |
| Bdiq18 | 0.10 | 0.10 | 0.12 | 0.12 | 0.05 | 0.13 | 0.03 | 0.09 | 0.01 | 0.08 | 0.15 | 0.09 |
| Bdiq19 | 0.15 | 0.13 | 0.18 | 0.16 | 0.11 | 0.16 | 0.15 | 0.13 | 0.08 | 0.14 | 0.17 | 0.13 |
| Bdiq20 | 0.10 | 0.09 | 0.11 | 0.08 | 0.02 | 0.05 | 0.03 | 0.05 | 0.00 | 0.08 | 0.11 | 0.06 |
| Bdiq21 | 0.10 | 0.10 | 0.12 | 0.16 | 0.06 | 0.14 | 0.09 | 0.10 | 0.05 | 0.14 | 0.16 | 0.10 |
| Aq2a | 0.21 | 0.21 | 0.20 | 0.25 | 0.17 | 0.20 | 0.17 | 0.17 | 0.11 | 0.05 | 0.14 | 0.08 |
| Aq3a | 0.20 | 0.21 | 0.22 | 0.27 | 0.18 | 0.22 | 0.19 | 0.18 | 0.12 | 0.07 | 0.15 | 0.08 |
| Aq4a | 0.22 | 0.21 | 0.15 | 0.24 | 0.17 | 0.19 | 0.19 | 0.16 | 0.16 | 0.09 | 0.14 | 0.13 |
| Aq6a | 0.22 | 0.19 | 0.21 | 0.27 | 0.20 | 0.23 | 0.18 | 0.20 | 0.18 | 0.08 | 0.17 | 0.11 |
| Aq7a | 0.19 | 0.17 | 0.20 | 0.25 | 0.17 | 0.19 | 0.16 | 0.16 | 0.14 | 0.07 | 0.11 | 0.09 |
| Aq2b | 0.25 | 0.24 | 0.20 | 0.23 | 0.21 | 0.24 | 0.21 | 0.22 | 0.20 | 0.08 | 0.13 | 0.07 |
| Aq3b | 0.17 | 0.15 | 0.13 | 0.17 | 0.15 | 0.18 | 0.18 | 0.14 | 0.16 | 0.07 | 0.09 | 0.05 |
| Aq4b | 0.20 | 0.19 | 0.14 | 0.18 | 0.17 | 0.18 | 0.21 | 0.19 | 0.16 | 0.04 | 0.08 | 0.06 |
| Aq5b | 0.16 | 0.16 | 0.11 | 0.14 | 0.10 | 0.14 | 0.15 | 0.11 | 0.10 | 0.02 | 0.03 | 0.02 |
| Aq6b | 0.18 | 0.17 | 0.15 | 0.20 | 0.17 | 0.21 | 0.19 | 0.21 | 0.19 | 0.07 | 0.10 | 0.02 |
| Aq7b | 0.19 | 0.20 | 0.16 | 0.21 | 0.17 | 0.19 | 0.20 | 0.21 | 0.16 | 0.07 | 0.11 | 0.05 |
| *Note: bdiq* prefix = BDI items; *ipvq* prefix = IPV items; *aq\_a* prefix = ASSIST tobacco items; *aq\_b* prefix = ASSIST alcohol items | | | | | | | | | | | | |

The majority of residuals between BDI items and IPV items, in addition to ASSIST and IPV items is >0.10, suggesting poor local fit.

**Table 7**

*Correlation residuals between ASSIST and BDI*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Aq2a | Aq3a | Aq4a | Aq6a | Aq7a | Aq2b | Aq3b | Aq4b | Aq5b | Aq6b | Aq7b |
| Bdiq1 | 0.09 | 0.07 | 0.06 | 0.06 | 0.06 | 0.07 | 0.03 | 0.01 | 0.00 | 0.08 | 0.06 |
| Bdiq2 | 0.07 | 0.07 | 0.09 | 0.05 | 0.07 | 0.08 | 0.10 | 0.10 | 0.08 | 0.14 | 0.13 |
| Bdiq3 | 0.07 | 0.06 | 0.06 | 0.05 | 0.06 | 0.05 | 0.06 | 0.02 | 0.04 | 0.07 | 0.08 |
| Bdiq4 | 0.05 | 0.07 | 0.06 | 0.08 | 0.05 | 0.10 | 0.10 | 0.09 | 0.04 | 0.10 | 0.09 |
| Bdiq5 | 0.09 | 0.08 | 0.10 | 0.09 | 0.05 | 0.15 | 0.11 | 0.09 | 0.07 | 0.11 | 0.12 |
| Bdiq6 | 0.12 | 0.11 | 0.05 | 0.09 | 0.08 | 0.15 | 0.09 | 0.03 | 0.05 | 0.10 | 0.10 |
| Bdiq7 | -0.01 | 0.00 | 0.00 | -0.01 | -0.03 | 0.05 | 0.04 | 0.02 | 0.00 | 0.05 | 0.04 |
| Bdiq8 | 0.04 | 0.05 | 0.05 | 0.05 | -0.02 | 0.08 | 0.05 | 0.05 | 0.02 | 0.10 | 0.06 |
| Bdiq9 | 0.10 | 0.09 | 0.05 | 0.11 | 0.06 | 0.09 | 0.05 | 0.02 | -0.02 | 0.05 | 0.06 |
| Bdiq10 | 0.14 | 0.12 | 0.10 | 0.13 | 0.12 | 0.15 | 0.09 | 0.05 | 0.08 | 0.12 | 0.10 |
| Bdiq11 | 0.07 | 0.09 | 0.07 | 0.09 | 0.07 | 0.10 | 0.11 | 0.07 | 0.07 | 0.11 | 0.12 |
| Bdiq12 | 0.09 | 0.09 | 0.05 | 0.09 | 0.06 | 0.14 | 0.07 | 0.06 | 0.01 | 0.10 | 0.08 |
| Bdiq13 | 0.14 | 0.12 | 0.10 | 0.14 | 0.12 | 0.20 | 0.14 | 0.13 | 0.06 | 0.15 | 0.14 |
| Bdiq14 | 0.07 | 0.08 | 0.00 | 0.06 | 0.05 | 0.09 | 0.09 | 0.06 | 0.04 | 0.09 | 0.07 |
| Bdiq15 | 0.16 | 0.15 | 0.14 | 0.16 | 0.13 | 0.11 | 0.08 | 0.07 | 0.07 | 0.09 | 0.09 |
| Bdiq16 | 0.15 | 0.13 | 0.10 | 0.14 | 0.12 | 0.12 | 0.10 | 0.09 | 0.05 | 0.13 | 0.07 |
| Bdiq17 | 0.22 | 0.20 | 0.13 | 0.17 | 0.16 | 0.16 | 0.10 | 0.08 | 0.08 | 0.10 | 0.08 |
| Bdiq18 | 0.16 | 0.16 | 0.09 | 0.14 | 0.12 | 0.10 | 0.06 | 0.06 | 0.02 | 0.06 | 0.06 |
| Bdiq19 | 0.09 | 0.06 | 0.04 | 0.07 | 0.05 | 0.14 | 0.07 | 0.07 | 0.05 | 0.05 | 0.06 |
| Bdiq20 | 0.16 | 0.14 | 0.08 | 0.13 | 0.12 | 0.06 | 0.03 | 0.03 | 0.02 | 0.07 | 0.02 |
| Bdiq21 | 0.12 | 0.10 | 0.08 | 0.13 | 0.13 | 0.09 | 0.03 | 0.06 | 0.04 | 0.10 | 0.07 |

Whereas items from the BDI and ASSIST demonstrate high residual correlations (>0.10) with respect to IPV items, the majority of residuals between BDI and ASSIST are <0.10, suggesting that removal of IPV factor from the final model will improve local fit.

**APPENDIX B - CROSS ITEM CORRELATIONS AND ITEM REMOVALS TO IMPROVE MODEL FIT**

In order to redress the presence of any further model misspecifications, the CFA was re-run with additional cross-item correlations that were systematically selected using the approach proposed by Saris, Satorra and van der Weld (2009): cross-item correlations were introduced to the model one at a time, after inspecting the effect of each additional cross-item correlation on the measurement model. Where modification indices could not fix additional poorly fit indicators of the included latent factors, items were only considered for exclusion if factor loadings fell ≤ 0.2; this criterion was chosen to ensure conservative selection of items for potential exclusion, given that factor loadings below 0.4are typically viewed as weak (Maskey et al., 2018). Some items demonstrated considerably low factor loadings (< 0.20). These included: items 1 & 2 from the EPDS; item 23 from the IBQ-R-VSF negative emotionality subscale; item 8 from the SECV; and items 9 and 10 of the CBCL externalizing behavior subscale; these were excluded from the final model. To ensure that these exclusions did not alter the underlying latent construct, univariate Pearson correlations were calculated between total-item and reduced-item measured factors. High concordance between original and item-omitted versions of the questionnaires was demonstrated for postpartum depression (EPDS; *r*  = 1.00, *p* <0.001), negative emotionality (IBQ-R-VSF; *r*  = 0.99, *p* <0.001), maternal exposure to community violence (SECV; *r*  = 1.00, *p* <0.001) and the externalizing behavior subscale of the CBCL (*r*  = 0.98, *p* <0.001).

The exclusion of the items identified above had a substantial impact on global incremental fit indices, where their inclusion dropped robust CFI and TLI indices below 0.90; to 0.881 and 0.878 respectively, reinforcing the necessity of their exclusion.

**APPENDIX C**

**Table 8**

*SEM regression coefficients for HIV unexposed infants (N = 765)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Outcome** | **Predictors** | **Coefficient** | **Standard error** | **Confidence interval** | **Z statistic** | ***p*** |
| *Externalizing* |  |  |  |  |  |  |
|  | Coercive parenting | 0.21 | 0.058 | 0.98: 0.32 | 3.70 | **<0.000** |
|  | Negative emotionality | 0.16 | 0.059 | 0.04: 0.28 | 2.70 | **0.007** |
|  | Prenatal substance use | 0.25 | 0.064 | 0.12: 0.37 | 3.84 | **<0.001** |
| *Negative emotionality* |  |  |  |  |  |  |
|  | Prenatal substance use | 0.34 | 0.078 | 0.18: 0.49 | 4.41 | **<0.001** |
| *Coercive parenting* |  |  |  |  |  |  |
|  | Social support | 0.28 | 0.094 | 0.09-0.46 | 2.94 | **0.003** |
|  | Postpartum depression | 0.30 | 0.061 | 0.18:0.42 | 5.00 | **<0.001** |
| *Social support* |  |  |  |  |  |  |
|  | Prenatal depression | -0.26 | 0.074 | -0.41: -0.11 | -3.48 | **<0.001** |
| *Postpartum depression* |  |  |  |  |  |  |
|  | Prenatal depression | 0.52 | 0.081 | 0.37: 0.68 | 6.50 | **<0.001** |
| *Prenatal depression* |  |  |  |  |  |  |
|  | Socioeconomic status | -0.08 | 0.019 | -0.12: -0.05 | -4.50 | **<0.001** |
| *Externalizing* | Mediation effect: Infant negative emotionality on prenatal substance use | 0.05 | 0.025 | 0.01: 0.10 | 2.23 | **0.025** |

**Table 9**

*SEM regression coefficients excluding substance use other than alcohol and tobacco   
(N = 939)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Outcome** | **Predictors** | **Coefficient** | **Standard error** | **Confidence interval** | **Z statistic** | ***p*** |
| *Externalizing* |  |  |  |  |  |  |
|  | Coercive parenting | 0.22 | 0.054 | 0.12: 0.33 | 4.11 | **<0.000** |
|  | Negative emotionality | 0.16 | 0.058 | 0.05: 0.28 | 2.84 | **0.005** |
|  | Prenatal substance use | 0.23 | 0.069 | 0.09: 0.36 | 3.36 | **0.001** |
| *Negative emotionality* |  |  |  |  |  |  |
|  | Prenatal substance use | 0.38 | 0.074 | 0.23: 0.52 | 5.16 | **<0.001** |
| *Coercive parenting* |  |  |  |  |  |  |
|  | Social support | 0.21 | 0.081 | 0.05-0.37 | 2.55 | **0.011** |
|  | Postpartum depression | 0.28 | 0.054 | 0.17:0.38 | 5.14 | **<0.001** |
| *Social support* |  |  |  |  |  |  |
|  | Prenatal depression | -0.19 | 0.064 | -0.32: -0.07 | -3.04 | **0.002** |
| *Postpartum depression* |  |  |  |  |  |  |
|  | Prenatal depression | 0.52 | 0.070 | 0.38: 0.65 | 7.43 | **<0.001** |
| *Prenatal depression* |  |  |  |  |  |  |
|  | Socioeconomic status | -0.17 | 0.036 | -0.24: -0.10 | -4.83 | **<0.001** |
| *Externalizing* | Mediation effect: Infant negative emotionality on prenatal substance use | 0.06 | 0.025 | 0.01: 0.11 | 2.57 | **0.010** |

**APPENDIX D**

**T**he active cohort sample at 42 months was compared to the confirmed withdrawn sample on various relevant demographic, psychological and social risk factors in order to identify any possible sample bias: a series of chi-square and t-tests/Mann-Whitney-Wilcoxon tests were conducted to test for any possible group differences in categorical and continuous factors respectively. No group differences emerged on a majority of relevant factors; including site (*X*2 = 2, *p* = 0.10), maternal age (*t*  = 1, *p* = 0.20), child gender (*X*2 = 0.06, *p* = 0.08), gestational age (*t*  = 2, *p* = 0.10), birth weight (*t*  = 1, *p* = 0.20), prenatal depression (*X*2 = <0.001, *p* = 1.00) prenatal tobacco or alcohol use (*X*2 = 4, *p* = 0.20 & *X*2 = 1, *p* = 0.60 respectively), nor postpartum depression (*X*2 = 1, *p* = 0.20). A significant group difference was seen in SES (*X*2 = 12, *p* = 0.008), with a higher proportion of confirmed withdrawn participants falling within the higher SES group than the proportion of the active participant group seen within the higher SES group. Moreover, confirmed withdrawn participants (mothers) were significantly younger than active participants (*t*=2, *p* = 0.04), differing by 1 year on average.

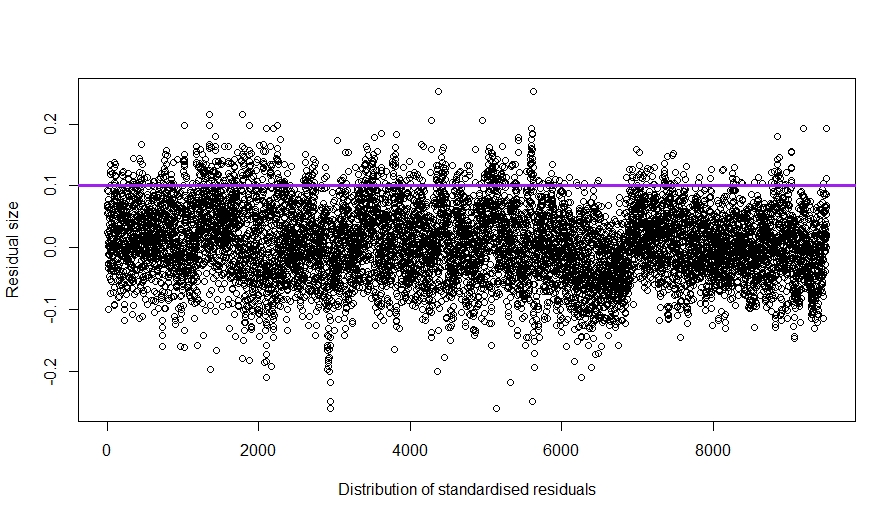
**Table 10**

*Dropout sample characteristics*

|  |  |  |
| --- | --- | --- |
|  | **Dropout participants**  N = 1621  **% / Mean(SD) Median[IQR]** | |
| Variable |
| **Socio-economic status (SES)** |  |  |
| lowest SES | 36 (22%) |  |
| low-mod SES | 32 (20%) |  |
| mod-high SES | 37 (23%) |  |
| high SES | 57 (35%) |  |
| **Site** |  |  |
| Mbekweni | 99 (61%) |  |
| TC Newman | 63 (39%) |  |
| **Maternal age at birth** |  |  |
| mean, (sd); median, [IQR] | 26.1 (5.3) | 24.5 [21.8-30.4] |
| **Child Gender** |  |  |
| Female | 77 (48%) |  |
| Male | 85 (52%) |  |
| **HIV exposure** HIV exposed | 32 (20%) |  |
| HIV unexposed | 130 (80%) |  |
| **Gestational age** |  |  |
| mean, (sd); median, [IQR] | 38.0 (3.7) | 39.0 [37.0-40.0] |
| **Birth weight** |  |  |
| mean, (sd); median, [IQR] | 2961 (725) | 3110 [2690-3460] |
| **Prenatal depression (BDI)** |  |  |
| Probable subthreshold | 100 (81%) |  |
| Probable moderate/severe clinical | 23 (19%) |  |
| **Prenatal tobacco use (ASSIST)** |  |  |
| Low risk | 97 (78%) |  |
| Moderate risk | 20 (16%) |  |
| High risk | 7 (5.6%) |  |
| **Prenatal alcohol use (ASSIST)** |  |  |
| Low risk | 111 (90%) |  |
| Moderate risk | 11 (8.9%) |  |
| High risk | 2 (1.6%) |  |
| **Postpartum depression (EPDS)** |  |  |
| Probable subthreshold | 42 (76%) |  |
| Probable moderate/severe clinical | 13 (24%) |  |

1 Statistics presented. Categorical: n (%). Continuous: mean (sd) & median (IQR) respectively

**APPENDIX E**



***Figure 1:*** Distribution of standardised correlation residuals for cross-item indicators

Only 7.1% of standard residuals fell over the 0.1 cut-off, where the pattern of above threshold residuals was not confined to specific measures, suggesting adequate local fit.