Environmental Stress Check-List (ESCL)

**Name**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date of birth**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Gender**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Examination date**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Note**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| **DSM V V-code**  **(ICD-10 Z-code)** | **Environmental stressful condition and/or problems** | **Score**  **(1/0)\*** |
| V61.8 (Z62.891) | Sibling Relational problem |  |
| V61.8 (Z62.29) | Upbringing away from parents |  |
| V61.8 (Z63.8) | High expressed emotion level within family |  |
| V61.20 (Z62.820) | Parent-child relational problem |  |
| V61.29 (Z62.898) | Child affected by parental relationship distress |  |
| V61.03 (Z63.5) | Disruption of family by separation or divorce |  |
| (Z63.2) | Inadequate family support |  |
| V61.21 (Z69.010) | Encounter for mental health services for victim of parental child physical abuse |  |
| V61.21 (Z69.020) | Encounter for mental health services for victim of non-parental child physical abuse |  |
| V61.21 (Z69.010) | Encounter for mental health services for victim of parental child sexual abuse |  |
| V61.21 (Z69.020) | Encounter for mental health services for victim of non-parental child sexual abuse |  |
| V61.21 (Z69.010) | Encounter for mental health services for victim of parental child neglect |  |
| V61.21 (Z69.020) | Encounter for mental health services for victim of non-parental child neglect |  |
| V61.21 (Z69.010) | Encounter for mental health services for victim of parental child psychological abuse |  |
| V61.21 (Z69.020) | Encounter for mental health services for victim of non-parental child psychological abuse |  |
| V62.3 (Z55.9) | Academic or educational problem (Underachievement in school) |  |
| V62.3 (Z55.9) | Academic or educational problem (School-Family conflicts) |  |
| V60.1 (Z59.1) | Inadequate Housing |  |
| V60.2 (Z59.6) | Low income |  |
| V62.4 (Z60.3) | Acculturation difficulty |  |
| V62.4 (Z60.4) | Social exclusion or rejection |  |
|  | Social Services Intervention |  |
|  | Major Psychiatric Diagnosis within the family |  |
|  | Substance abuse within the family |  |

**TOTAL ESCL Score (Sum of single scores)**

\* Score 1 if the condition/problem: [1] impacts the diagnosis, course of illness, prognosis, and treatment of a mental disorder AND/OR [2] is part of the focus of treatment AND/OR [3] explains the need for treatment or evaluation AND/OR [4] provides information about circumstances that may impact the care plan.

**Supplementary Table S1. Environmental Stress Check List.**

|  |  |  |
| --- | --- | --- |
|  | BIF group | TD group |
| V60.1 (Z59.1) - Inadequate Housing | 4 | - |
| V60.2 (Z59.6) - Low income | 6 | - |
| V61.03 (Z63.5) - Disruption of family by separation or divorce | 10 | 1 |
| V61.20 (Z62.820) - Parent-child relational problem | 6 | - |
| V61.21 (Z69.010) Encounter for mental health services for victim of parental child physical abuse | - | - |
| V61.21 (Z69.020) - Encounter for mental health services for victim of non-parental child physical abuse | - | - |
| V61.21 (Z69.010) - Encounter for mental health services for victim of parental child sexual abuse | - | - |
| V61.21 (Z69.020) - Encounter for mental health services for victim of non-parental child sexual abuse | - | - |
| V61.21 (Z69.010) Encounter for mental health services for victim of parental child neglect | 4 | - |
| V61.21 (Z69.020) - Encounter for mental health services for victim of non-parental child neglect | - | - |
| V61.21 (Z69.010) - Encounter for mental health services for victim of parental child psychological abuse | 1 | - |
| V61.21 (Z69.020) - Encounter for mental health services for victim of non-parental child psychological abuse | - | - |
| V61.29 (Z62.898) - Child affected by parental relationship distress | 6 | - |
| 1.V61.8 (*Z*62*.*891) - Sibling Relational problem | 0 | - |
| V61.8 (Z62.29) - Upbringing away from parents | 3 | - |
| V61.8 (Z63.8) - High expressed emotion level within family | 5 | 3 |
| V62.3 (Z55.9) - Academic or educational problem (Underachievement in school) | 29 | - |
| V62.3 (Z55.9) - Academic or educational problem (School-Family conflicts) | 10 | - |
| V62.4 (Z60.3) - Acculturation difficulty | 3 | - |
| V62.4 (Z60.4) - Social exclusion or rejection | 1 | - |
| (Z63.2) - Inadequate family support | 5 | - |
| Social Services Intervention | 5 | - |
| Major Psychiatric Diagnosis within the family | 2 | - |
| Substance abuse within the family | 2 | - |

**Supplementary Table S2 - Environmental Stress Scoring.** Prevalence of Environmental Stress factors in the group of children with Borderline Intellectual Functioning (BIF) and with Typical Development (TD).

|  |  |
| --- | --- |
| Sub-Network Edges (n=67) and t-values |  |
| |  |  |  | | --- | --- | --- | | L Anterior Transverse Collateral S | L Subparietal S | 3.1 | | R Subcallosal G | R Lingual part of the medial occipito-temporal G | 3.11 | | L Cuneus | R Occipital Pole | 3.11 | | L Subcallosal G | R Middle Occipital and Lunatus S | 3.12 | | L Superior Temporal S | R Accumbens | 3.12 | | L Superior Occipital G | R vPCC G | 3.13 | | L Occipital Pole | R Temporal Pole | 3.13 | | R vPCC G | R Calcarine S | 3.14 | | L Accumbens | R Middle Occipital and Lunatus S | 3.14 | | L Fusiform G | R Occipital Pole | 3.14 | | L Middle Occipital G | R Amygdala | 3.14 | | L Superior Temporal S | R Transverse Frontopolar G and S | 3.15 | | L Collateral and Lingual S | R Subcallosal G | 3.15 | | L Subcallosal G | R Collateral and Lingual S | 3.16 | | L ACC G and S | L Anterior Transverse Collateral S | 3.17 | | L Suborbital S | L Anterior Transverse Collateral S | 3.19 | | L Putamen | R Middle Occipital and Lunatus S | 3.19 | | R Middle Occipital G | R Amygdala | 3.19 | | L Lingual part of the medial occipito-temporal G | R Occipital Pole | 3.2 | | L pMCC G and S | L Intraparietal and tansverse parietal S | 3.23 | | R vPCC G | R Superior occipital and Transverse Occipital S | 3.23 | | L Long Insular G and central S of the Insula | L pMCC G and S | 3.24 | | L Superior Occipital G | R Occipital Pole | 3.24 | | R Calcarine S | R Lingual part of the medial occipito-temporal G | 3.29 | | L Inferior Segment of the Circular S of the Insula | R Accumbens | 3.31 | | L Collateral and Lingual S | R Occipital Pole | 3.32 | | L Hippocampus | R Subcallosal G | 3.33 | | L Anterior Transverse Collateral S | R Planum polare of the Superior Temporal G | 3.33 | | L Occipital Pole | R vPCC G | 3.38 | | L Middle Occipital G | R Pallidum | 3.38 | | R Subcallosal G | R Middle Occipital G | 3.4 | | L Middle Occipital G | R Middle Occipital and Lunatus S | 3.42 | | L Anterior Transverse Collateral S | L Parahippocampal part of the medial occipito-temporal G | 3.43 | | L vPCC G | L Occipital Pole | 3.43 | | R Subcallosal G | R Posterior Transverse Collateral S | 3.48 | | L Suborbital S | R Accumbens | 3.51 | | L ACC G and S | R Intraparietal and tansverse parietal S | 3.52 | | L Long Insular G and central S of the Insula | L Anterior Transverse Collateral S | 3.59 | | L Middle Frontal G | L ACC G and S | 3.6 | | L Middle Occipital G | R Middle Occipital G | 3.6 | | L Lingual part of the medial occipito-temporal G | R Pericallosal S | 3.61 | | R Planum polare of the Superior Temporal G | R Middle Occipital G | 3.65 | | L ACC G and S | R Collateral and Lingual S | 3.66 | | R vPCC G | R Superior Occipital G | 3.68 | | L ACC G and S | R Hippocampus | 3.68 | | R Subcallosal G | R Middle Occipital and Lunatus S | 3.75 | | L Pericallosal S | L Calcarine S | 3.76 | | R Subcallosal G | R Occipital Pole | 3.76 | | L Medial Orbital (Olfactory) S | L Anterior Transverse Collateral S | 3.82 | | L Medial Orbital (Olfactory) S | R Middle Occipital and Lunatus S | 3.85 | | L Precuneus | L Accumbens | 3.86 | | L vPCC G | R Occipital Pole | 4.06 | | L Middle Occipital and Lunatus S | R Occipital Pole | 4.09 | | L Anterior Transverse Collateral S | L Putamen | 4.12 | | L vPCC G | L Lingual part of the medial occipito-temporal G | 4.21 | | L Orbital (H Shaped) S | L Anterior Transverse Collateral S | 4.3 | | L Short Insular G | L Anterior Transverse Collateral S | 4.31 | | L vPCC G | L Calcarine S | 4.32 | | L Pericallosal S | R Occipital Pole | 4.38 | | L Middle Occipital G | R Occipital Pole | 4.43 | | L Pericallosal S | L Occipital Pole | 4.49 | | L Orbital G | L Anterior Transverse Collateral S | 4.7 | | L Calcarine S | R Occipital Pole | 4.7 | | L Calcarine S | R Pericallosal S | 4.81 | | L Occipital Pole | R Occipital Pole | 4.81 | | L Occipital Pole | R Pericallosal S | 6.07 | | R Pericallosal S | R Occipital Pole | 6.3 | | |

**Supplementary Table S3**. **Edges composing the network of statistical differences**. The sub-network presents the following characteristic: number of nodes=51; number of edges=67; p-value=0.045. L=left hemisphere; R=right hemisphere; S=Sulcus/i; G=Gyrus/i; ACC=Anterior Cingulate Cortex; pMCC=Middle-posterior Cingulate Cortex; vPCC=Posterior-ventral part of the Cingulate Cortex. The parcels labeling is the one reported in (1).

**References**

1.Destrieux C, Fischl B, Dale A, Halgren E (2010): Automatic parcellation of human cortical gyri and sulci using standard anatomical nomenclature. *Neuroimage* 53:1-15.