**Supplementary Online Content for** *Risk and Resilience in Syrian Refugee Children: A Multisystem Analysis*

**Supplementary Tables**

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| Table S1. Sample description for the original and filtered cohorts | | |
|  | Complete cohort | Filtered cohort |
| N | 1591 | 1359 |
| Male, N(%) | 755 (47.45) | 642 (47.24) |
| Age, Mean(SD) | 11.37 (2.42) | 11.3 (2.39) |
| Pubertal stage N(%)a |  |  |
| Pre-Mid Puberty | 1311 (82.4) | 1134 (83.44) |
| Mid-Post Puberty | 277 (17.41) | 224 (16.48) |
| Nationality, N(%) |  |  |
| Syrian | 1565 (98.37) | 1339 (98.53) |
| Lebanese | 13 (0.82) | 9 (0.66) |
| Palestinian | 11 (0.69) | 9 (0.66) |
| Other | 2 (0.001) | 2 (0.001) |
| Time since leaving Syria, N(%)b |  |  |
| 0-12 months ago | 295 (18.54) | 252 (18.54) |
| 12-24 months ago | 227 (14.27) | 199 (14.64) |
| 24-36 months ago | 221 (13.89) | 193 (14.2) |
| 36-48 months ago | 596 (37.46) | 488 (35.91) |
| >48 months ago | 246 (15.46) | 221 (16.26) |
| Reported Smoker, N(%) c | 20 (1.26) | 16 (1.18) |
| Recent illness, N(%) | 766 (48.15) | 655 (48.2) |
| Endocrinological medication or illness, N(%) | 11 (0.69) | 11 (0.81) |
| Hair washing frequency, N(%)d |  |  |
| Once per week | 124 (7.79) | 93 (6.84) |
| 2-4x per week | 969 (60.91) | 830 (61.07) |
| Daily or 5-6x per week | 496 (31.18) | 436 (32.08) |
| Hair modification, N(%)e | 433 (27.22) | 375 (27.59) |
| Hair colour, N(%) |  |  |
| Black | 1053 (66.18) | 899 (66.15) |
| Brown | 512 (32.18) | 443 (32.6) |
| Other | 19 (1.19) | 17 (1.25) |
| War Exposure, Median (IQR)f | 9 (5-14) | 9 (5-14) |
| Depression symptoms, Median (IQR)g | 7 (2-13) | 7 (2-13) |
| Depression, N(%) | 613 (38.53) | 527 (38.78) |
| PTSD symptoms, Median (IQR)h | 14 (6-24) | 14 (6-24.4375) |
| PTSD, N(%) | 886 (55.69) | 756 (55.63) |
| Externalising symptoms, Median (IQR)i | 10 (7-15) | 11 (7-15) |
| Externalising, N(%) | 680 (42.74) | 598 (44) |
| Resilient, N(%)j | 312 (19.61) | 262 (19.28) |
| Cortisol (ng/g), Median (IQR) | 74.04 (32.49-177.54) | 76.32 (33.66-182.84) |
| a Missing 3 (0.19%) pre-filter, 1 (0.07%) post-filter. b Missing 6 (0.38%) pre-filter, 6 (0.44%) post-filter. c Missing 2 (0.13%). d Missing 2 (0.13%). e Missing 2 (0.13%). f Missing 2 (0.13%). g Missing 2 (0.13%). h Missing 5 (0.31%). i Missing 3 (0.19%). j Missing 8 (0.5%). | | |

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| Table S2. Logistic regression results examining the relationship between war exposure and resilience | | | | | | |
|  | Resiliencea | | | Internalising resilienceb | | |
|  | OR | 95% CI | p-value | OR | 95% CI | p-value |
| War exposure | 0.92 | 0.90, 0.95 | 3 x10-9 | 0.93 | 0.91, 0.95 | 1x10-11 |
| Genderc | 1.24 | 0.94, 1.64 | 0.124 | 0.94 | 0.74, 1.18 | 0.589 |
| Age | 0.95 | 0.89, 1.00 | 0.064 | 0.87 | 0.83, 0.92 | 9x10-8 |
| a Taking depression, externalising and PTSD symptoms into account. b Taking depression and PTSD symptoms into account. c Reference category: male | | | | | | |

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| Table S3. Follow-up logistic regression results examining the relationship between cortisol and resilience | | | | | | | | | |
|  | Internalising resilience | | | Late-mid puberty sampleg | | | Matched sample | | |
|  | OR | 95% CI | p-value | OR | 95% CI | p-value | OR | 95% CI | p-value |
| Log-cortisol | 0.62 | 0.46, 0.85 | 0.002 | 0.37 | 0.11, 1.25 | 0.109 | 0.51 | 0.32, 0.83 | 0.007 |
| Gendera | 1.25 | 0.95, 1.65 | 0.111 | 3.91 | 1.12, 13.6 | 0.032 | 1.27 | 0.81, 2.00 | 0.300 |
| Age | 0.90 | 0.84, 0.96 | 0.002 | 0.97 | 0.72, 1.3 | 0.832 | 1.11 | 0.98, 1.24 | 0.090 |
| Smoking statusb | 0.53 | 0.12, 2.47 | 0.423 | - | - | - | 0.00 | 0, +Inf | 0.980 |
| Hair alterationsc | 0.74 | 0.55, 0.99 | 0.043 | 0.29 | 0.09, 0.89 | 0.030 | 0.94 | 0.60, 1.49 | 0.803 |
| Hair washing frequencyd |  |  |  |  |  |  |  |  |  |
| 2-4 times per week | 1.14 | 0.72, 1.82 | 0.579 | 1.80 | 0.17, 19.4 | 0.626 | 1.45 | 0.68, 3.10 | 0.338 |
| Daily or 5-6 times per week | 0.80 | 0.49, 1.31 | 0.378 | 0.71 | 0.06, 8.71 | 0.787 | 0.86 | 0.38, 1.93 | 0.710 |
| Pubertal stagee | 0.65 | 0.42, 1.01 | 0.055 | - | - | - | 0.71 | 0.35, 1.44 | 0.336 |
| Collection monthf |  |  |  |  |  |  |  |  |  |
| November | 1.20 | 0.52, 2.76 | 0.666 | 10.59 | 0.75, 150.5 | 0.081 | 2.42 | 0.62, 9.40 | 0.203 |
| December | 1.37 | 0.46, 4.08 | 0.576 | 3.81 | 0.07, 200.4 | 0.509 | 3.07 | 0.52, 18.06 | 0.215 |
| January | 0.93 | 0.3, 2.87 | 0.901 | 4.01 | 0.08, 212.58 | 0.493 | 0.63 | 0.1, 3.83 | 0.612 |
| Reference levels: aMale, bNo, cNo, dOnce per week, ePre-mid puberty, fOctober. g Smoking status and pubertal stage were not included within this model due to lack of variance. | | | | | | | | | |

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| Table S4. Follow-up logistic regression results examining the relationship between polygenic scores and resilience | | | | | | | | | | | | |
|  | Internalising resilience | | | Late-mid puberty sample | | | Matched sample | | | Exc. Genetic outliers | | |
|  | OR | 95% CI | p | OR | 95% CI | p | OR | 95% CI | p | OR | 95% CI | p |
| PGS(Depression) | 0.67 | 0.24, 1.88 | 0.447 | 0.01 | 0.00, 0.31 | 0.010 | 0.88 | 0.19, 4.13 | 0.872 | 1.11 | 0.24, 5.06 | 0.891 |
| Gendera | 0.97 | 0.77, 1.22 | 0.806 | 1.30 | 0.48, 3.56 | 0.604 | 0.97 | 0.67, 1.4 | 0.856 | 1.23 | 0.87, 1.76 | 0.245 |
| Age | 0.84 | 0.80, 0.89 | 6x10-11 | 0.87 | 0.68, 1.12 | 0.294 | 1.01 | 0.93, 1.1 | 0.802 | 0.91 | 0.85, 0.99 | 0.021 |
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| PGS(Ever depressed) | 0.25 | 0.05, 1.24 | 0.090 | 2.34 | 0.01, 843.7 | 0.777 | 0.06 | 0, 0.86 | 0.038 | 1.14 | 0.11, 12.38 | 0.914 |
| Gendera | 0.97 | 0.77, 1.23 | 0.825 | 1.38 | 0.52, 3.68 | 0.519 | 0.99 | 0.68, 1.43 | 0.939 | 1.24 | 0.87, 1.76 | 0.244 |
| Age | 0.84 | 0.8, 0.89 | 8x10-11 | 0.88 | 0.69, 1.12 | 0.292 | 1.01 | 0.93, 1.1 | 0.750 | 0.91 | 0.85, 0.99 | 0.022 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| PGS(Recent depression) | 0.07 | 0.00, 3.25 | 0.174 | 0.00 | 0.00, 0.07 | 0.019 | 0.32 | 0.00, 128.1 | 0.709 | 0.07 | 0.00, 24.1 | 0.366 |
| Gendera | 0.97 | 0.77, 1.22 | 0.782 | 1.19 | 0.44, 3.24 | 0.728 | 0.96 | 0.67, 1.39 | 0.840 | 1.24 | 0.87, 1.77 | 0.231 |
| Age | 0.84 | 0.80, 0.89 | 6x10-11 | 0.87 | 0.68, 1.10 | 0.247 | 1.01 | 0.93, 1.10 | 0.799 | 0.91 | 0.85, 0.99 | 0.023 |
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| PGS(Recent foreboding) | 0.26 | 0.01, 9.17 | 0.460 | 0.00 | 0.00, 2.88 | 0.075 | 0.02 | 0, 5.29 | 0.175 | 0.02 | 0.00, 6.15 | 0.188 |
| Gendera | 0.97 | 0.77, 1.22 | 0.803 | 1.37 | 0.51, 3.67 | 0.537 | 0.97 | 0.67, 1.4 | 0.878 | 1.24 | 0.87, 1.76 | 0.243 |
| Age | 0.84 | 0.80, 0.89 | 5x10-11 | 0.88 | 0.69, 1.12 | 0.311 | 1.01 | 0.93, 1.1 | 0.779 | 0.91 | 0.84, 0.98 | 0.019 |
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| PGS(Neuroticism) | 0.95 | 0.76, 1.2 | 0.676 | 0.57 | 0.23, 1.41 | 0.225 | 0.70 | 0.48, 1.02 | 0.064 | 0.93 | 0.66, 1.31 | 0.689 |
| Gendera | 0.97 | 0.77, 1.22 | 0.802 | 1.43 | 0.53, 3.85 | 0.475 | 0.98 | 0.68, 1.42 | 0.917 | 1.24 | 0.87, 1.77 | 0.235 |
| Age | 0.84 | 0.80, 0.89 | 5x10-11 | 0.87 | 0.69, 1.11 | 0.265 | 1.01 | 0.93, 1.1 | 0.841 | 0.91 | 0.85, 0.99 | 0.021 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| PGS(Depression after trauma) | 1.03 | 0, 35987 | 0.996 | 1183.13 | 0, +Inf | 0.686 | 0.11 | 0, 556363 | 0.781 | 86.43 | 0, 599987417 | 0.579 |
| Gendera | 0.97 | 0.77, 1.22 | 0.785 | 1.37 | 0.51, 3.66 | 0.529 | 0.96 | 0.67, 1.39 | 0.840 | 1.25 | 0.87, 1.78 | 0.227 |
| Age | 0.84 | 0.80, 0.89 | 5x10-11 | 0.88 | 0.69, 1.12 | 0.294 | 1.01 | 0.93, 1.1 | 0.798 | 0.91 | 0.85, 0.99 | 0.023 |
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| PGS(Thoughts of self-harm | 2.71 | 0.01, 508.1 | 0.709 | 0.00 | 0, 700979 | 0.563 | 65.53 | 0.02, 201159 | 0.307 | 15522 | 4.40, 54713255 | 0.021 |
| Gendera | 0.97 | 0.77, 1.22 | 0.797 | 1.35 | 0.5, 3.61 | 0.552 | 0.97 | 0.67, 1.41 | 0.891 | 1.27 | 0.89, 1.81 | 0.189 |
| Age | 0.84 | 0.8, 0.89 | 5x10-11 | 0.88 | 0.69, 1.11 | 0.282 | 1.01 | 0.93, 1.1 | 0.816 | 0.91 | 0.84, 0.98 | 0.017 |
| Reference levels: aMale | | | | | | | | | | | | |

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| Table S5. Follow-up logistic regression results examining the moderating relationship of cortisol and war exposure on resilience | | | | | | |
|  | Internalising resilience | | | Late-mid puberty sampleg | | |
|  | OR | 95% CI | p-value | OR | 95% CI | p-value |
| Log-cortisol | 0.86 | 0.51, 1.46 | 0.587 | 0.11 | 0.01, 1.22 | 0.072 |
| War exposure | 0.99 | 0.9, 1.09 | 0.797 | 0.73 | 0.43, 1.24 | 0.246 |
| Log-cortisol x War exposure | 0.97 | 0.92, 1.01 | 0.165 | 1.06 | 0.83, 1.34 | 0.660 |
| Gendera | 1.23 | 0.92, 1.63 | 0.159 | 3.86 | 0.99, 15.08 | 0.052 |
| Age | 0.92 | 0.86, 0.99 | 0.017 | 1.01 | 0.74, 1.39 | 0.940 |
| Smoking statusb | 0.76 | 0.16, 3.58 | 0.728 | - | - | - |
| Hair alterationsc | 0.73 | 0.55, 0.99 | 0.042 | 0.26 | 0.08, 0.83 | 0.023 |
| Hair washing frequencyd |  |  |  |  |  |  |
| 2-4 times per week | 1.12 | 0.7, 1.81 | 0.631 | 1.04 | 0.08, 12.9 | 0.977 |
| Daily or 5-6 times per week | 0.82 | 0.49, 1.36 | 0.438 | 0.35 | 0.02, 5.13 | 0.444 |
| Pubertal stagee | 0.61 | 0.39, 0.97 | 0.035 | - | - | - |
| Collection monthf |  |  |  |  |  |  |
| November | 1.06 | 0.46, 2.48 | 0.890 | 15.57 | 0.84, 288.8 | 0.065 |
| December | 1.15 | 0.38, 3.5 | 0.801 | 9.59 | 0.11, 857.07 | 0.324 |
| January | 0.67 | 0.21, 2.11 | 0.498 | 4.24 | 0.05, 379.37 | 0.529 |
| Reference levels: aMale, bNo, cNo, dOnce per week, ePre-mid puberty, fOctober. g Smoking status and pubertal stage were not included within this model due to lack of variance. | | | | | | |

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| Table S6. Regression results examining the moderating relationship of polygenic scores and war exposure on resilience | | | |
|  | OR | 95% CI | p-value |
| PGS(Depression) | 3.02 | 0.33, 27.33 | 0.326 |
| War exposure | 0.92 | 0.89, 0.94 | 1x10-8 |
| PGS x War exposure | 0.86 | 0.68, 1.09 | 0.214 |
| Gendera | 1.22 | 0.92, 1.61 | 0.164 |
| Age | 0.94 | 0.88, 1 | 0.040 |
|  |  |  |  |
| PGS(Ever depressed) | 0.10 | 0, 3.54 | 0.206 |
| War exposure | 0.93 | 0.9, 0.95 | 5x10-7 |
| PGS x War exposure | 1.05 | 0.73, 1.51 | 0.801 |
| Gendera | 1.24 | 0.94, 1.64 | 0.135 |
| Age | 0.94 | 0.89, 1 | 0.048 |
|  |  |  |  |
| PGS(Recent depression) | 0.01 | 0, 40.27 | 0.265 |
| War exposure | 0.91 | 0.86, 0.95 | 0.0001 |
| PGS x War exposure | 1.46 | 0.59, 3.59 | 0.410 |
| Gendera | 1.22 | 0.92, 1.61 | 0.163 |
| Age | 0.94 | 0.88, 1 | 0.042 |
|  |  |  |  |
| PGS(Recent foreboding) | 0.17 | 0, 365.24 | 0.648 |
| War exposure | 0.92 | 0.89, 0.95 | 5x10-9 |
| PGS x War exposure | 0.69 | 0.3, 1.56 | 0.368 |
| Gendera | 1.24 | 0.93, 1.64 | 0.138 |
| Age | 0.94 | 0.88, 1 | 0.039 |
|  |  |  |  |
| PGS(Neuroticism) | 1.00 | 0.61, 1.65 | 0.998 |
| War exposure | 0.93 | 0.9, 0.97 | 0.0003 |
| PGS x War exposure | 0.98 | 0.94, 1.04 | 0.144 |
| Gendera | 1.23 | 0.93, 1.63 | 0.039 |
| Age | 0.94 | 0.88, 1 | 0.558 |
|  |  |  |  |
| PGS(Depression after trauma) | 4853726 | 0.00, +Inf | 0.195 |
| War exposure | 0.95 | 0.90, 0.99 | 0.024 |
| PGS x War exposure | 0.24 | 0.02, 2.72 | 0.249 |
| Gendera | 1.22 | 0.92, 1.62 | 0.158 |
| Age | 0.94 | 0.89, 1.00 | 0.044 |
|  |  |  |  |
| PGS(Thought of self-harm) | 3141497 | 26.6, 370578604895 | 0.012 |
| War exposure | 0.94 | 0.91, 0.97 | 0.0001 |
| PGS x War exposure | 0.33 | 0.1, 1.13 | 0.077 |
| Gendera | 1.22 | 0.92, 1.61 | 0.168 |
| Age | 0.94 | 0.88, 0.99 | 0.031 |
| Reference levels: aMale | | | |