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| **Supplemental Table 1:** Bivariate association between the continuous parental psychological factor scores and poor child sleep quality  |
|   | OR (95%CI) | P-value |
| Perceived stress | 1.70 (1.20, 2.42) | 0.003 |
| Self-efficacy | 0.59 (0.43, 0.81) | 0.001 |
| Depressive symptomology  | 1.55 (1.04, 2.31) | 0.031 |

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| **Supplemental Table 2:** The sensitivity analysis of adjusted odds ratio (95%CI) of reported poorer child sleep quality and food security status at household, adult and child level with income with imputation or without income in the adjustment |
|   |   |   | Household | Adult | Child |
|   |   | N | OR (95%CI) | P-value | OR (95%CI) | P-value | OR (95%CI) | P-value |
| **Model 1: Unadjusted associations** | 362 |  |  |  |  |  |  |
|  | Being food insecure (ref = food secure) |  | **1.65 (1.07, 2.55)** | **0.02** | 1.56 (0.99, 2.46) | 0.054 | **2.30 (1.27, 4.14)** | **0.01** |
| **Sensitivity analysis 1: Adjusted associations using income with imputation**  | 353 |  |  |  |  |  |  |
|  | Being food insecure (ref = food secure) |  | 1.36 (0.85, 2.17) | 0.20 | 1.27 (0.78, 2.08) | 0.34 | **2.08 (1.11, 3.87)** | **0.02** |
|  | Number of people (supported by income) |  | 0.88 (0.70, 1.12) | 0.31 | 0.88 (0.69, 1.12) | 0.29 | 0.88 (0.70, 1.12) | 0.31 |
|  | Participation in assistance program (ref = no SNAP/WIC/TANF participation) |  | 0.55 (0.25, 1.23) | 0.15 | 0.55 (0.24, 1.22) | 0.14 | 0.53 (0.24, 1.19) | 0.12 |
|  | Lower yearly household income with imputation (<20,000 USD, ref = >= 20,000 USD) |  | 0.80 (0.51, 1.26) | 0.33 | 0.80 (0.51, 1.25) | 0.33 | 0.79 (0.50, 1.24) | 0.30 |
|  | Household chaos score |  | **1.60 (1.07, 2.39)** | **0.02** | **1.61 (1.08, 2.41)** | **0.02** | **1.62 (1.09, 2.41)** | **0.02** |
|   | Family functioning score |   | 0.64 (0.35, 1.17) | 0.15 | 0.64 (0.35, 1.17) | 0.14 | 0.65 (0.35, 1.19) | 0.16 |
| **Sensitivity analysis 2: Adjusted associations without income** | 353 |  |  |  |  |  |  |
|  | Being food insecure (ref = food secure) |  | 1.36 (0.85, 2.18) | 0.20 | 1.28 (0.78, 2.09) | 0.33 | **2.06 (1.11, 3.85)** | **0.02** |
|  | Number of people (supported by income) |  | 0.90 (0.71, 1.13) | 0.36 | 0.89 (0.70, 1.13) | 0.34 | 0.90 (0.71, 1.14) | 0.36 |
|  | Participation in assistance program (ref = no SNAP/WIC/TANF participation) |  | 0.51 (0.23, 1.11) | 0.09 | 0.50 (0.23, 1.10) | 0.09 | 0.48 (0.22, 1.06) | 0.07 |
|  | Household chaos score |  | **1.61 (1.08, 2.40)** | **0.02** | **1.62 (1.09, 2.42)** | **0.02** | **1.63 (1.10, 2.42)** | **0.02** |
|   | Family functioning score |   | 0.65 (0.36, 1.20) | 0.17 | 0.65 (0.36, 1.19) | 0.16 | 0.66 (0.36, 1.22) | 0.19 |

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| **Supplemental Table 3:** Test of mediation effect of parental psychological factors in the association between child food insecurity and poor child sleep quality1  |
| Parental psychological score | Adjusted  (95%CI) between child FI and mean parental psychological score | P-value | Adjusted OR (95%CI) per one unit increase in parental psychological score and poorer sleep quality | P-value | Adjusted OR (95%CI) between child FI and poorer sleep quality, additionally controlling for parental psychological score | P-value | % of effect mediated | Indirect effect/ direct effect | Significance of mediation effect (Sobel test P-value) |
| Figure 1 symbol | a |  | b |  | c’ |  | $$\frac{a\*b}{a\*b+c^{'}}$$ | $$\frac{a\*b}{c^{'}}$$ |  |
| **Sensitivity analysis adjusting for income with imputation1**  |
| Perceived stress | **0.23 (0.09, 0.37)** | **0.001** | 1.10 (0.71, 1.71) | 0.66 | **2.00 (1.06, 3.75)** | **0.03** | 1.1% | 0.01 | 0.67 |
| Self-efficacy | -0.07 (-0.25, 0.11) | 0.44 | **0.70 (0.49, 0.99)** | **0.05** | **2.03 (1.09, 3.80)** | **0.03** | 1.3% | 0.01 | 0.76 |
| Depressive symptomology | **0.17 (0.03, 0.30)** | **0.02** | 1.01 (0.63, 1.60) | 0.97 | **2.07 (1.11, 3.88)** | **0.02** | 0.1% | 0.00 | 0.51 |
| **Sensitivity analysis with no adjustment for income2**  |
| Perceived stress | **0.23 (0.09, 0.38)** | **0.001** | 1.08 (0.70, 1.68) | 0.71 | **1.99 (1.06, 3.75)** | **0.03** | 0.9% | 0.01 | 0.64 |
| Self-efficacy | -0.07 (-0.25, 0.11) | 0.44 | **0.70 (0.50, 1.00)** | **0.05** | **2.01 (1.08, 3.76)** | **0.03** | 1.3% | 0.01 | 0.76 |
| Depressive symptomology | **0.17 (0.03, 0.30)** | **0.01** | 0.99 (0.62, 1.57) | 0.96 | **2.07 (1.10, 3.87)** | **0.02** | -0.1% | 0.00 | 0.48 |
| 1. All models were adjusted for number of people supported by household income, participation in assistance program, household income level with imputation, household chaos score and family functioning score.  |
| 2. All models were adjusted for number of people supported by household income, participation in assistance program, household chaos score and family functioning score.  |
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