Appendix 1

*Sample Demographic Variables*

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Mother (%) | Father (%) |
| Employment Status | Full time employment | 47.8 | 81.9 |
|  | Part time employment | 22.5 | 8.5 |
|  | Not employed | 29.4 | 7.2 |
|  | Not reported | 0.3 | 2.4 |
| Education Qualification | Primary or less | 2.4 | 6.5 |
|  | Secondary | 28.0 | 22.5 |
|  | Vocational | 6.5 | 5.1 |
|  | Pre-University | 2.7 | 1.7 |
|  | Polytechnic Diploma | 17.4 | 19.5 |
|  | University Bachelor’s Degree | 30.0 | 27.0 |
|  | University Postgraduate Degree | 12.6 | 16.0 |
|  | Not reported | 0.3 | 1.7 |
| Household Income | $2000 or less | 11.6 |
|  | $2001 - $4000 | 15.4 |
|  | $4001 - $6000 | 17.4 |
|  | $6001 - $8000 | 14.0 |
|  | $8001 - $10000 | 11.6 |
|  | $10001 - $15000 | 17.4 |
|  | $15000 - $20000 | 5.1 |
|  | $20000 or more | 7.2 |
|  | Not reported | 0.3 |

Appendix 2

*Power Analysis*

 To determine the required sample sizes for adequate power for our models, we conducted Monte Carlo simulations using M*plus* version 8.0 (Muthén & Muthén, 1988-2017). As illustrated, our models required the participation of both parents (mothers and fathers) and their adolescent child. Given the expected difficulties in obtaining the participation of fathers, we conducted the simulations under the condition of 35% missing data from fathers. All path parameters were set at .15, a value that we believe would constitute a minimal substantive effect.

The results are presented in Table A1 and A2. For both models 1 and 2, a sample size of 500 was required for all path parameters to be detected at power .80. With a sample size of 300, most of the path parameters associated with mothers in Model 2 were detectable at power .80 and above, while those for fathers had power estimates of around .69; indicating less optimal power for the path coefficients for fathers. On the other hand, for Model 1, the estimated power estimates were on average .79 at a sample size of 300; once again, indicating slightly inadequate power.

Taken together, with our sample size of 293, the power associated with the path estimates in Model 1 were on average .79, while that for Model 2 were on average .76. Further Monte Carlo simulations found that a sample size of 500 was required to achieve a power of greater than .80 for all estimates. Despite our best efforts, we were only able to recruit a sample size of 293 given the practical and resource challenges in recruiting families, and fathers in particular. Thus, we acknowledge that our sample had provided inadequate power for the analysis of some paths in our models. Nonetheless, we note that for Model 1, despite the inadequate power, most path coefficients were significant. Future studies should conduct simulations to determine required sample sizes as our obtained power estimates in our study are likely not generalizable due to the differences in effect sizes and degree of missing data.

Table A1

*Power Analyses for Model 1 with Missing Data*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Parameter | Power (*N* = 300) | Power (*N* = 500) |
| Adolescent Reported ICES-M  |  |  |
|  | Mother Reported ICES | .856 | .973 |
|  | Mother Reported DERS | .785 | .944 |
|  | Mother’s Education | .873 | .979 |
| Adolescent Reported ICES-F |  |  |
|  | Father Reported ICES | .706 | .897 |
|  | Father Reported DERS | .639 | .842 |
|  | Father’s Education | .859 | .977 |
| Mother Reported DERS |  |  |
|  | Mother Reported ICES | .862 | .975 |
| Father Reported DERS |  |  |
|  | Father Reported ICES | .704 | .900 |

*Note*. Monte Carlo simulation done based on a sample size of 300 and 500. Missing data pattern set at 35% missing fathers’ data. ICES = Invalidating Childhood Environment Scale; ICES-M = Invalidating Childhood Environment Scale – Maternal scale; ICES-F = Invalidating Childhood Environment Scale – Paternal Scale; DERS = Difficulties in Emotion Regulation Scale.

Table A2

*Power Analyses for Model 2 with Missing Data*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Parameter | Power (*N* = 300) | Power (*N* = 500) |
| Adolescent Reported ICES-M  |  |  |
|  | Mother Reported ICES-M | .837 | .965 |
|  | Mother Reported ICES-F | .832 | .962 |
|  | Mother Reported DERS | .785 | .942 |
|  | Mother’s Education | .869 | .976 |
| Adolescent Reported ICES-F |  |  |
|  | Father Reported ICES-M | .667 | .863 |
|  | Father Reported ICES-F | .663 | .863 |
|  | Father Reported DERS | .633 | .834 |
|  | Father’s Education | .842 | .972 |
| Mother Reported DERS |  |  |
|  | Mother Reported ICES-M | .828 | .963 |
|  | Mother Reported ICES-F | .818 | .959 |
| Father Reported DERS |  |  |
|  | Father Reported ICES-M | .669 | .868 |
|  | Father Reported ICES-F | .669 | .872 |

*Note*. Monte Carlo simulation done based on a sample size of 300 and 500. Missing data pattern set at 35% missing fathers’ data. ICES-M = Invalidating Childhood Environment Scale – Maternal scale; ICES-F = Invalidating Childhood Environment Scale – Paternal Scale; DERS = Difficulties in Emotion Regulation Scale.