Mental Health of Forcibly Displaced People from Ukraine in The Netherlands: Risk and Protective Factors (NADIYA)

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Background. Over 6 million Ukrainians are forcibly displaced in Europe since Russia's full-scale military invasion of Ukraine in 2022. Forcibly displaced people (FDP) have a high risk for developing mental health disorders, particularly symptoms of posttraumatic stress, depression, anxiety, and grief. Exposure to other stressors may further aggravate their mental health. Research on Ukrainian FDPs mental health is urgently needed.

Objective. To assess the mental health responses of Ukrainian FDPs following war exposure and related adversities (e.g. forced family separation, post-migration stress), by identifying subgroups presenting various combinations of mental health burden and well-being, and to investigate associated risk- and protective factors.

Method.

Design: Cross-sectional online survey study

Participants: Adult Ukrainian FDPs residing in the Netherlands since February 24th 2022

Survey: Self-report measures in Ukrainian and Russian language

Demographics, PHQ-9, GAD-7, PCL5-8, TGI-SR+ (16 item), SaP, EQ-5D-5L, LEC (adapted), PMLD, SSL-12, RES, Service Use, BPQ, PROMIS

Latent Class Analysis (LCA); Used to identify and describe subgroups of individuals presenting with similar profiles of health burden, accounting for the known heterogeneity and comorbidity of mental health problems among FDPs. Outcome variables include total scores of PHQ-9, GAD-7, PCL5-8, TGI-SR+, total count of SaP (somatic symptoms) and single estimate of current general health (EQ-5D-5L).

Multinominal Regression Analysis: To investigate how well various known risk- and protective factors predict membership to identified health burden profile (e.g. classes of the LCA estimated model).

Preliminary results.

- Sample: **N = 398**, 86% female, mean age = 38,9 (SD = 11,1), 72% completed a university degree and 56% has children under the age of 18. Majority arrived in the Netherlands within the first months after the full-scale invasion and they came from across Ukraine.

- We fitted models up to 7 classes and evaluated them based on different fit indices and class sample size (i.e. stability) (Table 1).
- We identified **6 health burden profiles**: **Low**, **Mild/Moderate**, **Moderate -/+ grief**, and **High -/+ Grief** (Figure 1).

- Despite some notable differences on demographic variables between the classes (Table 2), only two demographic factors predicted class membership; **age** and **being female** (Figure 2).
- **Total count of exposure to PTEs**, **post-migration stress**, **resilience** and **social support** also predicted the classes (Figure 2).

Table 1. Fit indices latent class models (N = 398).

Classes	Log-Likelihood	AIC	BIC	SABIC	Entropy R²	BLRt p-value	% of n smallest class
1	-8588,04	17200,09	17247,93	17209,85	1		
2	-8207,3	16452,6	16528,34	16468,05	0,86	< 0,01	0,44
3	-8125,12	16302,25	16405,9	16323,4	0,88	< 0,01	0,22
4	-8020,73	16107,46	16239,02	16134,31	0,85	< 0,01	0,1
5	-7929,08	15938,15	16097,61	15970,69	0,88	< 0,01	0,1
6	-7905,13	15904,26	16091,62	15942,49	0,84	< 0,01	0,1
7	-7886,02	15880,04	16095,3	15923,96	0,85	< 0,01	0,02

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; SABIC = Sample-size Adjusted Bayesian Information Criterion; BLRt = Bootstrap Likelihood Ratio test.

Latent classes

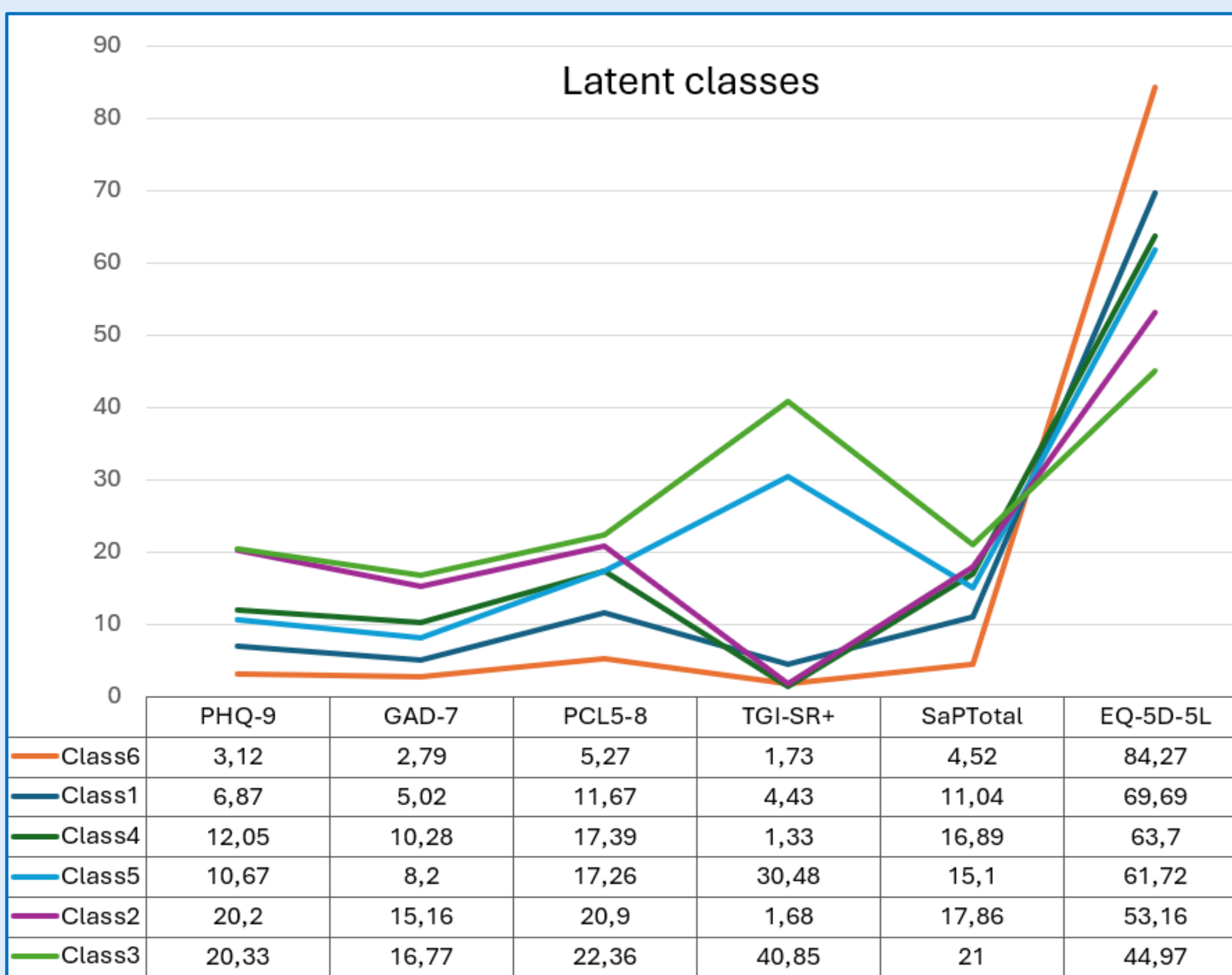|	PHQ-9	GAD-7	PCL5-8	TGI-SR+	SaPTotal	EQ-5D-5L
Class6	3,12	2,79	5,27	1,73	4,52	84,27
Class1	6,87	5,02	11,67	4,43	11,04	69,69
Class4	12,05	10,28	17,39	1,33	16,89	63,7
Class5	10,67	8,2	17,26	30,48	15,1	61,72
Class2	20,2	15,16	20,9	1,68	17,86	53,16
Class3	20,33	16,77	22,36	40,85	21	44,97

Figure 1. Latent class model with k=6; outcome variable means per class (N=398) and interpretation:
- Class 6: Low health burden.
- Class 1: Mild/moderate health burden
- Class 4: Moderate health burden without grief
- Class 5: Moderate health burden with grief
- Class 2: High health burden without grief
- Class 3: High health burden with grief

Note. PHQ-9 = Patient Health Questionnaire ; GAD-7; General Anxiety Disorder ; PCL5-8 = 8-item PTSD Checklist for the DSM-5 ; TGI-SR+ = 16-item Traumatic Grief Inventory Self-Report ; SaP Total Count = Symptom and Perceptions, total count of somatic symptoms; EQ-5D-5L = Quality of Life Health Questionnaire.

B (SE) = 0,17 (03), p < .01
B (SE) = 0,11 (0,03), p < .01
B (SE) = 0,11 (0,02), p < .01
B (SE) = 0,11 (0,02), p < .01
B (SE) = 0,07 (0,02), p < .01

B (SE) = -0,25 (0,05), p < .01
B (SE) = -0,20 (0,05), p < .01

B (SE) = 0,13 (0,04), p < .01

Post Migration Stress (PMLD) — Resilience (RES) — Social Support (SSL-12)

Mild/Mod — Mod -Grief — Mod +Grief — High -Grief — High +Grief

Age
B (SE) = -0,04 (0,02), p = .01

Female
B (SE) = 2,59 (0,66), p < .01
B (SE) = 1,72 (0,56), p < .01
B (SE) = 1,67 (0,56), p < .01
B (SE) = 2,42 (0,79), p < .01

Count PTE exposure (LEC)
B (SE) = 0,33 (0,06), p < .01
B (SE) = 0,38 (0,07), p < .01
B (SE) = 0,49 (0,07), p < .01
B (SE) = 0,46 (0,07), p < .01
B (SE) = 0,56 (0,08), p < .01

Figure 2. Significant estimates of factors predicting classes; Results from the multinominal regression analysis with class 6 (Low) as baseline reference (N=397).

Table 2. Descriptive statistics of individuals with same class membership per predictor variable (N = 398).

Class label	Age in years M (SD)	Female gender n (%)	Has children under the age of 18 n (%)	Is alone, without family, in the Netherlands n (% of N)	Lives in a municipal shelter n (% of N)	Has a meaningful daily occupation n (% of N)
Low health burden	41,91 (11,94)	37 (66)	28 (50)	12 (21)	43 (77)	34 (61)
Mild/moderate health burden	37,55 (11,66)	92 (81)	66 (58)	23 (20)	89 (79)	83 (73)
Moderate health burden - Grief	39,29 (10,07)	76 (96)	48 (61)	16 (4)	59 (75)	52 (66)
Moderate health burden + Grief	38,7 (9,62)	55 (90)	41 (67)	11 (18)	46 (75)	40 (66)
High health burden - Grief	38,92 (11,59)	45 (90)	24 (48)	16 (32)	37 (74)	26 (52)
High health burden + Grief	37,79 (11,54)	37 (95)	17 (44)	7 (18)	27 (69)	23 (59)

Discussion.

- Within our sample we identified 6 subgroups presenting with various levels of mental and somatic health burden and associated predictors thereof, namely age, female gender, exposure to PTEs, post-migration stress, resilience and social support.
- Higher social support seems to be predictive of high health burden with grief symptoms, which is a surprising finding. We will delve into the literature to investigate whether this is a more common finding and whether this can be explained by culture or other.
- The current cross-sectional data is part of a longitudinal study. Our next step is to estimate latent class growth models to detect different potential trajectories of health responses to forced migration and war exposure over time (T1-T3). To be continued.
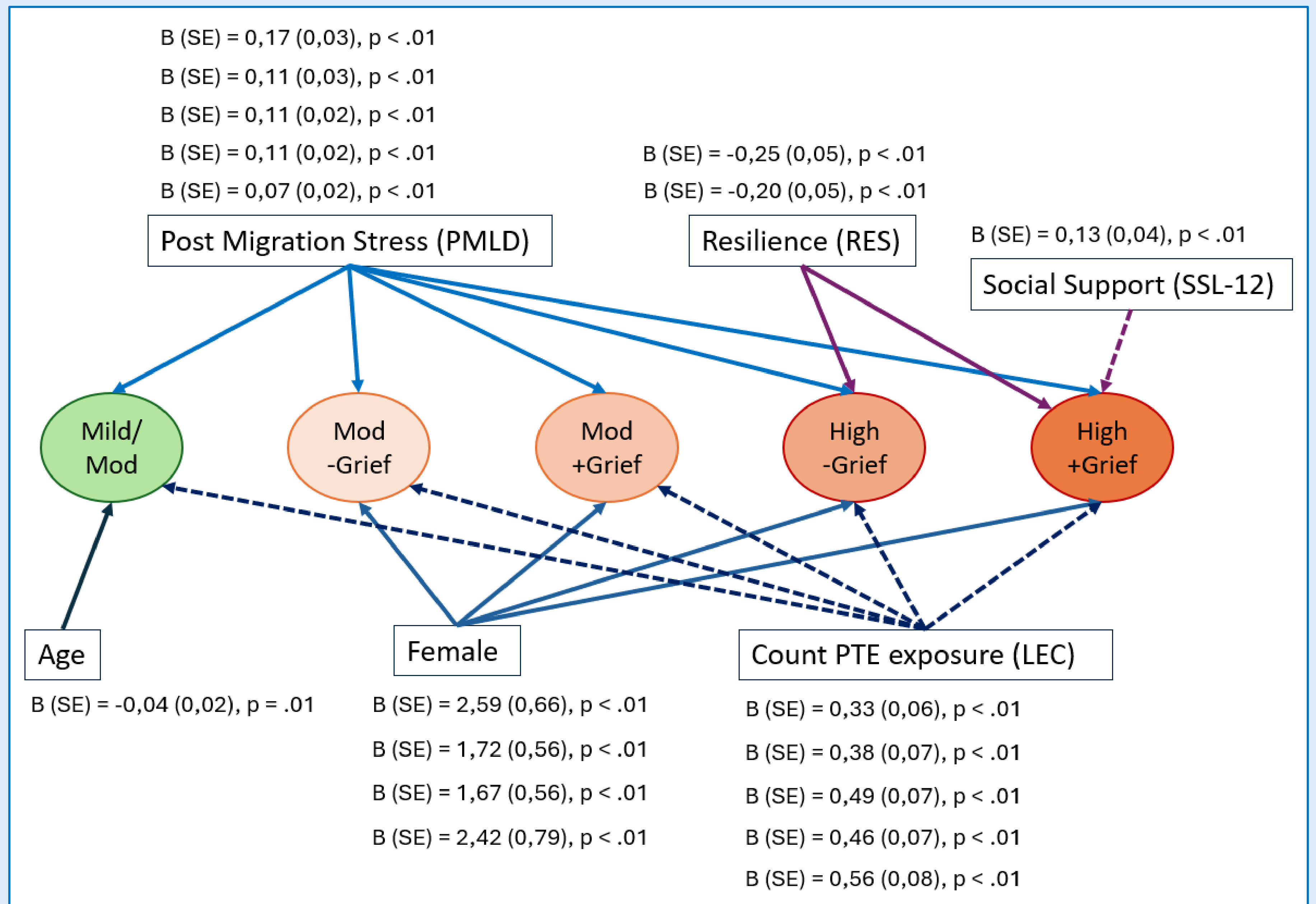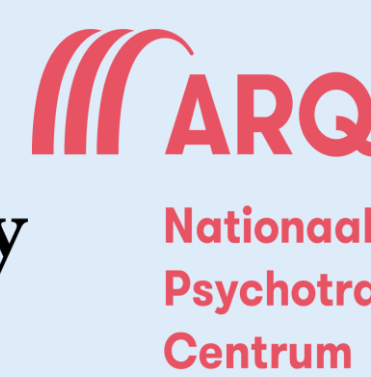
For **references**, scan and read our **protocol paper** published in **BMJ Open**